HARVARD Kennedy School
Corporate Responsibility Initiative




The 2030 Water Resources Group: Collaboration and Country Leadership to Strengthen Water Security

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Cover photographs: 2030 Water Resources Group

Funding for the research and production of this case study was provided by The Coca-Cola Company, which is also one of the organizations that provides financial support to the Corporate Responsibility Initiative.

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About this Case Study

Background

Since 2003, the CR Initiative at the Harvard Kennedy School has worked to understand different models of engagement among companies and other key actors to tackle complex development challenges. Over the last seven years in particular, we have strengthened our focus on what is needed to effect change that is truly systemic – and that brings about sustainable impact at scale.
Our reports on the Southern Agricultural Growth Corridor of Tanzania and the World Economic Forum's New Vision for Agriculture are two examples. This case study is the latest in an ongoing effort to understand complex, systemic challenges and the different ways in which companies can take action to help address them, both individually and in collaboration with others.

Objective and Audience

This case study aims to draw lessons from the 2030 Water Resources Group's experience for leaders in business, government, and civil society who recognize a need to think and work more systemically to drive business growth and more inclusive, sustainable development.

Methodology

This case study is based on a comprehensive review of documents produced by and about the 2030 Water Resources Group and its various country platforms, including a comprehensive external evaluation conducted by Dalberg Global Development Advisors in 2014.
The case is informed by seminal academic and practitioner literature related to cross-sector partnership and system leadership. It draws heavily on insights gathered during 30 telephone interviews with 2030 Water Resources Group secretariat staff, Steering Board members, and country partners in Kenya, Mongolia, and the Indian state of Karnataka. It also draws on past case studies of 2030 WRG's country platforms in South Africa and Peru.

Limitations

While we conducted 30 interviews for this case study, that number pales in comparison to the hundreds of stakeholders who have been involved in and with the 2030 Water Resources Group over the years. Stakeholders have different perspectives on the group's achievements to date and its prospects for the long term. We have not attempted to undertake an evaluation or impact assessment. Rather, we have attempted to capture 2030 WRG's multi-stakeholder institutional model and early lessons learned.

Executive Summary

Water is vital to life itself, and critical to sustainable economic growth and human development.

Ensuring access to water and sanitation for all is one of the United Nations' 17 Sustainable Development Goals, Goal 6. And achieving Goal 6 will be needed to meet all the other SDGs.

Unfortunately, water is already in short supply, and trends point in the wrong direction.

The population is growing and urbanizing, increasing demand for water across the economy and straining the capacity of municipal water systems in many countries. Incomes are rising and supporting more water-intensive lifestyle choices, from using more energy to eating more meat. In some cases, companies are fueling such choices in their efforts to grow. Water governance is often weak and water prices are often so low that companies struggle to make the business case for using water wisely. It is also difficult to attract private sector investment into water infrastructure and other solutions. Climate change is exacerbating the problem from the supply side. By 2030, demand for water is expected to exceed supply by 40% – reducing water available to consumers, causing shortfalls in agricultural production, and imposing limits on economic growth.

Closing this gap is a technical, behavioral, and political challenge in which individual consumers and institutions in government, business and civil society all have roles to play.

Stakeholders must develop new technologies, products, services, business models, public service delivery models, policy and regulatory innovations, voluntary standards, and norms that together deliver new results. Strong government leadership will be essential in creating an enabling environment in which stakeholders have the incentives to undertake these activities. At the same time, strong government leadership will be needed to make tough choices about how limited water resources should be allocated among different uses and users – and to do it fairly and effectively.

The 2030 Water Resources Group (2030 WRG) is a global partnership that supports country-level collaboration by government, business and civil society to achieve water security.

In 14 countries and states, 600 organizations – including 160 from the public sector, 240 from the private sector, and 200 from civil society – are now working together on projects and policy reforms with support from 2030 WRG. These projects and policy reforms vary according to country context and needs, and are identified by the stakeholders who will implement them. Common themes include agricultural water use efficiency, industrial water use efficiency, and wastewater treatment and reuse. The means of implementation range from capacity-building to innovative financing to new management systems. Time will tell whether these projects and policy reforms translate into impacts that transform water resources management – but they are important steps along the way.

2030 WRG has also set important cultural and institutional changes in motion.

The group has helped to build working relationships across traditional silos and establish multi-stakeholder platforms that have survived changes in government. This kind of collaboration, in places where water is hotly contested, is a significant change. It exemplifies the type of multi-stakeholder partnership called for in Sustainable Development Goal 17.

2030 WRG approach reflects five early lessons relevant for leaders working on water security and other complex, systemic challenges:

1 Government in the lead.

Recognizing the central role and ultimate responsibility of government in managing water resources, 2030 WRG's approach is designed to help fill the capacity gaps and overcome the political constraints governments face in doing it effectively.

2 Local ownership and collaboration from business and civil society.

2030 WRG cultivates multi-stakeholder platforms (MSPs) that bring stakeholders together across sectors to understand the water challenges they face, develop shared priorities, and work in groups to pilot cost-effective solutions. In so doing, they find new ways of implementing existing policy and informing policy change. And in the process, they build the political capital that change requires. In this way, MSPs enable governments to make the tough policy choices needed to achieve water security in an inclusive and transparent way.

3 A combined focus on data and analysis, stakeholder dynamics, and the political economy of change.

2030 WRG has learned to balance a technical and economic understanding of water challenges with a deep appreciation of the institutional and political context. It funds rigorous analysis to convey scale and urgency, create demand for collective action, help stakeholders build a shared understanding and prioritize their responses – and it focuses on engaging those stakeholders even prior to the decision to enter a country.

4 Strong 'backbone support.'

Just as important as water expertise is the ability to catalyze, coordinate, and support dialogue and collaboration among diverse stakeholders who may not know or trust each other before they engage with 2030 WRG.

5 Vital roles for individual champions.

Individual leaders at the global, national, and state levels – in business, government, and civil society – have been critical to the progress 2030 WRG and its MSPs have made to date.

To mainstream its approach to water security, 2030 WRG will need to focus in three areas:

- Continuing to increase local ownership and inclusion at the country level – becoming more effective at its approach.
- Better articulating and demonstrating the role of the private sector alongside government and civil society in achieving water security.
- Ensuring that projects translate into transformational change in the countries where it already engages, at the same time as expanding into new ones.

While 2030 WRG's will not be the only approach, it will be critical to think and act in a similarly creative, possibly even disruptive, and potentially transformative manner.

This will require new mindsets and skill sets in key institutions in all sectors. But there is no other choice if water security is to be achieved – the need for collective action is too urgent. And if it can be demonstrated to work in the currently fragmented and politically charged water sector, there will be enormous potential for the kind of approach described in this case study to play a much broader role and accelerate progress across the 2030 Agenda for Sustainable Development.

Drivers of Water Stress and the Roles of Stakeholders

Water is vital to life itself, and critical to sustainable economic growth and human development.

Ensuring access to water and sanitation for all is one of the United Nations' 17 Sustainable Development Goals, Goal 6. And achieving Goal 6 will be needed to meet all the other SDGs. Clean, safe water for drinking and cooking and 'improved' sanitation are essential to health. Efficient water use and greater storage capacity will help adapt to climate change, enable greater agricultural production and make zero hunger possible. Reduced abstraction, wastewater treatment and pollution prevention are needed to protect life on land and in water. A sustainable water supply is crucial to the production of affordable, clean energy, industrial development, decent work and economic growth, and the elimination of poverty: over 75% of all jobs today are moderately or heavily dependent on water.[1] Finally, ensuring water is available to all is necessary to achieve equality based on gender and other factors, and to prevent conflict and preserve peace.

Unfortunately, water is already in short supply, and trends point in the wrong direction.

Over four billion people, two thirds of global population, suffer severe water scarcity at least one month out of the year. Almost two billion suffer severe water scarcity – defined as water use of more than twice the amount being replenished – for half of the year.[2]

And as the population grows, incomes rise, and the climate changes, increasing competition for an increasingly limited resource, the situation is projected to worsen. By 2030, demand for water is expected to exceed supply by 40%, reducing water available to consumers, causing shortfalls in agricultural production, and imposing limits on economic growth.[3] The World Bank estimates that by 2050, GDP could decline by as much as 6% in water-stressed regions.[4] The International Food Policy Research Institute suggests that 45% of total global GDP may be at risk.[5] Every year for the last five years, hundreds of leading decision-makers from business, government, civil society, and academia have ranked water among the top five risks in terms of impact in the World Economic Forum's Global Risks Report.[6]

Water scarcity is a classic "tragedy of the commons."

Water is a limited, shared resource. In the context of market failures and governance gaps – from weak regulatory oversight to inadequate pricing mechanisms – stakeholders acting in their own self-interest are overusing and polluting it.

The global population is growing at a rate of about 80 million people a year.[7] At the same time, as incomes rise, lifestyles are changing. For example, people are eating more meat, which is more water intensive to produce than crops,[8] and using more energy, which is often generated using water, for example for heating and cooling. This is complicated by the fact that 85% of the population lives on the driest half of the planet.[9] In addition, the population is steadily urbanizing, with 54% now living in cities, straining water availability and infrastructure in those places.[10]

Businesses across industry sectors are using more and more water to grow and remain competitive. While water is a common factor of production in all industries, agriculture and energy are particularly water-intensive, accounting for 70% and 10% of worldwide water use, respectively.[11] According to the World Bank, agricultural water demand may increase by 40 to 50% and energy sector water demand by 85% within the next three decades.[12] Many businesses are also fueling unsustainable consumer choices in their efforts to grow, being inefficient in the way they use water, and sometimes polluting it, for example by releasing untreated wastewater.

At the same time, individuals and businesses are contributing to climate change, which is shifting the distribution of water and making it harder to manage. Dry areas are becoming drier, precipitation patterns are shifting from snow toward rain, and storms are becoming more intense, making it more challenging to capture and store water when it is available and increasing the amount of freshwater that runs off into oceans.

All stakeholders have roles to play in reversing these trends.

The challenge of ensuring water security is both technical and behavioral. And stakeholders are interdependent, their actions affecting what one another can do – so the challenge is also deeply political. Individuals and institutions across business, government, and civil society will need to act individually and in a coordinated, in some cases collaborative, way to develop new technologies, products, services, business models, public service delivery models, policy and regulatory innovations, voluntary standards, and norms that together deliver new results.

Individuals' choices matter.

Middle- and upper-class consumers have to make more sustainable lifestyle choices, paying much greater attention to their water and broader environmental footprints. On the opposite end of the income spectrum, more than 500 million smallholder farmers have to overcome severe resource and capacity constraints to increase their water use efficiency.

Civil society organizations can help.

Civil society organizations represent the interests and values of different societal groups. They can hold business and government to account and play key roles in empowering, representing, and defending the most vulnerable and those without influence in decision-making about how scarce water resources will be used. Civil society organizations are important partners in many water-related programs, especially those requiring a massive presence on the ground – reaching out to smallholder farmers, for example. Civil society organizations can also innovate and help pilot solutions that business and government can take to scale.

The private sector has an essential role to play.

Water users of all sizes, from large national and multinational corporations to small and medium enterprises, have to increase water use efficiency, adequately treat any wastewater they release, and minimize other forms of pollution that end up in water sources or contribute to climate change.

Companies that use significant amounts of water also have to develop technical, financing, and business model solutions to decouple business growth from water use along the entire product lifecycle. These must range from primary resource production to manufacturing to making it easy and aspirational for consumers to make sustainable choices.

The media can help in the latter regard. Companies that provide water-related technologies and services to other businesses will have vital roles to play, providing better water storage and management solutions in commercially viable, scalable ways. Investors and other financial institutions will have to increase positive pressure for companies to manage their water risks proactively, and play greater roles in financing water infrastructure.

One challenge is that the way water is currently governed and priced, the business case for investing in water stewardship can be difficult for companies to make.[13] Some companies and investors are undertaking 'true cost of water' analysis and scenario planning, and there is a need for greater collaboration within and across industry sectors to improve and mainstream this type of work. In the absence of government regulation, voluntary action by companies and investors working together in specific sectors and locations will be essential.

But strong government leadership is ultimately needed.

At present, stakeholder incentives are not aligned in favor of the decisions and actions that are needed to achieve water security. Water services are often free or priced at low levels relative to their value to human life, the economy, and the environment. Water and broader environmental regulation are often inadequate or poorly enforced. And stakeholders know that their decisions and actions matter little unless many others act too. Some individuals and companies are acting based on principle, on long-term, visionary leadership and/or on reputational risk and its implications. But even leading companies struggle to balance action on water with acute pressure to remain cost competitive and meet shareholder expectations for growth and profitability.

Sustainable Development Goal 17

SDG 17 calls for strengthening the means of implementation for the SDGs, including through finance, technology, capacity-building, trade, policy and institutional coherence, data, monitoring and accountability – as well as multi-stakeholder partnerships that mobilize and align these critical ingredients. 2030 WRG is working to foster such partnerships by shaping the global agenda and by supporting stakeholders "on the ground" at the national, state, and local levels.

It is the responsibility of government to create an enabling environment in which all stakeholders have incentives to use water resources sustainably. And it is the responsibility of government to invest in water infrastructure or to catalyze private sector investment in water infrastructure in ways that win public acceptance and meet public goals.

With demand expected to exceed supply by 40% by 2030, it is also the responsibility of government to make tough choices about how water will be allocated among different uses and users. While some stakeholders might find opportunity along the road to water security – for example, companies in the engineering, technology, and financial services sectors – others will experience increasing costs and limits on what they can do. Which ones will depend on complex interlinkages and power dynamics at play. Financial resources are limited, so cost-effectiveness must be taken into account, as must equity. One in 10 people globally still lack access to basic drinking water service, and one in three lack access to basic sanitation service.[14] Not all individuals are experiencing the rising standards of living described above, and not all water users with fair claims will be able to pay higher rates.

Government is the only actor with the authority and legitimacy to make the necessary trade-offs. But to do it fairly and effectively, government needs a solid understanding of water challenges, potential solutions, and their implications, as well as sufficient buy-in from stakeholders that will be affected. Here again all stakeholders have roles to play. One of the Sustainable Development Goals, Goal 17, is focused on this kind of multi-stakeholder approach (see box).

It was this context that gave rise to the 2030 Water Resources Group.

II Evolution of the 2030 Water Resources Group

The 2030 Water Resources Group aims to catalyze transformative change and impact at scale.

The 2030 Water Resources Group (2030 WRG) is a global partnership that supports country-level collaboration, housed at the World Bank. It is comprised of:

- **public sector institutions** seeking to promote sustainable development, inclusive economic growth, and political stability in water-stressed countries around the world;
- **private sector companies** that recognize the risk water stress poses to their businesses and the need to engage "beyond the factory gates"; and
- **civil society organizations** focused on water's vital role in health, economic opportunity, living standards, gender equity, and the environment.

Vision. 2030 WRG's vision is "a world with water for growth, people, and the environment."

Mission. Its mission is "to help countries achieve water security by 2030 by facilitating collective action between government, the private sector, and civil society," with government firmly in the lead. It is an example of the kind of cooperation highlighted in SDG 17, and its goal is to catalyze and support such cooperation in countries around the world.

Activities. 2030 WRG has grown from an informal group with an idea into a structured global partnership platform supporting collaboration in 14 countries and states. Specific initiatives vary according to country context and needs, and are identified by the local stakeholders who will implement them. Common themes include agricultural water use efficiency, industrial water use efficiency, and wastewater treatment and reuse. The means of implementation range from capacity-building to innovative financing to new management systems.

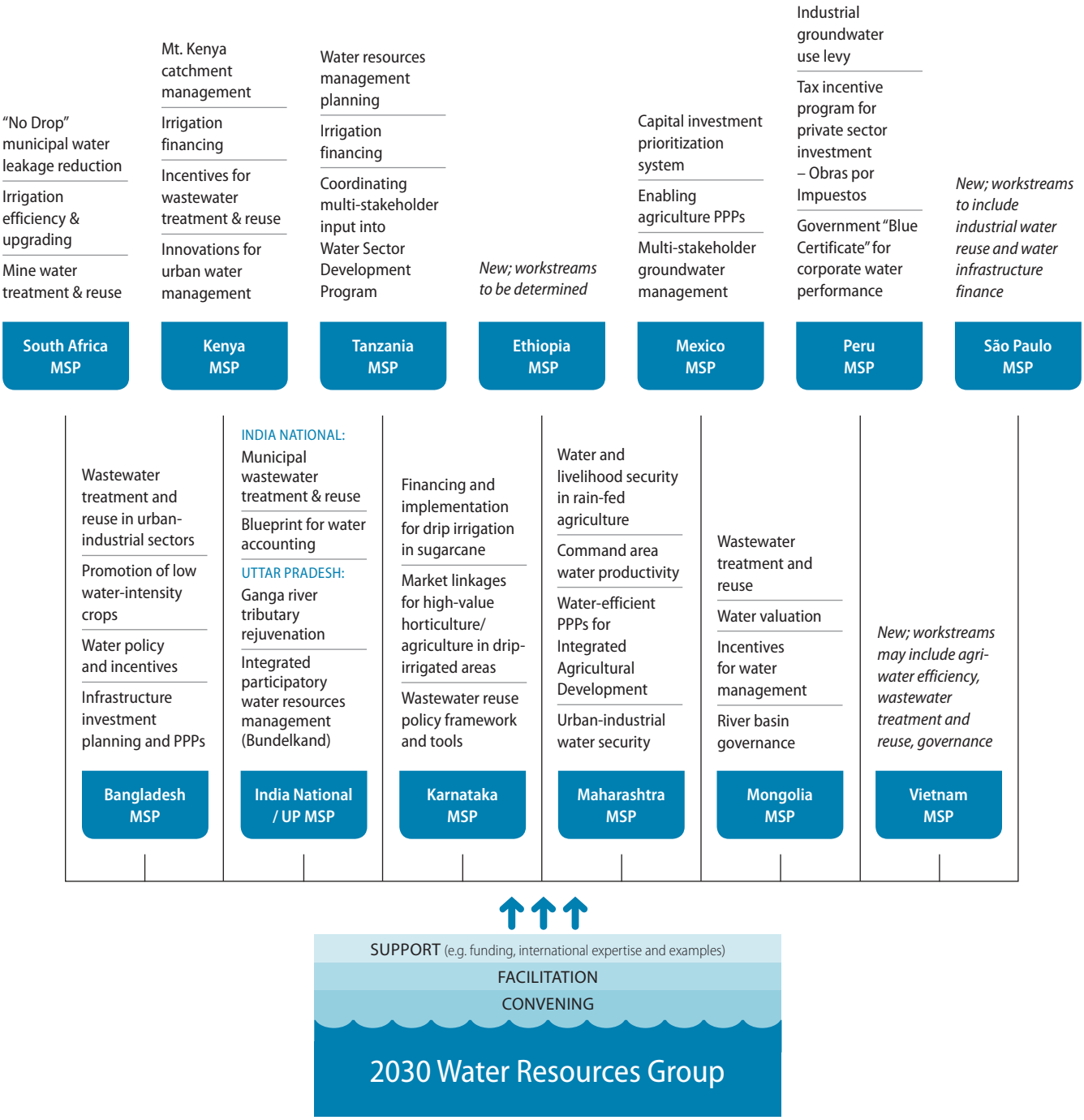
Operating, governance, and financing structure. At the global level, the 2030 Water Resources Group is comprised of 18 partners, including 6 companies (The Coca-Cola Company, Nestlé, PepsiCo, AB Inbev, Grundfos, and Dow), 3 bilateral donors (Swiss Agency for Development and Cooperation, SIDA, and the government of Hungary), 3 development banks (the African Development Bank, Inter-American Development Bank, and the World Bank Group), and 6 international governmental and non-governmental organizations (UNDP, the Global Green Growth Institute, the Global Water Partnership, the World Economic Forum, IUCN, and BRAC).

The day-to-day operations of the 2030 WRG are carried out by a secretariat housed in the World Bank's Water Global Practice, including seven staff based at Bank headquarters in Washington DC and about 25 based in countries where 2030 WRG is engaging.

2030 WRG operations are overseen at two levels. A Governing Council composed of 19 representatives of its global partners, plus the South African Minister of Water Affairs and Sanitation, makes key decisions related to the group's strategic plan and budget and promotes the group within its networks. A Steering Board appointed by members of the Governing Council, composed of 14 representatives of 5 companies, 3 donors, and 3 NGOs along with the IFC, the World Bank, and the 2030 WRG secretariat, provides more regular input and feedback through monthly conference calls. The Steering Board also supervises the development and funding of 2030 WRG country engagements.

2030 WRG is funded by participating donors and companies, typically through three-year commitments. The three donors and IFC currently contribute $1 million a year, for a total of $4 million in public funding, while five companies currently contribute $500,000 a year, for a total of $2.5 million. 2030 WRG also receives contributions for work in specific countries in the range of $500,000 per year.

Figure 1 **Activities of the 2030 Water Resources Group and Local Multi-Stakeholder Platforms**



2030 WRG has developed in three major phases.

1 Ideation and preparation
(2008-2009)

In 2008, leaders from business, government, civil society, and academia participating in the World Economic Forum's Global Agenda Council on Water Security identified what they considered two critical needs in the water sector. The first was for greater recognition of water's economic value. The second was for greater and more meaningful interaction between the public and private sectors in the way water was managed.

At the same time, the International Finance Corporation (IFC), the private sector investment arm of the World Bank Group, had developed a new water strategy based on the importance of water security, not just water access, and water's fundamental role in the economy. IFC was working with the consulting firm McKinsey & Co. to explore the application of its "cost curve" methodology, originally developed for greenhouse gas abatement, to water.

IFC and the Forum recognized the opportunity to join forces. An informal consortium made up of IFC and a number of Forum members decided to commission "a toolkit that stakeholders can use to compare the impact, cost and achievability of a range of different measures and technologies, so providing the fact base needed to underpin solutions."[15] The consortium, which ultimately decided to call itself the 2030 Water Resources Group, was made up of IFC, The Barilla Group, The Coca-Cola Company, Nestlé, New Holland Agriculture, SABMiller, Standard Chartered Bank, and Syngenta. IFC contributed $2 million to the exercise and the companies contributed an additional $1.2 million. Making in-kind contributions of its own, McKinsey led the analysis, with input from consortium members and a 20-person expert advisory group. Over 300 additional stakeholders were consulted.

As the analysis got underway, the World Economic Forum began to engage stakeholders across sectors and socialize a new way of thinking – firstly about water as a resource with enormous economic impact and value, as well as a human right and environmental necessity, and secondly about the role of the private sector as part of the solution, not only part of the problem. The Forum held sessions at its regional meetings in Africa, India, Latin America. At the same time, the organization also solicited perspectives from civil society organizations, academics, and business executives (these eventually turned into a book, *Water Security: The Water-Food-Energy-Climate Nexus*, published in 2011).

The 2030 Water Resources Group report "Charting our Water Future" was published in November 2009. As King Willem-Alexander of the Netherlands, who chaired the UN Secretary General's Advisory Board on Water and Sanitation at the time, wrote in a foreword, "the report's central message is that any strategy to achieve water resource security must be a joint effort – integrated with broader economic decision-making – by governments, investors, NGOs, and water users in agriculture, industry and cities."

> *"If water is to be everyone's business, then stakeholders will need to come together in water-scarce countries to make some difficult trade-offs on the road to water resource security. Some solutions may require potentially unpopular policy changes and the adoption of water-saving techniques and technologies by millions of farmers. The conversation needed amongst stakeholders, then, is about a country's economic and social priorities, what water will be needed to meet those priorities, and which difficult challenges are worth tackling to deliver or free up that water."*
>
> King Willem-Alexander of the Netherlands, Foreword to *"Charting our Water Future"*

The cost curve approach didn't resonate with everyone. Some stakeholders felt that it over-simplified the challenge of achieving water security, which is social and political as well as economic. However, the report and its headline figure – that demand for water would outstrip supply by 40% by 2030 – received a great deal of attention. Framed as a constraint on growth, water became a head of state-level, government-wide issue. Champions emerged for the kind of cross-sector conversation and action the report called for. The governments of Mexico, South Africa, and the state of Karnataka in India, which had engaged in the process of developing the report, were three of the first.

2 Incubation
(JANUARY 2010-JUNE 2012)

By the end of 2009, the World Economic Forum was convinced to take on the role of facilitating the kind of conversation and action outlined in "Charting our Water Future." It was not an easy decision at the time; the Forum had not yet evolved into an "international organization for public-private cooperation" formally recognized by the Swiss Federal Council in 2015. It required considerable championship from IFC's Usha Rao-Monari and the World Economic Forum's Dominic Waughray to build a new form of inter-institutional collaboration, and from principal-level external stakeholders such as Peter Brabeck-Letmathe, Chairman and CEO of Nestlé. Brabeck-Letmathe telephoned Forum Chairman Klaus Schwab personally to suggest that the Forum incubate the WRG concept.

The 2030 Water Resources Group was officially launched in Davos in January 2010. In addition to the Forum, its founding members included Nestlé, PepsiCo, The Coca-Cola Company, IFC, the Swiss Agency for Development and Cooperation (SDC), and WWF, the global conservation organization.

The goal was to demonstrate in three countries how collaboration among the public sector, private sector, and civil society could encourage governments to accelerate the often difficult reforms needed to manage water resources sustainably as a key enabler of long-term development and growth. 2030 WRG's ACT model – analyze, convene, transform – emerged in mid-2010 and has been evolving ever since.

2030 WRG ultimately engaged in five countries during its time at the Forum:

- **India** was a case study in the "Charting" report, and 2030 WRG had been involved in the policy discussion since 2009 by invitation from Mihir Shah of the Water Sector Group of the Indian National Planning Commission. Stakeholder workshops were held to discuss the results of the case study throughout 2010. 2030 WRG was asked to prepare another analysis in September 2011 to support the government's Five-Year Plan 2012-17 for Water. The group began to look at the possibility of setting up a multi-stakeholder platform (MSP).

- At the state level in India, 2030 WRG was invited to engage in **Karnataka** in the spring of 2010, and signed an MOU in November that year. But its analysis wasn't broadly accepted by water stakeholders there, which complicated efforts to convene dialogue (a change of government in 2013 would cause further slowdown and require 2030 WRG to re-engage).

- In **Mexico**, 2030 WRG was championed by Felipe Calderón, President of the country from 2006-2012. An MOU was signed in June 2011. Its analysis influenced the Calderón administration's 2030 Water Agenda, but the impact of that Agenda was limited due to the change in administration in 2012.

- **South Africa** is where the 2030 WRG approach gained the most traction in the "incubation" stage. Edna Molewa, Minister of Water and Environmental Affairs, invited the group to engage in January 2011 and an MOU was signed in May. 2030 WRG helped to inform national water strategy, but the real focus in South Africa was on developing projects that could be scaled up to close the water supply-demand gap. South African Breweries took on a strong championship role together with the Minister. A locally-driven MSP emerged, called the Strategic Water Partners Network, which became a model for 2030 WRG's work in other countries (see country profile on page 17).

- In **Jordan**, 2030 WRG was invited to engage by Prince Faisal Al Hussein, Chairman of the Jordan Royal Water Commission from 2008 to 2013. Its analysis was used during the revision of Jordan's Water for Life strategy, but changes in government prevented the group from going further. The experience in Jordan, as in Mexico, demonstrated the importance of an MSP platform such as SWPN in South Africa that could survive major changes in government.

2030 WRG was experimenting, and the World Economic Forum facilitated the experimentation process. The organization offered access to senior leaders and the ability to be nimble and flexible, try different things, and see what would work. At the same time, though, the group aspired to grow, support country stakeholders from dialogue to action, and eventually influence others in the water community to adopt a similar approach. On-the-ground implementation capacity became essential. As a result, at the Forum's annual meeting in Davos in 2012, it was announced that 2030 WRG would enter a new, more formal phase in a new home at IFC from July that year.

3 Demonstration
(July 2012-end 2017)

When 2030 WRG moved to IFC, a more formal governance structure was created. Its highest governing body, the Governing Council, was intended to be composed of principal-level people from partner organizations who could not only sign off on the group's strategic direction and make key decisions, but also influence the broader global agenda on water. Members of the Steering Board were senior practitioners from the same organizations who would provide significant amounts of time and input – a day a month or more preparing for, participating in, and following up on monthly meetings, and additional time making connections in relevant countries and supporting their principals in their global agenda roles.

Anders Berntell, head of the Stockholm International Water Institute, was recruited to lead the 2030 WRG secretariat. Berntell and the Steering Board had to build a team and bring in funding. At that time, the three partner companies each contributed $750,000 a year and IFC and two donor agencies – SDC and now SIDA – each contributed $1 million. Other donors were not yet convinced; there was still work to do to prove the value of the approach.

During 2030 WRG's time at IFC, from 2012 to 2017, the group engaged in nine new countries and states: Bangladesh, Kenya, the Indian states of Maharashtra and Uttar Pradesh, Mongolia, Peru, Tanzania, Ethiopia, Vietnam, and the Brazilian city of São Paulo. The group also re-engaged in the Indian state of Karnataka and in Mexico, where new administrations had taken power. The number of stakeholders working together in these countries rose to 600, including 160 from the public sector, 240 from the private sector, and 200 from civil society.

In the last few years of this period, 2030 WRG also began to see dialogue turn into action at a much greater rate, as stakeholder collaboration in-country matured. From 2015 to 2017 the number of approved proposals from country MSPs jumped from 15 to 53, the number of preparatory arrangements formalized jumped from 12 to 39, and the number of projects actually underway jumped from 5 to 19. These include promoting water and livelihood security in rain-fed cotton farming communities in India, municipal leakage reduction in South Africa, the development of a water valuation methodology in Mongolia, and more, some of which are described in the country profiles in this report. Time will tell whether these activities translate into impacts, and whether impacts can be sustained and scaled – but they are important steps along the way.

2030 WATER RESOURCES GROUP COUNTRY PROFILE

SOUTH AFRICA

The water resource challenge:

In South Africa, demand for water is projected to exceed supply by 17% by 2030. The population and the economy are growing, and inefficiency exacerbates supply problems in a country that is already water scarce, receiving less than half the average level of rainfall around the world. Agriculture accounts for 66% of water demand, mostly for irrigation. 35% of irrigation water is lost in the conveyance system. Municipal water accounts for 27% of demand, and 37% of this – worth half a billion dollars a year – is lost through leaks, theft, and metering inaccuracies. Water quality is also decreasing due to pollution.[16]

Against this backdrop, the South African government struggled to implement water policy in the face of funding and capacity constraints. At the same time, government and business had a relatively transactional, sometimes confrontational relationship and were fairly far apart on water issues.[17]

Collaboration in action:

The Minister of Water and Environmental Affairs invited 2030 WRG to help her set up a multi-stakeholder partnership in January 2011. The objective was to bring key stakeholders together to identify leveraged areas of intervention and then pilot, prove, and catalyze the replication and scaling of projects with significant potential to help close the gap between water supply and demand.

2030 WRG started by engaging and building relationships with government and a limited number of key stakeholders. South African Breweries (SAB) committed seed funding for the MSP and played a critical role organizing and championing it with other companies. Along with 2030 WRG, housed at the World Economic Forum at the time, SAB also played a strong facilitation role, helping business and government establish a shared vision and more trusting relationship.[18]

The MSP, called the Strategic Water Partners Network or SWPN, was launched in late 2011. It is co-chaired by the Department of Water and Sanitation and SAB and now has nearly 30 core members, including the Departments of Mineral Resources and Agriculture, Forestry and Fisheries; the Chamber of Mines; WWF etc.; and companies in energy, mining, food and beverage, and financial services sectors. It is funded by the Department of Water and Sanitation, several corporations and an industry association, GIZ, and 2030 WRG. The partnership is run independently of 2030 WRG by a secretariat housed within the NEPAD Business Foundation. The secretariat's role is primarily to support SWPN members, who have identified thematic priorities and are running pilot projects now in their second and third phases, as outlined below.

Agricultural supply chain

SWPN has supported development and implementation of a government-led water administration system that reduces the freshwater used in irrigation. In the six irrigation systems that are now using it, the system has reduced freshwater abstraction by 55 million cubic meters per year – closing 2% of water gap – and there is significant potential for scale. SWPN is also developing a multi-sector business case to unlock half a billion dollars in financing to upgrade the country's largest irrigation system, which could provide a model for others.

Water efficiency and leakage reduction

SWPN's municipal water workstream, chaired by Nestlé, developed a scorecard and strategy called "No Drop" to assess municipal water usage and incentivize leak reduction. 152 municipalities are now using it, with the potential to reduce the water demand-supply gap by 22%. This workstream also developed a performance-based contracting toolkit to help municipalities reduce water losses. Members are now looking into the feasibility of a fund to finance municipal water loss reduction measures.

Effluent and wastewater management

This workstream, chaired by Eskom, is tackling water pollution caused by mining, which could save 52.2 million cubic meters of water a year, nearly 2% of the water gap, in just one coal mining area by 2030. Members have created a public-private Mine Water Coordinating Body that will navigate the regulatory, institutional, and financial requirements for reuse of treated mine water and non-infrastructure mine water management solutions in the Mpumalanga coalfields area. The Mine Water Coordinating Body is also implementing a pilot project using saline mine water for corn and soybean irrigation on virgin and rehabilitated mine lands.

2030 WATER RESOURCES GROUP COUNTRY PROFILE

PERU

The water resource challenge:

Despite an abundance of freshwater, Peru faces a growing water scarcity challenge. 98% of freshwater run-off flows into the sparsely populated Amazon region, with just 1.8 % available to support 70% of the population who live in the arid desert regions of the Pacific coast. Pressure on water resources in these regions is growing due to economic development and a rapidly growing, urbanizing population concentrated around the capital, Lima. Untreated domestic and industrial discharges mean that 60% of the country's water is too polluted to use. Water scarcity not only threatens Peru's economic and social development, but also causes conflict between communities and industrial users.

Historically, lack of trust and coordination between different sectors, limited public funding for infrastructure, and limited private sector engagement or investment have held back an effective response to Peru's water challenge. The national water agency, responsible for managing water across the country, has estimated that $45.7 billion in new investment is required by 2035 to meet the nation's water needs.

Collaboration in action:

The government invited 2030 WRG to help it chart a way forward in 2013. An immediate priority was to review existing water management plans alongside a detailed hydro-economic analysis to better understand the water supply gap, and to prioritize projects accordingly.

In 2015, a Peru 2030 WRG Steering Committee was established as a platform for open, cross-sector dialogue to unite stakeholders around a shared vision and approach to managing the nation's water resources. The Committee is chaired by a Presidential representative and comprises senior leaders from government, business, and civil society. Peru's President is a strong supporter of 2030 WRG, which has been key to the platform's convening power and legitimacy.

To ensure a coordinated government response, representatives of five key ministries participate in the platform. In addition, a concerted effort has been made to bring companies from the energy, mining, agriculture, and food and beverage sectors to the table by building a stronger appreciation of the business risk arising from water scarcity. The platform, now comprising 70 members, also features strong representation from civil society.

Stakeholders are now organized into thematic working groups to advance a range of water initiatives, supported and facilitated by 2030 WRG.

Shaping new regulations

Platform members have helped to shape new regulations to manage groundwater, including through the Groundwater Management and Monitoring Tariff, a new levy being raised by utilities in Lima and Trujillo from industrial groundwater users. The levy is now being extended to other regions.

Unlocking public-private partnership opportunities

The Ministry of Housing and Sanitation is piloting an innovative scheme called Taxes for Projects, which allows companies to use up to 50% of what they owe in taxes to implement agreed-upon water infrastructure projects. Efforts to streamline government processes should make it easier for companies to participate. In 2017, the Ministry launched three projects valued at a total of US$13.5 million. Two of these are under construction by companies that participate in the 2030 WRG MSP.

Encouraging business action

The government has designed a "Blue Certificate" initiative to encourage businesses to measure and reduce their water footprint, with capacity-building support also provided. By the end of 2017, eight companies were involved in the certification process, all members of the 2030 WRG MSP.

III Early Lessons from the 2030 Water Resources Group Approach

Across its three phases, 2030 WRG has evolved based on experimentation and learning from what has worked and what has not.

2030 WRG has hit milestones in some countries and priority areas and experienced setbacks in others. Its work in Jordan didn't go forward, and the group had to re-start in Mexico and Karnataka. WWF stepped down as a global partner, but IUCN, BRAC, Grundfos, Dow, SIDA, and the Hungarian government joined. The group commissioned two external evaluations. These confirmed its relevance and some key strengths – like access to decision-makers in government and business, and its ability to produce analyses that non-specialist decision-makers found compelling and easy to understand. The evaluations also identified considerable challenges. These included needs for greater openness, inclusion, and ownership by local stakeholders, building on existing initiatives; more balanced emphasis on the social and environmental as well as economic dimensions of water security; and a clearer theory of change and better results measurement.

2030 WRG has invested time and energy to reflect, learn, gradually systematize and continuously improve the way that it works. Its approach reflects five early lessons relevant for leaders working on water security and other complex, systemic challenges:

1. **Government in the lead**
2. **Local ownership and collaboration from business and civil society**
3. **A combined focus on data and analysis as well as stakeholder dynamics and the political economy of change**
4. **Strong backbone support**
5. **Vital roles for individual champions**

1 Government in the lead

2030 WRG recognizes the central role and ultimate responsibility of government in managing water resources, and treats the government as its core partner.

From the beginning, 2030 WRG has engaged in a country only upon government request. In the early days, it was a matter of the President or Prime Minister coming to Davos and inviting 2030 WRG in. But the group learned that this was not enough. In some countries, there was resistance from Ministries of Water that had their own agendas and were not bought in to the decision. And other ministries, from agriculture to energy to finance, had key roles to play. Now, 2030 WRG focuses on obtaining government commitment more broadly across different ministries, while still drawing on and benefiting from support from Heads of State. The MSPs it supports at the country level tend to be co-chaired by the Head of State's office or the Ministry of Water (along with representatives of business and civil society) and other ministries participate on MSP steering boards.

Facilitating greater and more strategic coordination across ministries, bringing them out of traditional silos, is one way that 2030 WRG brings value to its government partners. And 2030 WRG's broader strategy is designed to help governments fill the capacity gaps and overcome the political constraints they face when it comes to managing water effectively for all. The group does this partly through professional expertise and advice drafting laws, regulations, methodologies, and guidelines – but primarily by catalyzing and cultivating broad-based sense of ownership and collaboration among country stakeholders themselves.

2 Local ownership and collaboration from business and civil society

2030 WRG's approach is to cultivate national multi-stakeholder platforms (MSPs) that enable governments to make the tough policy choices needed to achieve water security in an inclusive and transparent way.

These MSPs bring heads of state and relevant ministries from across government – such as water, agriculture, energy, and finance – together with major domestic and multinational private sector water users, solution providers, and civil society organizations.

Together, these stakeholders work to understand the scope and dimensions of the water challenges they face. They develop shared priorities and work together in groups to pilot cost-effective solutions – including innovative financing mechanisms that blend public, private, and philanthropic capital. In so doing, they find new ways of implementing existing policy and informing policy change. And in the process, they build the political capital that change requires.

This has the effect of making the process of water policy dialogue and decision-making, which is often conducted in a way that is opaque and subject to capture by special interests, more explicit and transparent. Rather than bilateral conversations conducted in private between government officials and those stakeholders with the resources and influence to gain access, all relevant stakeholders have the opportunity to share their perspectives and work toward mutually agreeable solutions. Transparency helps to build trust in the policymaking process. The simultaneous focus on projects and policy helps to strengthen policy and ensure it is put into practice.

Local stakeholders are therefore the driving forces in 2030 WRG's theory of change.

These stakeholders are the ones who must develop a shared vision and priorities and take action. 2030 WRG's role is to motivate, facilitate, and support the MSPs that bring them together. These MSPs take different forms and typically evolve over time, from an initial series of meetings to more or less formal institutions that in some countries have already survived changes in government. While they are mostly national in scope, they can also be organized at the state or even municipal level.

3 A combined focus on data and analysis, stakeholder dynamics, and the political economy of change

2030 WRG cultivates MSPs using the "ACT" model: analyze, convene, and transform.

Analyze

2030 WRG funds different forms of analysis according to the context and needs in the countries where it engages. From its initial cost curve approach, 2030 WRG has evolved toward approaches that take the economic, social, and environmental dimensions of water scarcity into account. Its analyses enable stakeholders to build a shared understanding of water challenges and prioritize their responses – but even more fundamentally, it is intended to convey a sense of scale and urgency to non-specialist decision-makers and create demand for collective action. One way 2030 WRG has done this is to generate water supply gap figures, taking a country's economic growth targets, calculating future water demand based on those targets, and comparing that to future supply if present trends continue. Showing water as a constraint on growth has had the effect of turning water into a government-wide issue. It has brought a variety different ministries beyond water and the environment to the table, sometimes for the first time, along with business and civil society stakeholders. This approach has helped to elevate water as a strategic priority and initiate a process to build the trust required to work across silos, within and beyond government.

Convene

2030 WRG convenes key water stakeholders including relevant government ministries, major private sector water users, businesses in strategic growth sectors, solution providers from the technology, engineering, and financial services sectors, and civil society organizations representing important issues and communities. These stakeholders often come with no prior experience working together and significant levels of mistrust. Some are joining the water dialogue for the first time. The objective is for them to build familiarity and trust-based relationships with one another, identify shared priorities, and develop concept notes and proposals for collaborative activities that different sub-groups can ultimately take forward. These have ranged from rejuvenating Ganga river tributaries in Uttar Pradesh in India to promoting low water-intensity crops in Bangladesh to drip irrigation financing in Kenya.

Transform

The drive to transform water resource management in their countries comes from stakeholders themselves. Working together, stakeholders initiate pilot projects with the potential for scale, make large-scale investments in infrastructure and technology, and institute key policy reforms. While any of these activities could be done separately, there is added power in doing them in a coordinated way – for example with pilot projects informing policy changes and helping to build buy-in for those policy changes. 2030 WRG's role is to empower stakeholders as needed along the way, by coordinating among them, injecting international expertise and examples when that is helpful, and bringing in additional partners, for example to design and implement innovative financing mechanisms.

Over time, 2030 WRG has matured in its approach to convening, becoming more open and inclusive and setting the stage for local ownership better.

In its first few years, even as 2030 WRG was invited to engage in different countries, it attracted some criticism for the way it did so. Most importantly given the role that local stakeholders play in its strategy and theory of change, the group was criticized for insufficiently understanding local context and institutions, and for failing to engage and coordinate with all those already working on water. 2030 WRG was seen to attract attention from the highest levels of government at the expense of stakeholders already working on the issue, rather than aiming to strengthen their common cause.

In 2014, 2030 WRG commissioned Dalberg Global Development Advisors to do an evaluation. The evaluation found that at the time, the group placed too much emphasis on data and analysis, and too little on convening and navigating the political economy of change (at the time, it was still too early to evaluate the 'transform' part of the ACT model in most countries). The evaluation concluded that there was a need to rebalance this, for example by:

- staffing and allocating budget accordingly,
- focusing on building stakeholder buy-in even in the analysis phase,
- bringing greater structure to its convening approach,
- communicating its value proposition more precisely,
- more deliberately seeking engagement from stakeholders already working on water,
- including civil society organizations in MSP governance, and
- seeking involvement from companies beyond the food and beverage sector.

The 2030 WRG Secretariat and Steering Board made major changes over the following three years.

Now, every country engagement begins with a rigorous country scoping process that includes stakeholder mapping and consultation. Only when 2030 WRG fully understands the opportunity, the level of interest from relevant stakeholders, and the commitment from government – beyond the Head of State's office – does the Steering Board make the decision to engage.

2030 WRG now customizes its analyses to the country context, recognizing and building on what may already have been done, and uses local consultants who know the language, the lay of the land, and the local players.

Seats are reserved for civil society representatives on MSP steering boards, and 2030 WRG is learning to communicate better about the nature, role, and intended effect of the MSP, including the driving role of local stakeholders in it – versus the facilitating and supporting role of 2030 WRG.

And 2030 WRG is paying more attention to the social and environmental dimensions of water security, such as gender, in addition to the economic ones. This has helped bring a broader range of necessary stakeholders to the table. For example, 2030 WRG has adopted an explicit gender strategy intended "to ensure women and men share responsibility for and access to water resources."[19] That strategy has three prongs:

- First, in the analysis phase, to understand the way water challenges affect women in particular and identify potential solutions;
- Second, to ensure that women are represented in the MSPs that 2030 WRG cultivates and supports, ideally through the participation of women's organizations and networks; and
- Third, to ensure that MSP projects are implemented in a gender equitable way.

4 Strong backbone support

2030 WRG motivates, facilitates, coordinates, and supports dialogue and collaboration among stakeholders because most of those stakeholders lack the time, incentive, or credibility to do it themselves.

Stakeholders are usually busy with existing agendas and primarily accountable for their own organizational goals. Often, they do not know or trust each other. They are frequently short on staff and resources. Even where stakeholders acknowledge a need to work together, it doesn't happen on its own. A growing literature underscores the importance of the kind of 'backbone support' that 2030 WRG provides.[20] In the case of water security, it is so important that even some of the most competitive companies in the world – The Coca-Cola Company and PepsiCo – have come together to support it.

2030 WRG has been learning how to provide backbone support effectively.

The group has faced a series of hard questions. For example, how do you 'intervene' in a way that strengthens an existing system? How do you motivate and support others without imposing your own views or crowding them out? What roles and responsibilities do you take on, and where do you draw the line? How do you describe what you are trying to do when it doesn't fit any of the usual frames? How do you overcome legacies of misunderstanding and mistrust among stakeholders involved, and build trust in the backbone itself?

While water expertise has been important, turning multi-stakeholder dialogue into collaborative action has also required sophisticated facilitation skills.

2030 WRG has had to bring stakeholders together across traditional boundaries, create a sense of inspiration and energy, challenge their perceptions of one another, foster mutual understanding, respect, and trust, and develop a common language. They have helped to uncover and promote opportunities for stakeholders to collaborate, and to mobilize additional resources and partners when required. They have encouraged stakeholders to follow through and kept the momentum going.

While many describe the work of backbone support as 'neutral facilitation,' researchers at Wageningen University in the Netherlands point out that "the key is not so much to be neutral, but to maintain integrity."[21] It requires a clear perspective and a bit of push. It is how that perspective and push are applied that is key.[22]

2030 WRG has also needed both the mindsets and systems to take a long-term perspective, live with uncertainty, learn, and adapt along the way.

Providing backbone support can be complex and messy. When it comes to water, there are often tensions between economic and environmental agendas, and between short-term and long-term goals and impacts. It is necessary to incubate new norms that challenge existing power dynamics, and at the same time to build the levels of trust required for stakeholders to work together. There is a need for idealism to keep one's eyes on the prize, combined with the pragmatism to be flexible about how to get there, learning as needed along the way. Ultimately, stakeholders themselves have to change both the way their organizations relate to one another and the way they operate internally. This, in turn, involves change in the way individuals think and act.

Finally, building new institutions, like 2030 WRG's MSPs, is a significant, long-term endeavor – particularly when these institutions are made up of organizations that might have considered themselves adversaries before.

As a result, 2030 WRG's work has unfolded differently in each of the countries in which it has engaged to date. And it has taken time – two to three years before stakeholders are ready to launch their first projects or new policies, and then more for projects and policies to mature and start to make an impact at scale.

5 Vital roles for individual champions

While 2030 WRG's backbone support is key, country MSPs do not coalesce and collaboration does not happen without local champions in government, business, and civil society.

For example, former Minister of Water and Environmental Affairs Edna Molewa and then-Head of Sustainable Development at South African Breweries Andre Fourie were instrumental in pulling together the South African MSP, the Strategic Water Partners Network. Just as critically, Molewa's successor, Minister of Water and Sanitation Nomvula Mokonyane, has continued to champion the platform. In Peru, President Pedro Pablo Kuczynski appointed his special Water Advisor to chair the MSP and asked five ministers in his cabinet to sit on the steering board. In Bangladesh, Prime Minister Sheikh Hasina Wajed appointed the highest-ranking civil servant in the country to chair the MSP and asked Principal Secretaries from various ministries to serve on the steering board and chair working groups.

Leaders like these help generate awareness of the challenge and demand for collective action across their networks. They authorize or convince their organizations to get involved. And they often take real personal risk, investing their time, effort and in some cases reputation in initiatives they do not control, whose outcomes are uncertain.

Champions have also played a critical role in 2030 WRG's own journey, creating and protecting the space for the group to experiment and develop its approach over time.

For example, Peter Brabeck-Letmathe, CEO of Nestlé, took on the role of Chair and encouraged other CEOs to get involved. Along with Brabeck, Muhtar Kent, CEO of The Coca-Cola Company, Indra Nooyi, CEO of PepsiCo, Lars Thunell, Executive Vice President and CEO of IFC, and Martin Dahinden, Director General of SDC used their voices and networks to highlight the need for long-term, strategic collaboration among business, government, and civil society to achieve water security. At the same time, 'intrapreneurs' challenged traditional mental models and operating models in their organizations to make 2030 WRG possible. For example, the World Economic Forum's Dominic Waughray, IFC's Usha Rao-Monari, McKinsey's Giulio Boccaletti, and SDC's Francois Muenger persuaded their organizations to fund and host 2030 WRG when it was still a highly unusual undertaking. Sustainability professionals within each of 2030 WRG's partner companies, such as Jeff Seabright and Greg Koch from The Coca-Cola Company and Herbert Oberhaensli from Nestlé, provided vital expertise and strategic guidance to the secretariat, kept their CEOs updated and engaged, and mobilized their country colleagues where relevant.

2030 WRG as a Crucible of 'System Leadership'

These early lessons suggest that 2030 WRG and its partners, both individuals and institutions in government, business, and civil society, are exercising a special form of leadership that the Corporate Responsibility (CR) Initiative and others have called 'system leadership.' The CR Initiative first wrote about system leadership in a 2016 report about the World Economic Forum's New Vision for Agriculture initiative.

Water security is a complex, systemic challenge. A significant body of work demonstrates that this kind of challenge cannot be addressed in a top-down, pre-planned, linear fashion, and that point solutions don't work on their own. Instead, stakeholders have to change the way they operate.[23] Over time, they must develop new technologies, products, services, business models, public service delivery models, policy and regulatory innovations, industry standards, and cultural norms and behaviors that together deliver new results.

System leadership can help align the efforts of diverse stakeholders in order to accelerate this process, and ensure that it delivers more sustainable, inclusive economic growth and human development.[24] This involves cultivating a shared vision for change, not just having a vision of one's own. It is a matter of empowering widespread innovation and action by aligning incentives, strengthening capabilities, and mobilizing resources, going beyond what any one individual or institution could execute on its own. And linked to this, system leadership includes facilitating mutual learning and accountability for progress among all stakeholders involved – in addition to reporting on one's own results.

System leadership is needed at the individual, institutional, and interactive levels, and in the 2030 WRG experience it is unfolding at all three. At the individual level, for example, business leaders are enabling their companies to participate in spite of competitive instincts. At the institutional level, businesses, government ministries, donors, and civil society organizations are exploring new ways of operating through pilot projects that respond to system-wide shared priorities in addition to their own individual goals. And at the interactive level, 2030 WRG itself is providing backbone support for collaboration among individuals and institutions across the system through its MSPs.

Figure 2 **Three Key Roles of System Leaders**

Source: Nelson, Jane and Beth Jenkins. 2016. Tackling Global Challenges: Lessons in System Leadership from the World Economic Forum's New Vision for Agriculture Initiative. Cambridge, MA: Corporate Responsibility Initiative at the Harvard Kennedy School.

2030 WATER RESOURCES GROUP COUNTRY PROFILE

MONGOLIA

The water resource challenge:

With water supplies shrinking and demand expected to triple in the coming two decades, Mongolia faces a challenging water future. Significant gaps are expected in the capital city Ulaanbaatar, home to roughly half the population, and the fast-growing mining region of the southern Gobi, which could significantly impact development and increase the risk of water-related conflict between communities and industrial users.

A fragmented government approach and limited trust and cooperation among government, the private sector, and communities have historically hampered Mongolia's response to its water challenges. In addition, national water policy has not been translated into effective action on the ground. Inconsistently applied water pricing, a lack of understanding of regulatory requirements by industry, and limited national and local-level capacity to implement and enforce policies have undermined progress.

Collaboration in action:

Against this backdrop, in 2012, the President of Mongolia invited 2030 WRG to help cultivate a national multi-stakeholder platform to drive improvements in water governance, with a focus on water use efficiency, wastewater treatment, and effective river basin management.

2030 WRG's first step was to undertake a detailed, science-based hydro-economic analysis of Ulaanbaatar and the mining sector in the southern Gobi. This study, the first of its kind in Mongolia to consider the impact of water stress on people, the environment and the economy, has helped to establish a shared understanding of the challenges and unite stakeholders around the goal of protecting the nation's water resources. It has also helped to ensure that stakeholders see the platform as neutral, independent, and transparent.

Under the guidance of the 2030 WRG Mongolia Steering Board, comprising representatives from government ministries, industry, civil society, and academia and under the chairmanship of the Minister for the Environment, stakeholders have come together in workstreams to drive action, with support from 2030 WRG as platform coordinator, facilitator and technical adviser.

Shaping effective policy together

Stakeholders representing a wide spectrum of viewpoints, including urban and farming communities, civil society, industrial users, government and academia are actively working together to shape water policy. For example, Polluter Pays principles have been incorporated into law in consultation with industry and have been widely accepted as a result. Leveraging 2030 WRG's technical expertise, stakeholders have also contributed to the development of a nationally-recognised methodology for valuing water, which they are now using to inform new water efficiency initiatives.

Building upon an assessment of needed incentives and regulatory reforms, the 2030 WRG is currently supporting the development of a non-financial award incentive, termed the Golden Drop, to drive greater water use efficiency and wastewater treatment and reuse.

Building capacity to implement solutions

Participating stakeholders have also strengthened their capacity to implement their own water resource management solutions, with inspiration from international best practice examples provided by 2030 WRG. For example, eight mining companies in the southern Gobi have adopted a voluntary code of practice for water management. In addition, river basin councils are learning to establish and enforce river basin governance priorities through two pilot projects supported by 2030 WRG and local public bodies. The model will subsequently be shared with other river basin authorities.

Turning dialogue into action in Ulaanbaatar and South Gobi

With support from 2030 WRG, local industrial users are now actively seeking to identify and develop innovative water efficiency and wastewater management projects in the South Gobi and Ulaanbaatar regions, mobilising public and private finance. On the wastewater side, stakeholders are improving existing guidelines and standards for reuse. Once they are completed, the aim is to conduct two to three demonstration projects.

IV Progress to Date

Another key area of learning for 2030 WRG has been the importance of credible results measurement.

The Dalberg evaluation in 2014 highlighted a need for 2030 WRG to make its working assumptions explicit by articulating a "comprehensive theory of change linking its mission and vision to specific activities, outputs and outcomes."[25] Since that time, the group has become much more rigorous in its thinking about the way its work is designed to strengthen water security.

2030 WRG has developed a theory of change and a corresponding results framework, with metrics assigned (the results framework is depicted in Figure 2 below). This means the hypothesis for the experiment it is running is now testable. A 2030 WRG staff person in each country collects data on the metrics listed in Figure 2 below. That data is reviewed by the 2030 WRG regional head and passed along to headquarters for aggregation at the global level, where it is reviewed again. Finally, it is reviewed by the monitoring and evaluation unit at IFC before sharing publicly.

Figure 2 **2030 Water Resources Group Results Framework**

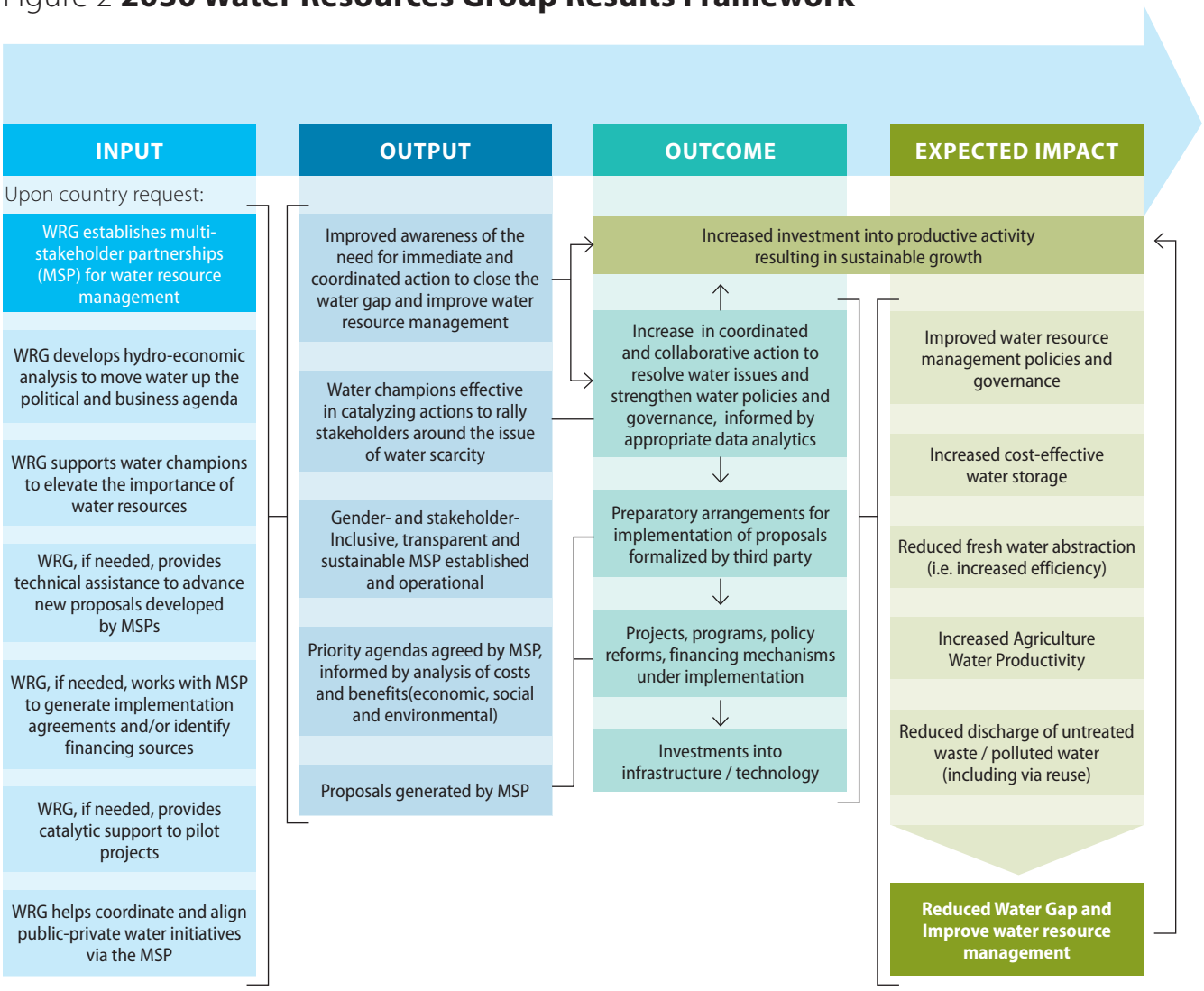


Table 1 **2030 Water Resources Group Results**

OUTPUTS	OUTCOMES	IMPACTS
• 30 hydro-economic analyses • 46 publications • 318 media appearances • 179 MSP meetings • 199 broader events • 77% MSP meeting minutes publicly available • >$2.2 million in funding secured for running the MSPs in South Africa, Maharashtra, Bangladesh, and Tanzania • 60 priority areas agreed by MSP	• 71 concept notes approved • 53 proposals approved • 39 proposals with preparatory arrangements in place • $468 million allocated by third parties (not 2030 WRG) for implementation of projects in Maharashtra, Karnataka, Mongolia, Tanzania, the Ganga, Peru and South Africa • 19 projects under implementation by third parties (not 2030 WRG) • $258 million in investment generated in Karnataka, Maharashtra and South Africa	• 55 million m^3/year freshwater abstraction expected to be avoided through two projects in South Africa and Peru • 34 million m^3/year untreated wastewater emissions expected to be avoided in the initial Ganga projects

2030 WRG has achieved promising results so far.

600 partners across government, business, and civil society are involved at the state, national, and/or global levels. 11 MSPs are operating at the state and national levels. And as reflected in the table below, dialogue has begun to segue into action and some impacts are already beginning to materialize. For example, once the infrastructure is built, 55 million m^3/year of freshwater abstraction is expected to be avoided through two projects in South Africa and Peru, and 34 million m^3/year of untreated wastewater emissions are expected to be avoided through initial projects in the Ganga river basin in India.

2030 WRG has defined two additional impact metrics: m^3/year untreated or polluted water discharge expected to be avoided, and $ change in gross agricultural value add per cubic meter of water. South Africa has set a target for the first, though it is still too early to report; no country has yet set a target for the second.

Monitoring and evaluation are challenging enough for organizations that execute projects, and 2030 WRG's experience reflects the additional challenge for organizations that are not executing projects but rather facilitating systems change driven by local stakeholders. There are several reasons for this. It is difficult to predict what stakeholders will do, and therefore what it will be possible to measure. At the same time, systems change is a dynamic and often non-linear process involving actions and interactions among stakeholders at many levels. This process can take a long time to unfold, and it is hard to attribute the results to any one organization or program of activity.

Perhaps its most promising results are the cultural and institutional changes that 2030 WRG has set in motion.

In the countries and states where it has engaged, 2030 WRG has elevated water security to a higher level on the agenda than it was before. It has achieved commitment from the highest levels of government in Bangladesh, Karnataka, and Maharashtra, for example, where MSPs are chaired by the Prime Minister's or Chief Minister's offices. 2030 WRG has helped to build trusted working relationships across traditional silos, both within government – for example in Peru, where five different ministers sit on the MSP steering board – and across government, business, and civil society. In addition, some of the MSPs 2030 WRG has supported are becoming institutions in their own right. In Kenya, Mongolia, Peru, South Africa, and Tanzania and the three Indian states, these MSPs have survived changes in government administration. This kind of collaboration, happening and even institutionalizing in places where water is hotly contested, is a significant change. In Mongolia, stakeholders even see the 2030 WRG model as one they should be replicating to tackle other issues in addition to water.

Cultural and institutional changes like these underpin the results listed in Table 1. It might have been possible to achieve some of the same impacts in other ways – for example, through more traditional development projects conceived, funded, and executed by donor agencies and their contractors. But if the new institutions and ways of working can be sustained, they will continue generating impact into the future as successful pilots are replicated and scaled by other businesses and civil society partners or through government policy action. The MSPs and their members will also be in a position to tackle new dimensions of water security and new developments that emerge, ideally with decreasing levels of support from 2030 WRG over time.

2030 WATER RESOURCES GROUP COUNTRY PROFILE

KARNATAKA

The water resource challenge:

The state of Karnataka in southwestern India faces a water demand-supply deficit that is projected to double by 2030. Increasing demand for water is being driven by a fast-growing urban population, particularly around the city of Bangalore, and an agricultural sector heavily focused on water-hungry sugarcane production. Highly inefficient flood irrigation practices, limited industrial and urban wastewater treatment and reuse, and annually declining levels of rainfall pose a serious threat to millions of livelihoods and future development in the state.

Addressing the water challenge in Karnataka has historically proved difficult for many reasons. Government water resource management has been uncoordinated, underfunded, and hampered by a lack of capacity. In addition, policies have failed to incentivize water use efficiency with water priced at very low levels and often available for free in rural areas. A lack of participation by the private sector has also hindered innovation and investment in the water sector.

Collaboration in action:

In 2010, the government of Karnataka invited 2030 WRG to help address these challenges. The initial priority was to analyze the agricultural, urban, and industrial sectors to size the challenge, understand the wider implications of the water gap on the local population, economy, and environment, and identify innovative solutions, particularly focused on private sector participation. Following extensive discussion among water users, the government, community representatives, and technical experts, the consensus was to prioritize agricultural water use efficiency and wastewater reuse.

Through the multi-stakeholder platform (MSP) facilitated by 2030 WRG and chaired by the State Secretary, Karnataka's most senior government bureaucrat, 2030 WRG has brought together not only various government departments to ensure a more cohesive public sector approach, but also a wide spectrum of industrial, urban and agricultural stakeholders. For example, small-scale sugarcane farmers have been consulted through the mills they supply. Stakeholders are now aligned around thematic workstreams and working together to advance solutions.

Water efficiency innovations in the sugarcane sector

Sugarcane mills, farmers, and financial institutions are collaborating on an initiative to introduce drip irrigation technology for sugarcane cultivation, with the potential to transform water use efficiency and increase farmer productivity and incomes, initially on farms covering an area of 20,000 hectares. The scheme supports a move away from subsidy models for drip technology finance towards market mechanisms and commercial finance. To overcome the financing barrier and accelerate implementation, an innovative tripartite financing arrangement has been agreed among the farmers, mills and financial institutions, catalyzed by 2030 WRG.

To ensure farmers in drip-irrigated areas have a market for their additional produce, the MSP has also established the Drip to Market Agro Corridor (DMAC) initiative, which aims to connect farmers with food processing, export and trading companies, who procure high-value agricultural and horticultural produce from farmers, and support extension services and post-harvest infrastructure.

Wastewater reuse

Stakeholders have also worked together on the development of a Wastewater Reuse Policy, which has identified how urban wastewater can be reused by different sectors and established a comprehensive incentive framework with a focus on industrial reuse. In recognition that policies alone are not enough, a Wastewater Reuse Resource Cell will help to accelerate water reuse projects and support municipalities on awareness building and project preparation.

2030 WATER RESOURCES GROUP COUNTRY PROFILE

KENYA

The water resource challenge:

At a time when 40% of Kenyans still have limited access to a safe and reliable water supply, water resources in the country are being stretched by rising demand from industrial and agricultural users and a fast-growing and increasingly urbanized population. In many areas, water scarcity is now a daily reality and the scope for conflict between competing users is increasing. If Kenya continues on its current path, it faces a 30% gap between water demand and supply by 2030, putting at risk the country's ambition to transform itself into an industrialized middle-income country by that time.

The perception that water is the government's responsibility, alongside a lack of incentives, has restricted private sector investment in the water sector. With public resources limited, Kenya has therefore experienced chronic under-investment in water infrastructure, especially in storage capacity and wastewater treatment.

Collaboration in action:

Recognizing that the water challenge required a multi-stakeholder approach and a greater role for the private sector, the Kenyan government invited WRG 2030 to engage in 2014. The 2030 WRG Kenya partnership was officially launched in 2015 under the chairmanship of the Cabinet Secretary, Ministry of Water and Irrigation, and the CEO of Bidco, a leading consumer goods company, and steered by a Governing Board representing other parts of government, the private sector and civil society.

Informed by an extensive stakeholder consultation and an in-depth hydro-economic analysis undertaken by WRG 2030, the Governing Board identified three priorities: improving water use efficiency in the industrial, urban and agricultural sectors, strengthening storage infrastructure, and increasing wastewater treatment and reuse. The partners have now formed thematic working groups to turn dialogue into action, leveraging 2030 WRG's international expertise and reach.

Upper Ewaso Ngiro catchment

NGOs, researchers, growers, and government are improving management of the Mount Kenya water catchment, the country's largest, where there has been conflict among water users. Including water resource user associations has ensured that smallholder farmers and citizens have a voice. Supported by 2030 WRG and facilitated by the Laikipia Wildlife Forum, the Mount Kenya Ewaso Water Partnership is establishing a system to ensure that water is allocated between users legally, fairly and transparently, and that abstraction is effectively monitored and regulated. The partnership is also exploring ways to strengthen water storage capacity.

Kenya Industrial Water Alliance

Through the Kenya Industrial Water Alliance (KIWA), industrial users, regulators, government, solutions providers and NGOs have joined forces to transform water efficiency and wastewater reuse in the manufacturing sector. KIWA is supporting the development of a trade waste effluent mechanism to incentivize industrial users to invest in their own wastewater treatment and reuse facilities.

Unlocking private sector innovation

With 40% of water lost through leakage and inefficient metering, leading to missed revenue, the working group is exploring performance based contracts, a type of risk sharing mechanism, to promote private sector investment in solutions that can, for example, rehabilitate water infrastructure and introduce mobile-enabled water metering and revenue collection.

With 60% of Kenya's water used for agriculture and 70% of agricultural output generated by smallholder farmers, commercial banks, equipment providers, and off-takers are working on an irrigation financing facility to enable smallholders to purchase drip irrigation technology, which can dramatically improve water use efficiency while increasing farmer yields and income.

V Getting to Scale

2030 WRG is now gearing up to mainstream its approach to achieving water security.

2030 WRG cultivates national MSPs that enable governments to make the tough policy choices needed to achieve water security in a transparent way. The group's five-year Strategic Plan for 2018-2023 calls for engaging with 25 countries and inspiring even more countries to adopt its approach without its direct assistance. This has the potential to establish a new form of public-private-civil society collaboration in the water space, in a context where many people continue to associate the term "PPP" with privatization.

For this new phase, 2030 WRG is moving within the World Bank Group from IFC to the World Bank, where it will be part of the Global Water Practice (Water GP). The move aligns with IFC's Strategy 3.0 and the broader World Bank Group focus on 'mobilizing finance for development' by creating markets and bringing in private sector investment to address public investment gaps.[26] For example, it has been estimated that investment will need to triple to $114 billion per year through 2030 to achieve SDG 6 water supply, sanitation, and hygiene targets.[27] A major challenge in attracting private investment into the water sector has been aligning the government policy reforms and civil society support required to make it commercially viable. This is something the 2030 WRG approach aims to do.

2030 WRG will remain able to leverage the private sector expertise and networks of IFC – and gain an opportunity to integrate its approach into the operations of a critical global development institution with strong government relationships, a staff of approximately 300 water professionals, a comprehensive water security strategy, and a new multi-donor Global Water Security and Sanitation Partnership that will focus on advancing knowledge and building capacity.

2030 WRG goes into the scale-up phase building on a set of strengths and opportunities.

2030 WRG has been able to capture attention and convene key stakeholders across sectors at very senior levels. It has brought water up the national policy agenda in the countries where it engages and positioned water ministries in a new light as crucial to long-term economic growth and development. The group knows how to develop compelling hydro-economic analyses and water supply-demand gap statistics. The credibility and draw of key institutional partners, especially the World Economic Forum, with CEO-level participation on the Governing Council, are and will continue to be key. Growing recognition of water's critical social, environmental, and economic value, reinforced by the Sustainable Development Goals, adds further momentum.

2030 WRG's growing track record stewarding MSPs from dialogue to action and results will also be key. The group is taking a fairly rigorous approach to monitoring and evaluation, considering that the intended impacts under its theory of change are long-term in nature and difficult to control. Under the guidance of a strong Steering Board, 2030 WRG has demonstrated an openness to constructive criticism and a commitment to continuously improve. And the World Bank brings an additional set of strengths – including its government client relationships, water expertise, programs, and funding.

2030 WRG also faces a number of challenges.

In order to achieve its potential, the group will have to address a number of challenges and 'balancing acts'. For example, since its inception, 2030 WRG has been under constant pressure to catalyze action and demonstrate results in a short period of time. While impatience has a role to play in a crisis with implications as profound as water security, system leadership is a highly complex undertaking that usually evolves over a longer period of time with outcomes that are difficult to predict. 2030 WRG does not have authority or leverage over the diverse stakeholders in the system, and direct project implementation is not the goal. Instead, the group seeks to motivate, align, and empower system stakeholders to make change themselves and be accountable to each other for the results – in order to ensure that change is as sustainable as possible and has maximum potential for scale.

Another challenge is the perception of 2030 WRG as a private sector-driven initiative. This poses several issues that need

to be addressed explicitly. On one hand, some stakeholders have a deep-seated mistrust of the private sector and are skeptical that business can be part of the solution on water, so the need for ongoing trust-building is essential. On the other hand, some stakeholders want to see the private sector do more and fund more, creating a need to manage expectations and to emphasize the ultimate responsibility of government.

2030 WRG does indeed have its roots in the private sector, and companies continue to play a strong role. However, its central goal is to bring business into the kind of multi-stakeholder conversation and collaboration that will be needed to achieve water security. 2030 WRG does not want to be 'captured' by private sector interests. It wants to catalyze and support contributions from different kinds of businesses, civil society organizations, and donors based on their respective core competencies with government firmly in the lead. As such, the group must continue to emphasize that it sees government as the ultimate custodian of water, while demonstrating the essential role that the private sector can and must play.

A final challenge is to integrate successfully into the World Bank, where 2030 WRG represents a new and potentially disruptive way of operating.

2030 WRG has value to add at a time when the Bank seeks to transform itself from a funder and implementer of projects into a coordinated global knowledge platform and enabler that engages proactively with private investors and companies, as well as governments.[28] The group exemplifies the type of SDG 17 collaboration that the development community, including World Bank principals and shareholders, seek. The Bank's Water GP welcomes 2030 WRG's ability to engage companies that will have to be part of the solution if water security is to be achieved, including major water users, solution providers, and investors. The Water GP also appreciates the added openness and transparency that 2030 WRG's approach can bring to the water policy dialogue and decision-making process.

While hosted at IFC, 2030 WRG was embedded in the Cross-Industry Advisory Solutions department and its programs were subject to policies and procedures designed to protect IFC's reputation and advance its mission, including social, environmental and governance standards. The group will now need to learn to work effectively as part of the World Bank, and for its part, the Bank will need to explore ways of creating an enabling environment for this new model of collaboration. Coordination among 2030 WRG staff and World Bank country directors overseeing country partnership strategies will be key to the sustainability and scale of the group's activities and impact. 2030 WRG will need to comply with World Bank policies and procedures and respond to even greater positive pressure to be as open and inclusive as possible."

To succeed in mainstreaming its approach, 2030 WRG will need to focus in three key areas.

Local ownership and inclusion

First, 2030 WRG will need to continue to increase local ownership and inclusion at the country level – becoming more effective at its existing approach. The group's new home at the World Bank will exert positive pressure for this, and bring the possibility of resources for capacity-building so that groups like smallholder farmers, traditional herdsmen, and indigenous villagers can participate more fully and constructively.

The role of the private sector

Second, 2030 WRG must continue to articulate and demonstrate the role of the private sector alongside government and civil society in achieving water security – giving stakeholders a compelling reason to work to overcome initial mistrust, inspiring more companies to get involved, and providing them with guidance for engaging transparently and constructively.

Transformational change and impact

Third, 2030 WRG can – and must – prioritize achieving transformational change in the countries where it already engages at the same time as it expands into new ones. Ultimately, impact is what will trigger the demonstration effects the group seeks to achieve.

Specific opportunities in these areas are outlined in the box below. In addition, given its desire to trigger demonstration effects, 2030 WRG should explicitly consider where the backbone support for its approach will come from when the group is no longer providing it directly. Cultivating the next generation of backbone support institutions and professionals, including World Bank staff and as many local stakeholders as possible, could be a valuable part of the strategy and work plan going forward.

Opportunities for 2030 WRG in the Scale-Up Phase

#1 Continue to increase local ownership and inclusion

- Make sure country stakeholders, especially government policymakers, understand the central roles they play in 2030 WRG's strategy and approach.
- Work on telling the collaborative action story to help stakeholders understand what participating, championing, and even leading an MSP look and feel like. For example, consider system leadership case studies – in addition to water management case studies – to shape expectations and build capabilities.
- Find ways to include stakeholders who lack the voice, capacity, or structure to participate easily in 2030 WRG processes, such as herdsmen, indigenous groups, and smallholder farmers.
- Continue to build the backbone support mindsets and facilitation skills of 2030 WRG staff, and explore ways to build those of local individuals and organizations so they can take over the MSP secretariat role – or take it on from the beginning, as in the case in South Africa.
- Continue to cultivate and use champions to promote this way of working, engage the right stakeholders and protect against pressure to deliver results too quickly, but remember that champions are not enough. Use them as beacons to bring others on board.

#2 Demonstrate the role of the private sector in achieving water security

- Frame private sector engagement as part of the cross-sector, multi-stakeholder response that is needed to achieve water security, with government as ultimate custodian. Differentiate among different types of businesses and their roles, including water users, water and sanitation utilities, water technology solutions providers, and investors.
- Take a rigorous, evidence-based approach to demonstrate this role, showing how – and how much – businesses are investing and innovating in order to be part of the solution to shared water challenges. Also describe the specific roles companies play in national MSPs alongside stakeholders from other sectors.
- Develop and share data on water security as both a risk that must be managed and an opportunity that can be captured by businesses of different types.
- Diversify the global partnership to include companies with a broader range of roles to play in strengthening water security, such as technology, finance, media, and extractive companies – as is already done at the country level.

#3 Prioritize achieving transformational change in existing countries at the same time as expanding to new ones

- Stay the course in the countries and states where substantial investment has already been made, including through strategies for MSPs to become financially self-sustaining, survive changes in government, and build local secretariats.
- Continue to gain experience and share what works when it comes to the "transform" part of the ACT model.
- Consider incorporating new "transform" tools, such as global working groups (for example on agriculture finance) and capacity-building for local stakeholders.
- Focus relentlessly on achieving measurable results, with an eye to the percentage of the water supply-demand gap closed in countries where 2030 WRG engages. Use independent evaluations as much as possible to build trust and credibility, working with local universities, research institutes and consultants both to facilitate buy-in and to strengthen local capacity.

VI A Call to Action

Securing enough water for people, economic growth, and the environment is a true collective action problem. Diverse stakeholders have played roles in the shortages countries currently face, and these same stakeholders will have to turn the ship around.

2030 WRG has catalyzed new thinking and new ways for stakeholders to work together toward water security, bringing many of them out of their comfort zones in the process.

There will be other models. But it will be critical to keep thinking and acting in a similarly creative, possibly even disruptive, and potentially transformative manner:

- **Keeping government in the lead, with its responsibility, authority, ability to level the playing field and bring solutions to scale**
- **Taking or fostering the initiative of local water stakeholders to communicate and collaborate with one another**
- **Combining a rigorous evidence base with attention to stakeholder dynamics around water and the political economy of change**
- **Funding and rallying around organizations that provide strong backbone support for cross-sector, multi-stakeholder efforts**

Individuals and institutions will have key roles to play in championing and creating the space for this type of approach.

It will require stakeholders to come out of their silos, suspend their assumptions, and set their competitive instincts aside.

Companies will have to take long-term sustainability and growth more seriously and engage in more frequent and sophisticated pre-competitive collaboration.

Civil society organizations will have to recognize and support the role of business, playing the watchdog role as needed, while at the same time working effectively with one another.

Donors must seize the opportunity to drive greater collaboration within and across the private sector and civil society, including through better coordination amongst themselves – while demonstrating that this is a good use of taxpayer money.

And governments must work effectively across ministries and take input from diverse water stakeholders in a transparent way, building a shared sense of ownership over water policy while maintaining ultimate responsibility for the results.

This will require new mindsets and skill sets in key institutions in all sectors, but there is no other choice if water security is to be achieved.

The need for collective action is too urgent. And if it can be demonstrated to work in the currently fragmented and politically charged water sector, there will be enormous potential for the kind of approach described in this report to play a much broader role and accelerate progress across the 2030 Agenda for Sustainable Development.

Acknowledgements

The authors extend a special thanks to Anders Berntell and Alida Pham of the 2030 Water Resources Group, Greg Koch and Jennifer Ragland of The Coca-Cola Company, and Dominic Waughray of the World Economic Forum for making this case study possible by sharing information and insight with us and by connecting us with their colleagues and stakeholders around the world.

We gratefully acknowledge the following individuals for participating in interviews. Their insights were instrumental.

Joy Busolo, Africa Regional Coordinator and 2030 WRG Country Representative, Kenya

Sergio Campos, Division Chief, Water and Sanitation, Inter-American Development Bank

Guang Chen, Senior Director, Water Global Practice, World Bank

Mushtaque Chowdhury, Vice Chair, BRAC

Rudolph Cleveringa, Executive Secretary, Global Water Partnership

James Dalton, Coordinator, Global Water Initiatives, IUCN

Basandorj Davaa, Country Director, Global Water Partnership Mongolia

Dorjsuren Dechinlkhundev, 2030 WRG Country Representative, Mongolia

Andre Fourie, Senior Manager, Environmental Value, AB Inbev

Aravind Galagali, Director, Water Resources Department, Krishna Bhagya Jal Nigam Limited

Ana Gren, Senior Policy Specialist, Water Resources Management and Sanitation, SIDA

Anil Jain, Managing Director, Jain Irrigation Systems Limited

T. Kannan, Vice President, Cane Development, EID Parry

Rochi Khemka, Co-lead, Global Partnerships and India Program, 2030 WRG

Mohan Kumar, Professor, Department of Civil Engineering, Indian Institute of Science

Herbert Oberhaensli, former Vice President, Economics and International Relations, Nestlé (retired)

Isabella Pagotto, Senior Policy Adviser and Programme Manager, Global Programme Water, SDC

Morten Riis, Group Public Affairs Director, Grundfos

Vimal Shah, Chief Executive Officer, Bidco Oil Refineries Ltd.

Jyoti Shukla, Director, Water Global Practice, World Bank

Adrian Sym, Chief Executive, Alliance for Water Stewardship

Baasandorj Tsogoo, Vice President, Mongolian Mining Corporation

Bulgan Tumendemberel, Head of Green Development Policy and Planning, Mongolian Ministry of Environment and Tourism

Annabell Waititu, Chairperson, Kenya Water and Sanitation CSO Network

Eugene Wamalwa, Cabinet Secretary, Kenyan Ministry of Water and Irrigation

Ghislaine Weder, Head, Economics and International Relations, Nestlé

The comprehensive external evaluation conducted by Dalberg Global Development Advisors in 2014 was also a key source of insight.

We sincerely appreciate the feedback of a expert group of reviewers on a draft of this case study:

David Grayson, Director, Doughty Centre for Corporate Responsibility, Cranfield School of Management, Cranfield University

Jim Leape, William and Eva Price Senior Fellow and Co-Director, Center for Ocean Solutions, Stanford Woods Institute for the Environment

David Nabarro, Secretary-General's Special Adviser on Sustainable Development and Climate Change, United Nations

Lance Pierce, President, CDP North America

Usha Rao-Monari, Chief Executive Officer, Global Water Development Partners

John Ruggie, Berthold Beitz Professor in Human Rights and International Affairs, Harvard Kennedy School

Finally, we acknowledge the financial support of The Coca-Cola Company for the research and production of this case study. The company is also one of a number of other companies and nonprofit organizations that provide general support to the Corporate Responsibility Initiative.

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About the Corporate Responsibility Initiative (CRI)

The Corporate Responsibility Initiative (CRI) at the Harvard Kennedy School's Mossavar-Rahmani Center for Business and Government (M-RCBG) is a multi-disciplinary and multi-stakeholder program that seeks to study and enhance the public contributions of private enterprise. The initiative explores the intersection of corporate responsibility, corporate governance, and public policy, with a focus on analyzing institutional innovations that help to implement the corporate responsibility to respect human rights, enhance governance and accountability and achieve key international development goals. It bridges theory and practice, builds leadership skills, and supports constructive dialogue and collaboration among business, government, civil society and academics. Founded in 2004, the CR Initiative works with and is funded by a small Corporate Leadership Group consisting of global companies that are leaders in the fields of corporate responsibility, sustainability or creating shared value. The Initiative also works with other leading corporate responsibility and sustainability organizations, government bodies, non-governmental organizations, foundations and companies to leverage innovative policy research and examples of good practice in this field.

CRInitiative.org
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