2030 Water Resources Group

2016 ANNUAL REPORT

PARTNERSHIPS FOR TRANSFORMATION

WATER SECURITY PARTNERSHIPS FOR PEOPLE, GROWTH, AND THE ENVIRONMENT

2016 Highlights

5005 partners (212 private Sector, 123 government, 170 civil society organizations) joining in



working groups in

countries/states and 2 new countries just

about to start their work

Have together:

- Decided on 53 areas of priority for their work
- Developed 57 concept notes to concretize those areas
- Developed these concept notes into 43 final proposals
- Set up preparatory arrangements for 35 of these proposals
- Seen the full implementation on the ground for 14 of these programs

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MESSAGE FROM THE CHAIR

Entering a New Phase



As I have often stated, there is a crucial need for a broad perspective when we think about the challenge of overcoming water overuse. We need comprehensive, credible, and sometimes disruptive solutions. Looking back at what we, as the 2030 Water Resources Group (2030

WRG), have achieved since our formal founding at the 2010 World Economic Forum Annual Meeting in Davos, I am hopeful for the future. I know that, with the support of our global partners, and in particular with the active engagement of the more than 500 partners in the countries in which we work, we will continue to make progress in moving the issue of water resources higher up the political agenda and developing programs and policies with real and substantial impact on the ground.

Today, seven years down the road, we are working in 11 countries/states and have 2 new country engagements coming, our multi–stakeholder platforms have 36 working groups who together have developed 43 proposals for programs or policies, of which 14 are already being implemented and. in many of these, we bring together a high level of representation across key decision makers from government, private sector, and civil society. I would like to thank our founding members for their support, which makes this possible, and welcome our newest partners, The Dow Chemical Company, the International

Union for the Conservation of Nature, and the Hungarian government, who are joining us for the next stage of our journey.

At our meeting of the Governing Council in Davos on January 17, 2017, we took several strategic decisions on the scope, scale, focus, expected impact, and funding of the program for the next years. With this new strategic direction, I am convinced that the 2030 WRG will become even more impactful and relevant as an innovative example of how the public and private sectors, together with civil society, can work to accomplish real change in managing water resources.

With water at the very core of sustainability, the world needs to unite to implement the Sustainable Development Goals (SDGs). In just 15 years, the world will demand 40 percent more water than the available supply. This includes the water that will be needed for a growing population, which, by most estimates, will require up to 50 percent more food by 2050. Agriculture accounts for as much as 70 percent of global water consumption, and climate change hits agriculture with a double effect —higher temperatures can decrease plant yields and rainfall extremes can flood or parch crops; but a warmer climate also creates new agricultural land in the northern hemisphere. In countries with weak governments, a breakdown in food production can spark debilitating political and social crises.

This trajectory can be changed, and the 2030 WRG is a small but important example of how that can be done.

Peter Brabeck-Letmathe

Chair, 2030 Water Resources Group Chairman of the Board of Directors, Nestlé



In just 15 years, the world will demand 40% more water than the available supply.



MESSAGE FROM THE VICE-CHAIR

Collective Action is Crucial to Achieving Water Security by 2030



Alleviating water scarcity is more urgent than ever as rapid population growth, rising incomes, and expanding cities strain the world's water supply.

That's why the United Nations, through the Sustainable

Development Goals, set a tight deadline for ensuring universal access to safe and affordable drinking water for all—by 2030. Meeting it will depend on broad and sustained collaboration—partnerships that bring together governments, the private sector, and civil society to develop solutions that increase water sustainability and efficiency. The 2030 Water Resources Group has a role to play in this effort.

To achieve water security in water scarce countries, large-scale investments are needed to improve efficiency, reduce demand, and increase the sustainable supply of water. Public investments will not be sufficient to overcome the current funding gap. The private sector needs to be brought on board. That is IFC's focus. The Water Resources Group creates an enabling environment for such investments, reducing risks, and bringing private companies and financial institutions into the equation. In 2016, for example, the Water Resources Group developed financial solutions to improve irrigation efficiency for local farmers in the Indian states of Karnataka and Maharashtra, with investments expected to be about \$570 million and \$700 million, respectively. In Peru and Mexico, it has helped governments to prioritize \$1.5 billion in sustainable water infrastructure investments and develop economic incentives for better water resource management by industrial users. In South Africa, the No Drop program, which reduces water loss in municipal water supply systems, is expected to lower the national water gap by 23 percent when fully implemented.

This report highlights these initiatives and other important work the Water Resources Group is carrying out across the countries of its operation and outlines a path forward.

The World Bank Group looks forward to continuing the fight for water security—by creating more partnerships, providing financing, and helping remove regulatory barriers. These solutions are essential to a future where clean water is abundant.

Philippe Le Houérou Vice-Chair, 2030 Water Resources Group Executive Vice President and CEO of IFC, World Bank Group



2016 Results

At the end of the year, the 2030 WRG has helped set up in total 10 national multi-stakeholder platforms. 36 working groups collaborated on proposals, and 505 active partners participated in steering boards and working groups. They have together moved 14 programs to implementation.

EXECUTIVE SUMMARY

Today, three out of every four of the world's jobs depend on water.¹ This means that water scarcity is a threat not only to us as individuals, but also to societies, their economic and social wellbeing, and their political stability. In short, water is essential to our sustainable development.

In September 2015, the United Nations' 193 member states committed to 17 SDGs to be achieved over the next 15 years. SDG 6—clean water and sanitation for all—has placed water firmly on the global agenda. This goal is perhaps the most important of all. Without water, the other 16 development goals—from improving health, to ending hunger, to boosting economic growth and taking climate action—will not be achieved.

The 2030 WRG's work is aligned with that of the SDGs, and it is committed to bringing people together in partnerships across countries and sectors to build a more sustainable, water-secure future.

In 2016, we continued to deepen our existing partnerships in water-stressed countries, including Bangladesh, India (nationally and in the states of Uttar Pradesh, Karnataka, and Maharashtra specifically), Kenya, Mexico, Mongolia, Peru, South Africa, and Tanzania. In our efforts to help achieve water security by 2030, we are always looking for new countries with which to partner. Following a scoping exercise, the 2030 WRG has also initiated work in Brazil (São Paulo state), Ethiopia, and Vietnam in 2016. See Chapter 3 for more information about existing country partnerships.

Making an impact—2016 highlights

A new financing facility for irrigation in Tanzania

Agriculture is a key sector in Tanzania—accounting for 85 percent of exports and more than 50 percent of the country's jobs. The sector also uses up to 90 percent of Tanzania's available water. In 2016, the 2030 WRG Tanzania partnership started to develop a national financing facility for efficient irrigation. Stakeholders across various sectors committed to sourcing up to \$100 million in new financing to increase irrigation efficiency for local farmers.

A blended finance solution for Karnataka's sugarcane farmers

The 2030 WRG is supporting the Government of Karnataka in its state-wide adoption of microirrigation for sugarcane. By facilitating public-private partnerships, we are helping to unlock blended finance from the government and commercial banks, potentially totaling \$700 million, of which \$250 million is already committed by the government. The banks will extend loans for drip irrigation to the state's 700,000 sugarcane farmers, while the government will pay for retrofitting infrastructure requirements in the canal systems.



¹ UN-Water (2016). World Water Development Report.

Rejuvenating Ganga Tributary in Uttar Pradesh

The 2030 WRG is supporting the work of the Hindon River Rejuvenation Partnership—a transformational program that aims to collectively identify solutions to water challenges in the Hindon River basin, home to 10 million people and a significant, heavily polluted tributary of the Ganga. In 2016, the partnership conducted knowledge–sharing workshops in eight cities, which helped stakeholders identify 35 projects in the agricultural, industrial, urban and environmental sectors to help clean up the Hindon River. The 2030 WRG, in collaboration with the Millennium Alliance platform, launched a Call for Proposal that offers funding opportunities to innovative solutions.

Prioritizing water projects and encouraging private investment in Mexico

The 2030 WRG's partnership with Mexico is working with the country's National Water Commission, CONAGUA, to help prioritize its capital investments and ensure that the agency focuses on the most economically, environmentally, and socially viable projects. The 2030 WRG is also developing a case for private investment in agri-water projects, and piloting specific projects to encourage a steady flow of sustainable investment into the sector.

Tangible impacts in Peru

Our programs in Peru delivered more concrete results this year, for example with MSP industry members initiating water conservation measures within their facilities. 2030 WRG also provided critical support to the water regulator, enabling innovative new groundwater abstraction regulations to be enacted—protecting a strategic resource. Another area is the pipeline of water projects that is now being brought forwards through the government's 'works for taxes' scheme. And 2030 WRG's partnership with the Alliance for Water Stewardship brings together Peruvian suppliers and European consumers of asparagus to ensure sustainable and water efficient agricultural production along Peru's coast.

South Africa

Sixty percent of South Africa's water supply is used in the agricultural sector, but 35 percent of this water is lost in the river and canal conveyance system alone. The Water Research Commission in South Africa has supported the development of a

Water Administration System (WAS). Today, the award-winning WAS is used on almost all major irrigation schemes in South Africa and saves an average of 10 percent of water that was previously lost. The Strategic Water Partners Network (2030 WRG platform in South Africa) has helped in the implementation of the system.

In March 2016, South Africa hosted the first 2030 WRG international knowledge exchange, giving about 80 representatives from our partner countries the opportunity to learn from each other.

New partnerships and priorities for transformation

Our work would not be possible without partnerships—at both a country level and a global level. As a multi-stakeholder initiative itself, the 2030 WRG works with a range of global partners, including multilateral and bilateral agencies, private companies, and civil society organizations, to contribute to a water-secure future. In 2016, we welcomed three new global partners to the 2030 WRG Governing Council: The government of Hungary, The Dow Chemical Company and the International Union for Conservation of Nature.

In 2017, the 2030 WRG will continue to work with its partners to achieve its vision, with a particular focus on the following priorities:

Closing the financing gap

It is estimated that \$114 billion in annual investments is needed to achieve SDG 6 over the next 15 years. Current global funding for water supply and sanitation is about \$33 billion. Contributing to closing this funding gap is a priority for the 2030 WRG, both as part of our global work program with other international actors and through our engagements with partner countries.

Adapting to the effects of climate change

The water challenges in many countries can be attributed to overconsumption and poor resource management. But climate change is also an important contributing factor. Our work already includes programs to help countries adapt to climate change in the water sector. In future, we will increase our focus on activities that can help countries mitigate the water-related effects of climate change.



CHAPTER ONE

Water Security— The 2030 WRG Approach

Our work is based on collaboration and collective action to close the gap between water demand and supply in countries by the year 2030.

The 2030 WRG is a global partnership that brings governments, international financial institutions, nongovernmental organizations, and companies together to work towards a water-secure future. We promote the sustainable management of water by fostering partnerships, facilitating open discussion, and driving change in water-stressed countries.

These multi-stakeholder platforms develop proposals for water programs, projects, and policy reforms; support the implementation of public-private partnerships; and develop proposals for innovative finance mechanisms that will help others implement various programs.





An Interconnected Global Issue

Over the past 50 years, the world's population has doubled and global gross domestic product (GDP) has grown tenfold.

Agricultural and industrial outputs have boomed, with more than 70 percent of the world's water abstraction occurring in the food value chain, and cities have grown exponentially. These trends have put global water resources under ever-increasing strain. They have also had dire consequences for the world's population. Water scarcity affects more than 40 percent of the global population and is projected to rise. Over 1.7 billion people are currently living in river basins where water use exceeds recharge. More than 80 percent of wastewater resulting from human activities is discharged—untreated—into our rivers and oceans.

If countries maintain a business-as-usual approach to managing water, we can expect a 40 percent gap between freshwater supply and demand by 2030.

A collective response is needed to close this gap and address the world's growing water crisis. And it is needed now.

Water scarcity and the economy

The World Economic Forum has ranked water as one of the top three global risks for the past five years. This ranking is based on the views of a thousand leaders from business, academia, international organizations, and civil society outside of the traditional water sector. The world is starting to realize the critical role water plays in our development, our economies, and for the ecosystems on which we all depend. As governments in water-stressed regions seek to grow their economies, they need to decide how to manage competing demands for water in cities, agriculture, and energy production. At the same time, increased climate variability and demographic pressures such as urbanization are placing more stress on the system.

A large part of the projected demand for water in 2030 will be for increased agricultural needs. Agriculture already accounts for 70 percent of total average water consumption worldwide. By 2030, food production will have to increase by 50 percent to meet the needs of a growing population. The International Energy Agency projects that water consumption for energy generation and production will increase by 85 percent by 2035.

Many regions of the world are already water stressed due to population and economic growth. About 2.5 billion people (36 percent of the world's population) live in these water-scarce regions and more than 20 percent of global GDP is produced here.

A recent report by the International Food Policy Research Institute projected that 4.8 billion people—more than half the world's population—and about half of global grain production will be at risk due to water stress by 2050. The study also found that 45 percent of total GDP (\$63 trillion) will be at risk due to water stress by 2050. That is one and a half times the size of today's entire global economy.

These projections are primarily driven by inefficient use of water in many sectors of our society, weak management and governance of water resources, and the effects of climate change, which are already becoming increasingly evident. In the 2016 World Bank report, *"High and Dry: Climate Change, Water, and the Economy,"* the estimate is that growth rates could decline by as much as 6 percent of GDP by 2050 in the most vulnerable regions due to water-related effects on agriculture, health, and incomes.

Agriculture already accounts for



of total average water consumption worldwide.

The report also warns that reduced freshwater and increased competition for resources could cut water availability in cities by two-thirds by 2050, compared with 2015 levels.

Although water scarcity is a major risk to global economic stability, the water sector is severely underfunded, particularly in developing countries. The lack of clarity on the true financial cost of water means that investors are reluctant to invest in the sector, and, more importantly, businesses, farmers, and households lack sufficiently strong signals and incentives to use water more efficiently and productively.



Priorities for the Future

Financing gap

It is estimated that \$114 billion in annual investments is needed to achieve SDG 6 (ensure availability and sustainable management of water and sanitation for all) over the next 15 years. Current global funding for water supply and sanitation is estimated to be about \$33 billion, of which 8 percent is private sector contributions.

The funding gap is huge, and it is unlikely that national governments, donors, or international financial institutions will be able to fill. Private sector financing has to become part of the solution.

This is a priority for the 2030 WRG, both as part of our global work program with other international actors and through our engagements with partner countries.

Adapting to the effects of climate change

The overall objective of the 2030 WRG is to help countries increase their water security by reducing the long-term water demandsupply gap and improving their water resources management. This gap is often caused by overconsumption of water and lack of proper management, but it can also increase as a result of climate change.

We focus on work that will contribute to climate change adaptation in the water sector. Several of the programs we are developing within the area of agriculture in countries such as India, Kenya, Tanzania, South Africa, and Peru will help address the effects of climate change. Other programs, such as economic incentives for more efficient use of water in Mongolia and Peru, will have longterm effects that will also help to address these challenges. In many countries, water storage capacity is low, making them extremely vulnerable to changes in rainfall patterns. This is a focus for parts of our work in Kenya, Tanzania, and Maharashtra (India).

In future, we will increase our focus on programs that can help countries mitigate the water-related effects of climate change.

\$114B

in annual investments is needed to achieve SDG 6 over the next 15 years. Current funding for water supply and sanitation is about

\$33B

The overall objective of the 2030 WRG is to help countries increase their water security by reducing the long-term water demand-supply gap and improving their water resources management.

Our Vision and Mission

Why we do what we do

We envision a world with enough safe water to support the needs of people, ecosystems, and the economy.

The 2030 WRG aims to contribute to the coordinated effort to achieve the United Nations' SDGs of ending extreme poverty; growing strong, inclusive, and transformative economies; and protecting our ecosystems. These goals cannot be achieved without water and no entity has the ability to solve the world's water challenges alone. By working together to develop and implement the right strategies, policies, plans, and programs, much more can be achieved and sustained.

What we need to do

Our mission is to help countries achieve water security by 2030 by facilitating collective action on water between government, the private sector, and civil society.

How we do it

The 2030 WRG brings together public, private, and civil society stakeholders to have open discussions about water management and to develop concrete proposals that can help improve the management of water resources.

We only work with countries at their request—our impact depends on a strong government commitment to work with partners through a constructive, transparent, and sustained dialogue. We tailor our level of involvement and approach to each country's water challenges. The 2030 WRG creates a convening platform, which is a neutral place where stakeholders can collectively identify and agree on priorities and activities to improve water resources management in their countries.

Our foundation

The 2030 WRG is a new kind of partnership designed to unite groups with a common interest in the sustainable management of water resources.

The 2030 WRG was launched in 2010 through an informal collaboration between the International Finance Corporation (IFC), the World Economic Forum (the initial host), multilateral and bilateral agencies (the Swiss Agency for Development and Cooperation), private companies (Nestlé, PepsiCo, and The Coca-Cola Company), and other organizations such as the World Wildlife Fund.

In 2011, IFC and various partners agreed to develop a more formal structure for the 2030 WRG, to be hosted within IFC. After the transfer period, the 2030 WRG started its second phase in July 2012. The group is now in its third phase, running from 2014 to 2017.

Contributing to the global agenda

The 2030 WRG is fully committed to contributing to the implementation of the recently adopted SDGs. This commitment is not just to the goals that specifically target water, but also to those that depend on water. Much of the work that the 2030 WRG and its partners are planning or already implementing is also related to adapting to the effects of climate change.

Our work contributes in various ways to the goals to end poverty and hunger and ensure good health, but our programs to produce more food with less water, clean up rivers, and improve the treatment of wastewater and industrial effluents also contribute to building sustainable cities and protecting the marine environment and terrestrial ecosystems.

The SDGs include a strong call for various kinds of partnerships to contribute to their implementation, particularly between governments, the private sector, and civil society. The 2030 WRG is an example of such a partnership, and our approach and role fits well in the ongoing efforts to implement these international commitments.



Our Thematic Areas of Work

The 2030 WRG works with various partners from the public sector, the private sector, civil society, academia, research organizations, and international agencies to develop sustainable water solutions and ensure social development and economic growth in water-stressed countries.

Through targeted analysis, the 2030 WRG works with countries to identify water challenges, and engage with stakeholders to develop best-practice solutions and replicable partnership models for water management.

Every country has its own challenges. In some countries, the 2030 WRG focuses on sectoral water in the agricultural, industrial, and urban sectors. In others, the focus is on thematic issues, such as strengthening governance for better water resource management. In every case, the country's main stakeholders decide on their areas of focus, some of which are highlighted below.

Agricultural water efficiency

The 2030 WRG is focused on improving agricultural water-use efficiency in most of our countries. We help develop publicprivate partnerships that focus on improving the productive use of agri-water,² increasing agricultural water savings, reducing run-off pollution, and increasing farm productivity and income. The 2030 WRG's programs include a combination of waterefficiency solutions, infrastructure development, local water governance, good agricultural and sustainability practices, and market-linkages, supported by an enabling policy and regulatory environment.

Industrial water management

The 2030 WRG identifies public-private partnership opportunities in industrial sectors. This includes bringing in best-practice technological solutions and financing models, and implementing demand-side efficiency measures through wastewater treatment and reuse. We also work with governments, the private sector, and civil society to formulate tariff structures for industrial water use.

Urban water management

The 2030 WRG convenes stakeholders to assess the status of municipalities' water usage and incentivize them to reduce leakages. We also support private sector participation to improve municipalities' performance in managing their wastewater including identification of opportunities for reuse and recycling of that water.

Water governance and economic incentives

In some countries, the 2030 WRG works with key stakeholders across sectors to address water governance issues. We focus on strengthening institutions and creating economic incentives for better water resources management, in particular to reduce abstraction of water and emissions of waste-water.

Innovative financial mechanisms in the agricultural sector

Based on the request of stakeholders in various countries. the 2030 WRG works to consolidate innovative financial mechanisms and bring new funding into the water sector. We have focused on building knowledge on innovative financing models to implement water-efficient technologies in the agricultural sector—a particularly important sector for water management. The 2030 WRG commissioned an assessment of the challenges of and opportunities for using public, private, and blended finance for water-saving technologies in agriculture. The study developed business cases on costeffective tools and mechanisms and institutional frameworks that use public-private partnerships to implement waterefficient technologies. The findings from this global study have informed the 2030 WRG's work in several countries. In 2017, 2030 WRG plans to lead a study on innovative financing related to the treatment and reuse of wastewater.

² "Agri-water use" refers to water consumption in agriculture through evapo-transpiration and lost return flows.



Our Approach and Guiding Principles

The 2030 WRG's core values of inclusivity, transparency, accountability, and integrity are central to achieving its mission.

Inclusivity

We ensure that our multi-stakeholder platforms give everyone an equal say and that all voices are heard, particularly those representing minorities and vulnerable groups. To establish the credibility and legitimacy of these platforms, we involve all relevant actors at a national level and identify legitimate stakeholders, ensuring that their interests are represented fairly and transparently.

Transparency

We believe that individuals and groups perform more effectively if they know that their words will be heard and their actions will be seen. The 2030 WRG ensures that its work remains absolutely transparent.

Access to information promotes a broader understanding of global issues and allows policymakers and advocacy groups to make informed decisions. The 2030 WRG adheres to the CEO Water Mandate's Guidelines for Responsible Business Engagement in Water Policy and encourages its partners to do the same. We also provide clear and accessible ways for our stakeholders and the general public to view and download any of our material from our website. This includes documents on the work of the multi-stakeholder platforms in the countries in which we operate.

Accountability

Accountability for water security rests on many shoulders. The 2030 WRG Code of Conduct governs the Secretariat, multistakeholder platform chairs, personnel on temporary assignment, and corporate and non-corporate members. These 2030 WRG actors share the code with everyone they engage with in the countries in which they operate. This way, we can share the principles and rules governing our actions and encourage similar behavior in our partners.

Integrity

We hold ourselves to the highest standards of integrity, ethical behavior, and good business practices and we expect our partners to meet these standards. The 2030 WRG identifies, examines, and evaluates integrity risks. It reports suspected fraud or corruption to its World Bank Group partners (800–831–0463 or investigations_hotline@worldbank.org).



Strengthening the voices of women in water management

Women in developing countries depend heavily on water for their livelihoods and for the health of their families, yet cultural and structural barriers often still hinder their participation in managing this resource. The 2030 WRG is committed to SDG 5 (achieve gender equality and empower all women and girls) and will continue to promote inclusive multi-stakeholder platforms that represent the interests of all individuals—women and men alike—who rely on this shared resource.

We reinforce the positive impact of our work by:

- Using a gender perspective to guide our initial analysis in new countries. This includes engaging with stakeholders to identify specific water resources challenges that may affect women in particular, and developing potential solutions to address these effectively in a context-sensitive manner.
- Ensuring representation in the 2030 WRG's multi-stakeholder platforms is inclusive and gives voice to both men and women. We make a concerted effort to engage key actors in each partner country to ensure a more inclusive process that incorporates women's views and that encourages equal opportunities for leadership, irrespective of gender. For example, in Bangladesh, the Director of the Bangladesh Federation of Women Entrepreneurs is a member of the 2030 WRG's Steering Board.
- **Taking a gender-inclusive approach to implementing programs.** We design our programs to mitigate the risk of unfair biases. For example, by ensuring equal access for single-women households to financial instruments for efficient irrigation.





The Need to ACT

Our work in each country is based on the need to ACT: Analyze, convene, and transform. The 2030 WRG raises awareness through analysis, triggers momentum by convening initiatives, and enables transformation. After applying this model in our country engagements across Africa, Asia, and Latin America, this framework is still flexible, allowing us to tailor our engagements to meet the needs of each country.



Analyze

The 2030 WRG works with partners to develop analytics that build on existing water information and enhance the understanding of the scale and urgency of the water challenge to support better decision making. The analysis is tailored to the needs of the country and is used to underpin multi-stakeholder discussions.

The analytics aim to encourage major water users and the private sector to get involved and take action. The 2030 WRG works closely with country stakeholders to ensure that local ownership of the initiatives takes root.



Convene

In our convening role, we bring together public, private, and civil society stakeholders to help create broader awareness, trigger action, and build momentum. During these discussions, stakeholders identify and agree on priorities and activities, and forge trust-based partnerships based on a shared commitment to transforming the water sector.



Transform

The 2030 WRG helps multi-stakeholder platforms in countries draft concrete proposals, develop new policies to improve water-use efficiency and reduce pollution, prioritize various investment opportunities, and identify innovative financial solutions for investments. Each country has its own challenges and needs, so the solutions need to be tailored to the local situation.



Measuring our Impact with Concrete Indicators

The 2030 WRG aims to build collaborative partnerships. Accordingly, it is important that we understand how decisions are made in the countries in which we operate. To this end, the 2030 WRG has used its experience of working in various countries to develop a theory of change.

Based on this theory, we have developed a results metric to chart the steps that we need to take in each country. We use these inputs to determine the desired outputs, outcomes, and eventual impact. Clear indicators of results are associated with each step, focusing on concrete, measurable results.

Our mission is to help countries close the gap between water demand and supply by 2030. "Water gaps" can refer to both water quality and quantity. Water quantity in particular is often regional or seasonal within a specific country. Our indicators track water storage capacity, water abstraction from ground and surface water, water productivity in agriculture, emissions of untreated wastewater, and water pollution. We also measure improved water resources management, which includes new policies and regulations, improved management or governance systems for water resources, or new economic incentives and mechanisms that will lead to better water management or more investment in the sector.

The arrow represents a subset of the key indicators we use in our results metric. It describes the process of how a multistakeholder platform is established in a country, and how programs are developed by that multi-stakeholder platform. 2030 WRG does not implement any such programs or policies ourselves. They are always implemented by other partners in the country. We do however continue to measure the impact of such programs. Our output indicators (15 in total) cover the following areas: measuring initial steps; number of hydro economic analyses, establishment of multi-stakeholder platforms, inclusiveness and effectiveness of the multi-stakeholder platform, number of priority areas agreed, number of concept notes approved, and the number of full proposals developed.

The outcome indicators (6 in total) focus on preparations for the implementation of programs and policies, but also on stakeholders' attitudes on water; preparatory arrangements for implementation in place, funding allocated, investments generated, programs under implementation, stakeholders' involvement, investors' confidence in water management regimes.

Finally, our 5 impact indicators reflect the real changes on the ground related to: improved water resources management policies and governance in place, reduced fresh water abstraction (i.e., increased water efficiency), reduced discharge of untreated/polluted wastewater, increased agricultural water productivity, increased cost-effective water storage.

Impact of our MSPs

The 2030 Water Resources Group recently conducted stakeholder surveys to find out the impact of its Multi-Stakeholder Partnerships to track improvements in water governance-related mechanisms. The results monitored

increasing awareness, coordination and collaborative action among stakeholders, and the effectiveness of the MSP in addressing water challenges. A pilot of this survey was conducted in Mongolia and Bangladesh.

Regarding improved awareness amongst stakeholders, among 94 percent of Mongolian stakeholders and 86 percent of the Bangladesh stakeholders reported increased awareness. Regarding collaborative and coordinated action as a result of the 2030 WRG work in the country, for Mongolia, 95.5 percent of stakeholders and for Bangladesh, 84 percent of stakeholders were of the opinion that this had improved. On the country's multi-stakeholder platforms effectiveness in resolving water issues, 84 percent of Mongolian stakeholders and 68 percent of stakeholders in Bangladesh thought the platform was effective.



Goals and Accomplishments





CHAPTER TWO

Stories from the Field

Rainfall in Peru's coastal desert areas is variable and extremely low, which is why domestic, agricultural, and industrial users rely heavily on groundwater. As demand grows, aquifer levels have fallen to critical levels, jeopardizing jobs, economic growth, and the environment.





Innovative Groundwater Tariff Introduced in Peru

When Peru's water services regulator, SUNASS, was drafting legislation to manage the country's groundwater resources more sustainably, it approached the 2030 WRG for technical support. SUNASS and the 2030 WRG formed a working group that discussed proposals and communicated the concerns of groundwater users to the government.

In the Rimac River basin, in Lima, groundwater is an important source of water, providing on average 18 percent of the total water abstracted by the utility. During drought periods the share of groundwater rises to 33 percent. In a business-as-usual scenario, water demand is expected to almost double by 2040. As rainfall and surface water sources are erratic and surface flows are seasonal, water users are increasingly exploiting groundwater reserves. Pollution in aquifers is increasing, water levels are dropping to critical levels, and saline intrusion is worsening.

To address these challenges, a groundwater monitoring and management tariff was proposed, whereby industrial users pay their share for the operating and capital cost of the projects that make available the groundwater they use. It is one of the first groundwater services tariffs to be enacted worldwide.

The water utilities will administer the levy and the funds will be used to monitor groundwater quality and quantity, providing valuable new information and enabling SUNASS and the utilities to take suitable remedial action.

The new groundwater tariff regulations were enacted early in 2016 and SUNASS is coordinating implementation with the first two water utilities to apply the tariff—Sedepal in Lima and Sedalib in Trujillo.

In the longer term, once the tariff is established it can be rolled out across the country, and be applied to non-industrial groundwater users too. It will help conserve a valuable resource, building the country's resilience to climate change effects, safeguarding water supply for industry, and building investor confidence.



"To comply with sustainable development goal 6 approved by the United Nations there is a need to move toward Integrated Management of Urban Water Resources. In Peru, responsibility for providing groundwater management & monitoring services has been transferred to Water Utilities in geographical areas where they operate and bill users of these water reserves a tariff for this service. SUNASS is responsible for developing a methodology for the calculation of a groundwater management & monitoring service tariff and setting for each operator. The 2030 WRG contributed in a decisive and fundamental manner to the design and development of the

methodology and are performing a key role, both in supporting the water services regulator (SUNASS), as well as in the creation of the proper incentives for sustainable water use."

Fernando Momiy, President of the Board of Directors of SUNASS



Addressing Water Wastage in South Africa's Irrigation Schemes

Sixty percent of South Africa's water supply is used in the agricultural sector, but 35 percent of this water is lost in the river and canal conveyance system alone.

The Vaalharts Irrigation Scheme, in operation for more than 75 years, is the largest of its kind in South Africa. With more than 1,100 kilometers of concrete–lined canals, it irrigates almost 40,000 hectares. Like all national irrigation schemes, Vaalharts receives a quota each year stipulating the amount of water it may distribute, so the ability to accurately track water usage and reduce losses is of paramount importance.

Over 25 years of research funded by the Water Research Commission went into the creation of the Water Administration System (WAS). In 2011, the Strategic Partners Water Network (SWPN) South Africa, supported by the 2030 WRG, funded research to select the best data logger and internet platform for optimal data tracking and management, and has subsequently supported the roll out of the system across multiple irrigation systems.

Following the implementation of the WAS, Vaalharts has already decreased annual water losses by 5 percent, equivalent to 17.5 million m³. The WAS is an innovative decision–support program that allows water user associations on irrigation schemes to manage water accounts and supply and demand through rivers, canal networks, and pipelines. This allows Vaalharts to track water distribution in real time.

According to Kobus Harbron, Chief Water Control Officer of the Vaalharts Water Users Association, "The WAS has helped streamline a once laborious process, susceptible to human error, and has decreased administrative time from three days to half a day per week, allowing staff to spend more time on other important tasks, such as infrastructure maintenance. Once Vaalharts is able to make further repairs to its canal network, an additional 5 to 8 percent in annual water savings is expected."

The WAS also helps farmers, who manage about five plots each, make informed decisions on crop management based on water availability. Automation has allowed the scheme to operate seven days a week as opposed to five and a half, enabling farmers to take advantage of low off-peak energy rates.

Today, the award-winning WAS is used on almost all major irrigation schemes in South Africa and saves an average of 10 percent of water that was previously lost.

"Before WAS, most irrigation schemes could only estimate the amount of water they had left and how much was wasted. Now, with a touch of a button they have access to information which helps them better manage their distribution and minimize water wasted."

WAS developer Nico Benade


The 2030 WRG has also been working to support the IFC's Mining and Water Management Roundtable, established in 2013. The roundtable has successfully engaged mining companies in the South Gobi region to improve their water management and stakeholder engagement practices.

Mining Water Solutions in Mongolia

Mongolia is richly endowed with mineral resources. Some of the largest deposits of coal, copper, and gold are found in the South Gobi region. Sufficient water is a prerequisite for Mongolia's growing mining sector. Without the long-term management and resolution of water scarcity issues, mining will be derailed, significantly affecting the country's economic growth.

Given the importance of the mining industry for the Mongolian economy, the 2030 WRG is working with a range of stakeholders to address these issues and close the projected water gap.

Mark Newby, Principal Advisor, Tailings and Water Strategy at Oyu Tolgoi mine in South Gobi, says: "There is a lingering perception that the mining sector is damaging and irresponsible, causing negative environmental impact."

Before the 2030 WRG started working with Mongolia, the government and the mining industry were planning expensive water transfer solutions, including the Orkhon-Gobi water transfer project—a 700-kilometer pipeline from the Orkhon River to South Gobi. The 2030 WRG conducted a hydro-economic analysis, which highlighted that surface water transfers are more expensive and environmentally endangering solutions compared with other management options. Recognizing the value of the analysis, the government and other key stakeholders have shown interest in other cost-effective demandmanagement water solutions to address the water gap.

"The result of the hydro-economic analysis is a paradigm shift for Mongolian stakeholders' understanding of the possible water solutions. The existing policy was resistant to the recommended solutions, but now with the detailed analysis encompassing the technical, environmental, and social concerns in addition to the high costs of transfer projects, stakeholders are opening up to other solutions," said Mark Newby.

The 2030 WRG has also been working to support the IFC's Mining and Water Management Roundtable, established in 2013. The roundtable has successfully engaged mining companies in the South Gobi region to improve their water management and stakeholder engagement practices.

The roundtable supported the development of a voluntary code of practice, based on leading international best practices, which was signed by eight mining companies.

"The voluntary code of practice is a powerful display of corporate accountability. It is necessary to balance mining sector development with the human need for water in the Gobi region. We have made a statement of intent; now we have to deliver on it," said the signatories of the code (Erdenes Mongol, Oyu Tolgoi, Energy Resources, Erdenes Tavan Tolgoi, Erdene Resource Development, South Gobi Sands, Terra Energy, and Gobi Coal and Energy).



"2030 WRG's Bangladesh MSP for Water is an excellent initiative that demonstrates how different sectoral institutions can cooperate, build synergy and consensus on much needed

collaborative and coordinated action to implement and ensure water security in Bangladesh."

Professor Umme Kulsum Navera. Water Resources Engineering Faculty of the Bangladesh University of Engineering & Technology (BUET)









Working with Industry to Reduce Water Stress in Bangladesh

Bangladesh's polluted surface water and falling groundwater levels are placing significant stress on the country's industries. By 2030, Bangladesh will need 21 percent more water than its available supply during the dry season.

The 2030 WRG is supporting the government of Bangladesh's review and revision of its incentives framework to increase industries' water efficiency and wastewater treatment. The work is expected to result in a thorough understanding of current incentives and how they compare with international benchmarks. Experts in the private sector and civil society will also provide policymakers with recommendations for improvements. The goal of this initiative is to increase private sector investment in water-saving and wastewater treatment technology and practices.

Professor Umme Kulsum Navera from the Water Resources Engineering Faculty of the Bangladesh University of Engineering & Technology (BUET) said: "2030 WRG's Bangladesh MSP for Water is an excellent initiative that demonstrates how different sectoral institutions can cooperate, build synergy and consensus on much needed collaborative and coordinated action to implement and ensure water security in Bangladesh."

The 2030 WRG is also supporting the work of the Bangladesh Economic Zones Authority. The program is expected to formulate a strategy for wastewater treatment and reuse within the economic zones, and develop innovative funding mechanisms with private sector participation. As Bangladesh continues to rapidly industrialize, it needs to learn from the mistakes of past unplanned industrial growth. For example, well-functioning facilities for environmental compliance, such as central effluent treatment plants, are needed for sustainable growth and better access to export markets. In addition, foreign investors look for "green zones" as attractive investment destinations.

Paban Chowdhury, Executive Chairperson of the Bangladesh Economic Zones Authority, expressed his appreciation for the 2030 WRG's timely support: "Clean economic zones will play a vital role in Bangladesh's attainment of the SDGs and aspirations for climateresilient industrial and economic development. The success of these economic zones is very much dependent on the appropriate strategy for industrial water and wastewater management.



Therefore, I very much welcome the clean economic zones initiative by the 2030 WRG to partner and work closely with the Bangladesh Economic Zones Authority."

Paban Chowdhury, Executive Chairperson of the Bangladesh Economic Zones Authority



2016 Areas of Focus

MEXICO

ENGAGEMENTS

Today we are working in 11 countries/states and have 2 new country engagements coming, our multi-stakeholder platforms include 505 partners from governments, private sector and civil society. They have established 36 working groups who together have developed 43 proposals for programs or policies, of which 14 are already being implemented. In many of our countries, we bring together a high level of representation across key decision makers from government, private sector, and civil society.

PERU

SAO PAULO STATE



CHAPTER THREE

Country Engagements

Today we are working in 11 countries, in which 10 operational multi-stakeholder platforms are in place (Vietnam to come soon).

We have also recently decided to engage in São Paulo state, Brazil and in Ethiopia, following invitations from the respective governments.







MEXICO

The challenge

Most social and economic activities in Mexico are concentrated in the regions with the least water. About 77 percent of the population and 79 percent of GDP production are located in areas that have only 32 percent of the available water in the country.

Water availability has dwindled from 18,035 m³ per inhabitant per year in 1950 to 3,982 m³ in 2015. In total, 635 groundwater aquifers provide 37 percent of water for consumptive use, and 65 percent of demand from cities and industry. Of these aquifers, 106 are severely overexploited, including the one under Mexico City.

Mexico is the world's seventh-largest investor in irrigation infrastructure, and about 76 percent of water is used for agriculture. But water productivity in the agricultural sector is low, and competition between sectors for water is rapidly increasing. In urban areas, where 80 percent of the population lives, water utilities have low performance rates and are not financially self-sustaining.

Damages from extreme hydro-meteorological events are rising (about \$69 billion in damages in the last decade) and climate change is adding greater uncertainty and risk to the water sector.





"The Mexican water sector is facing important challenges, aggravated by a present budgetary crisis. In response, the 2030 WRG is working alongside CONAGUA and the CCA to support two strategic and timely initiatives: The development of public-private partnerships in the agricultural water sector, and the creation of model state regulatory agencies for the water supply and sanitation sector. These initiatives

represent yet another example of a fruitful —and hopefully long-term—cooperation with the 2030 WRG, which will benefit Mexico's efforts to achieve water security."

Salomón Abedrop, Deputy Director of CONAGUA

Focus areas

The 2030 WRG is working with Mexico to:

- Strengthen the planning and programming capabilities of the National Water Commission (Comisión Nacional del Agua, CONAGUA).
- Form public-private partnerships for sustainable agricultural water.
- Address the city of Toluca's water challenges.

Results and outcomes

Strengthening CONAGUA's planning and programming capabilities

The 2030 WRG helped CONAGUA develop a prioritization system for its capital investments (about \$1 billion per year). The program is ensuring that the most economically and socially viable projects are implemented in a politically transparent manner.

Forming public-private partnerships for sustainable agricultural water

In partnership with the Water Advisory Council (Consejo Consultivo del Agua, CCA), CONAGUA, and a range of investors, the 2030 WRG is developing a case for investment in agri-water projects. Private sector funds are urgently needed to replace state funds, which have been

severely cut back due to the economic crisis. The 2030 WRG is piloting specific projects, making the business case for investment, to encourage a steady flow of sustainable investment into the sector. It will continue to work with CONAGUA and other partners to improve the enabling environment for private sector investment in irrigation in Mexico

Improving Toluca's water security

Toluca is an important industrial hub, producing almost 13 percent of Mexico's GDP. Its economy is larger than that of many countries, and it hosts several important multinational and domestic corporations. But the city's water security is at risk—the local aquifer is overexploited and is drawn down at an alarming rate. In partnership with The Nature Conservancy and the Toluca Business Council, the 2030 WRG has set up a local multi–stakeholder platform to encourage public–private cooperation and implement projects to address the city's water issues.

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MEXICO



Key partners



The Consejo Consultivo del Agua A.C Water Advisory Council consists of the following members:

- 10 founding individual partners,
- 5 academic institutions,
 10 civil society organizations,
- 23 private sector partners,
- 16 water professionals and
- 1 public sector partner (CONAGUA)

Consejo Empresarial del Valle de Toluca (CEVAT) The Valley of Toluca Business Council consists of 36 private sector companies. "The CCA is a multi-stakeholder platform that was created in the year 2000 to facilitate multi-stakeholder participation in the water sector and to enable greater collaboration between CONAGUA and civil society. The CCA and CONAGUA are working together, through the support of the 2030 WRG, to help catalyze much-needed investments in the agricultural water sector through innovative public-private partnerships. The CCA is also working with CONAGUA and the 2030 WRG in supporting the institutional modernization of the water and sanitation sector, bearing in mind the need for urban water security and the pursuit of the human right to water."

Dr. Jesús Reyes Heroles, President of the Consejo Consultivo del Agua

Prioritizing water security in Peru

"2030 WRG promotes, at the highest level, the essential role of water and sanitation management as an indispensable element to ensure compliance with Peru's health, education and social development policies."



Cayetana Aljovín, Minister of Development and Social Inclusion



"Local and international experience has shown us that private sector engagement is a powerful tool for the acceleration of reforms and progress toward sustainable development. 2030 Water Resources Group plays a key role in Peru connecting different sectors in society through open, transparent and results-oriented spaces for dialogue for the sustainable management of water."

Elsa Galarza, Minister of the Environment

PERU

The challenge

Although Peru has a lot of freshwater available in some parts of the country, it suffers from water stress and scarcity. Most of Peru's industry and 70 percent of its population are located in the arid desert regions of the Pacific coast, while most of the freshwater supply is located in the little-populated Amazon basin.

Peru's severe water shortage may worsen due to the rapid melting of tropical glaciers in the Andes as a result of climate change, while urbanization in Lima, sustained economic growth, and rising per capita water use are placing additional strain on existing water resources.

Pollution from untreated domestic discharges, informal mining operations, and other sources are further compromising water quality, making 60 percent of the country's water resources "unusable" according to the national water agency, Autoridad Nacional del Agua (ANA).

BECAUSE OF POLLUTION FROM UNTREATED DOMESTIC DISCHARGES AND OTHER SOURCES THAT COMPROMISE WATER QUALITY

60% of the country's

WATER RESOURCES ARE "UNUSABLE"

.

PERU SUFFERS FROM WATER STRESS AND SCARCITY

70% of its population are located in the arid desert "I am part of the 2030 Water Resources Group Steering Committee and have been pleased to see how this platform has been able to connect water management decision-makers from all sectors and how it has been driving specific State projects where the private sector participates actively."

Ismael Benavides, President of Innova Rural and former Minister Economy and Finance of Peru

Focus areas

Rapid urbanization and economic growth in Peru over the last decade have put intense pressure on water resources, particularly in the Pacific coastal strip and Lima, where water supply is erratic and aquifers are rapidly becoming depleted and saline. Conflicts over water issues around major development projects continue, hindering investment in the country. Water use in many coastal catchments is unsustainable, and there is an absolute water gap (without any allowance for environmental flows or recharge) in many catchments. In some key agricultural areas, aquifers may dry up within a decade.

By the end of November 2016, the government had declared water deficit emergencies in 37 valleys or areas of agricultural production in the north and south of Peru, covering about 350,000 hectares.

Results and outcomes

In July 2016, Peru elected a new president. President Kuczynski has made water one of his highest priorities and he supports the 2030 WRG's work. During the reporting period, the president appointed the new chair of the 2030 WRG's Steering Committee in Peru. The 2030 WRG's national steering board now includes five ministers, who lead the implementation of key water resources initiatives:

• The *Obras por Impuestos* (taxes for projects) mechanism encourages public-private partnerships. Companies may use

up to 50 percent of their due to be paid to the government to implement agreed public works in areas of need, including in the water sector. 2030 WRG has been working with the Ministry of Housing and Agriculture to identify the best investment opportunities.

- Companies have signed up to the government's "Blue Certificate" initiative, which is giving companies incentives as they now measure and reduce their water footprint.
- The 2030 WRG is helping the new administration set up a system to validate innovative proposals with additional funding to reduce the water gap. The 2030 WRG working groups, including partners from the private and nongovernmental sectors, provided feedback to government authorities as they prepared a new fund called Agua Segura (Secured Water).
- In the agricultural sector, the 2030 WRG is working together with the Alliance for Water Stewardship to implement their standards in Trujillo, a major city in the northern part of Peru. The alliance brings together small and large local producers of asparagus and their European clients, helping the sector to use water as efficiently as possible.
- The 2030 WRG is also helping SUNASS enact new regulations whereby industrial users pay a levy to use groundwater in Lima and La Libertad.

Publications



Contact

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PERU

2014-16	2014-16	2015		2015	2016	2016 and beyond
Analytics	MSP establish	ned MSP agre on priority areas	ed Concepts developed	Full proposals developed	Programs under implementation/ financing secured	Reduced water gap/improved water resouces management
 The publication "Planificación Hídrica en el Perú" with Ana (2016) The advocacy paper developed by 2030 WRG helped position water on the political agenda during the 2016 presidential elections (2016) 	 Steering Board committee strengthened with the presence of 5 ministers and the Chair appointed by President Kuczynski– (2016) Over 50 partners engaged in MSP The Steering committee strengthened with the presence of 5 ministers and the Chair appointed by President 	 Economic Incentives for Sustainable Water Management Public-private Partnerships for Sustainable Watersheds Innovative Financial Solutions for Investment in Water Projects 	 Works for Taxes (OxI) project concepts under development in Agriculture and Housing Ministries (2016) 2030 WRG is helping the new administration set up major new funds for water security and water access. Validation of the "Fondo de Agua Segura" (2016) 	 Prioritization of investments Groundwater abstraction tariffs Blue Certificate AWS asparagus project 	 ANA formally adopts prioritization study as legal norm SUNASS and utilities confirming responsibilities for implementation of groundwater regs AWS water stewardship asparagus project under implementation 3 companies have completed the Blue Certificate (Water efficiency certification program run by ANA) as of 	• Water saving measures implemented by 1st companies under Blue Certificate scheme

Key partners



"The Peru 2030 WRG multi-stakeholder dialog platform really fosters improved relations between the private sector, policy makers and civil society organizations. The 2030 WRG is a valuable initiative that further helps develop this collaboration. The work we undertake jointly will lead towards a better path for the future. Water is fundamental to our economic growth, the wellbeing of our people and the environment."

Luis Alberto Gonzalez, Peru Representative, The Nature Conservancy (TNC)



Forging new partnerships for a water-smart future

"Water is a common resource, and it is only through more ambitious, collective efforts, such as this Kenya 2030 WRG partnership, that we will deliver action at the scale needed to address the challenge."

Vimal Shah, CEO of Bidco Africa

KENYA

The challenge

Without change, Kenya will have a 30 percent gap between water demand and supply by the year 2030. Local water stress is already presenting social, environmental and economic challenges, not only in the country's large arid areas, but also in more developed regions where water-intensive economic activity has grown rapidly, such as Naivasha, greater Nairobi, and northern Mount Kenya.

Focus areas

Since its launch in October 2015, the Kenya 2030 WRG partnership has made significant progress. The partnership focuses on three key areas:

- Agricultural water management
- Industrial water management
- Urban water management

The Kenya partnership is headed by co-chairs Eugene Wamalwa (Cabinet Secretary in the Ministry of Water and Irrigation) and Vimal Shah (CEO of Bidco Africa).



"The Kenya 2030 WRG is working on developing national partnerships and structures with government, farmers, banking institutions, aggregators, and equipment providers to encourage more lending to commercial smallholder farmers and prove market readiness."

Patrick Mwangi, Principal Secretary, Kenya Ministry of Water and Irrigation



Results and outcomes

Agricultural water management

In 2016, the Kenya partnership supported the establishment of the Mount Kenya Ewaso Water Partnership. Led by the county government of Laikipia and the Mount Kenya Growers Group, the partnership brings together more than 30 organizations to address water access, use, management, and conservation in this critical catchment area.

Under the leadership of the Ministry of Water and Irrigation, the Kenya 2030 WRG partnership is also working to develop national partnerships and financing structures with the government, farmers, banking institutions, aggregators, and equipment providers. These partnerships will encourage lending to commercial smallholder farmers so they can adopt and expand sustainable, water-efficient irrigation practices

Industrial water management

During 2016, the 2030 WRG partnership and the GIZ International Water Stewardship Program supported the launch of the Kenya Industrial Water Alliance. The alliance, spearheaded by the Kenya Association of Manufacturers and the Water Resources Management Authority, provides an action-oriented forum for stakeholders to collectively discuss, plan, design, and implement activities that address water-related risks to industrial growth, initially in the Nairobi sub-catchment.

Urban water management

The Kenya 2030 WRG is working with the Ministry of Water and Irrigation, the Water Services Regulatory Board, the Water Service Providers Association, and other stakeholders to address non-revenue water losses, borrowing lessons from South Africa's No Drop program. The urban working group is also planning to develop a tool for enhancing and recognizing operational performance in this area, and to provide linkages to innovative financing solutions, such as the Kenya Pooled Bond Fund, which is already being developed. In December 2016, an investors' forum was held in collaboration with USAID, the World Bank Group, and the Embassy of the Netherlands, which brought together local commercial banks and institutional investors to learn more about emerging financing opportunities in the Kenyan water sector.

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Key KIWA partners



Key MKEWP partners

In addition to the above-listed partners, there are approximately an additional 30 partners that comprise the newly launched Mount Kenya Ewaso Water Partnership.



South Africa partnership makes an impact

"Eskom is actively reducing its freshwater footprint and managing its water use efficiently, but risks outside its control require a collective approach to ensure water security for electricity generation. The SWPN provides a round-table platform for engagement, leading to collective solutions and action to manage shared water risks and common challenges." Nandha Govender, Eskom



"A well-functioning public-private partnership, supported in its endeavors by excellent research and innovation, represents a core bastion to secure a waterprosperous future as opposed to a water-constrained world. This is why we are committed to continuing to developing the SWPN in South Africa."

Dhesigen Naidoo, Water Research Commission

SOUTH AFRICA

The challenge

In late 2011, the 2030 WRG helped establish the SWPN, a multi-stakeholder platform that brings together the government, major water users from the private sector and civil society to identify and develop joint solutions to the country's water challenges.

Based on South Africa's growing population, economic growth projections, and current efficiency levels, the country could have a water deficit of up to 3.8 billion m³ by 2030 –a 17 percent gap between water supply and demand. The major drought in 2015/16–the worst experienced in 30 years—has placed water firmly on the national agenda.

Focus areas

The South Africa 2030 WRG partnership focuses on::

- Agricultural water
- Municipal water
- Mine water

In addition to these priorities, the partnership formed three new working groups in 2016 in response to government priorities. These groups—sanitation, water stewardship, and skills development and transformation—are already developing project ideas that are expected to take shape in the year ahead.

WITH SOUTH AFRICA'S GROWING POPULATION, AND CURRENT EFFICIENCY LEVELS, THE COUNTRY COULD HAVE A WATER DEFICIT OF UP TO

3.8B m³ by 2030

THAT'S A 1726 GAP BETWEEN WATER SUPPLY AND DEMAND

Results and outcomes

Agricultural water

The agricultural sector in South Africa accounts for 60 percent of water demand. Of this water, 35 percent is lost in the river and canal conveyance system. To address this challenge, the SWPN supported the development and roll out of a water administration system. The system reduces the freshwater used in large irrigation systems. The second phase of the project is under way, adding six more irrigation schemes to the existing four using the WAS. To date, the initiative has reduced freshwater abstraction by 64 million m³ per year in six irrigation schemes, representing 3 percent of the national water gap. The program has a big potential for scaling up.

Municipal water

An estimated 37 percent of the water in South Africa's municipal systems is non-revenue water. This means it is "lost"—through leaks, theft, or metering inaccuracies—before it reaches customers. This water is worth more than 7 billion South African rand (\$500 million) annually. To address this problem, the SWPN developed the No Drop Scorecard and Strategy to assess each municipality's water usage and incentivize them to reduce municipal leakages. All major municipalities are implementing the system, with practical support from the No Drop project, which is in its third phase. This support is based on the findings of the No Drop audit and benchmarking process. The project will also develop in-depth municipal-level projects over the year ahead.

Mine water

The reuse of mine water has been a major focus of the SWPN since its establishment. The SWPN has successfully created a mine water coordinating body for the mining-intensive and water-scarce Witbank area. It has also partnered with Anglo American to conduct a pilot mine water irrigation project, currently under way, with support from other mining companies and the University of Pretoria. The project is testing the viability of reusing saline-treated mine water effluent for center pivot irrigation. This has the potential to be replicated over 12,000 hectares, reusing almost 150 million m³ of treated mine water.

Knowledge exchange

In March 2016, South Africa hosted the first 2030 WRG international knowledge exchange. This event brought together about 80 partners from all 2030 WRG countries to learn from South Africa's experiences in urban, industrial, and mine water management. The exchange also gave partners the opportunity to build networks and learn from each other's experience in establishing multi-stakeholder partnerships.

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"It is exciting to see how public-private collaboration, through the South African model of Strategic Water Partners Network (SWPN), is starting to have a meaningful impact on water security in South Africa and other countries that works towards replicating the same model. For example, the No Drop program is a crucial aspect of my government's effort to halve municipal water losses,

which will close our projected 2030 water demand-supply gap by 23%. Another

inspiring partnership example is the roll out of an automated irrigation scheduling system, which is reducing freshwater abstraction by a significant 64 million m3 per year, based on the current roll out supported by the SWPN."

Nomvula Mokonyane, Minister of Department of Water and Sanitation



Securing water for agricultural growth



"I am particularly inspired that there is a deliberate effort to engage the private sector in managing water resources, and I am passionate about the collective approach taken with the Kilimanjaro Water Stewardship Platform."

Gerson Lwenge, Minister for Water and Irrigation

TANZANIA

The challenge

Agriculture in Tanzania accounts for 85 percent of exports, more than 50 percent of employment, and between 80 percent and 90 percent of water use. The country must meet the increasing demands of its growing population of almost 40 million people, while securing enough water to produce energy and maintain important ecosystems.

Tanzania has 2,300 $\rm m^3$ of water per capita, but it is highly variable in terms of both time and geography. The country also does not have the capacity to store all of its water.

Focus areas

The water needed for agriculture, energy production, and wildlife is increasing competition in certain catchments. The 2030 WRG Tanzania partnership is working to address these challenges through various catchment–level water stewardship and agricultural water efficiency initiatives.

AGRICULTURE IN TANZANIA ACCOUNTS FOR OF EXPORTS **MORE THAN** OF EMPLOYMENT AND OF WATER USE

Results and outcomes

Kilimanjaro Water Stewardship Platform

In response to increasing water competition in the north of Tanzania and a strong willingness for the private sector to act, the 2030 WRG Tanzania partnership created the Kilimanjaro Water Stewardship Platform, in collaboration with the International Water Stewardship Program, the Pangani Basin Water Board, and the Tanzania Horticulture Association and other stakeholders including Alliance for Water Stewardship (AWS), Serengeti Breweries, TPC, Kiliflora, Water Witness International and more. The platform, launched in April 2016, provides a mechanism to co-develop, coordinate, and scale up interventions and solutions in areas such as water stewardship standards, water efficiency, and catchment management. A series of projects are already under way and will start to make an impact in 2017.

Great Ruaha Restoration Campaign

The Great Ruaha River in south-central Tanzania is critical to the country's growth. The region contains 50 percent of the country's installed hydropower, is home to rapidly expanding rice production, and contains the largest national park in the country. In collaboration with the Rufiji Basin Water Board, the CEO Roundtable of Tanzania, the Southern Agricultural Growth Corridor of Tanzania, and WWF-Tanzania, the 2030 WRG Tanzania partnership is convening a Greater Ruaha Restoration Campaign, which will provide a platform for stakeholders to jointly identify and develop win-win water management solutions in the Great Ruaha River basin.

National efficient irrigation financing facility

During 2016, the 2030 WRG Tanzania partnership also developed a concept for a national financing facility for efficient irrigation. This initiative was developed during a three-day multi-stakeholder investment forum in Dar es Salaam in April 2016, where stakeholders committed to sourcing up to \$100 million in new financing to increase the efficiency of existing irrigation projects and expand access to new efficient technologies for local farmers.



"We believe the private sector has the potential to improve water resource management through three important channels: Technical know-how, financial mobilization, and political support. The practical initiatives under way through the 2030 WRG Tanzania partnership provides a new and critical avenue to work with government to put this into practice."

Godfrey Simbeye, Executive Director, Tanzania Private Sector Foundation

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TANZANIA



Strengthening institutions for better water governance

"The 2030 WRG initiative is a very timely intervention and a blessing for Bangladesh. The water-intensive textile-garments industry, which employs more than 4 million people, is at the heart of the economy of Bangladesh, with exports of \$28.09 billion in 2015/16. This industry is facing water challenges due to groundwater depletion as high as 3 meters in some of the industry clusters. The multi-stakeholder partnership and its holistic approach under the 2030 WRG will greatly help Bangladesh in securing jobs, and achieving economic sustainability and the SDGs."

MA Jabbar, Managing Director and Group CEO of DBL Group

BANGLADESH

The challenge

Bangladesh has too much water in the wet season and too little in the dry season. It gets more than 90 percent of its water from transboundary rivers. Less water reaches Bangladesh from these rivers during the dry season because countries upstream use more water at that time of year.

The country's surface water is polluted as a result of unplanned urbanization and industrialization, combined with the overuse of fertilizers and pesticides. Arsenic, salinity, and pollution levels in the groundwater is also a big problem, compounded by sharp declines in the groundwater table – as high as 3 meters every year in some parts of the country.

The effect of urbanization and industrialization is particularly visible in the Greater Dhaka area – a major engine of growth and prosperity for the national economy. The Ganga Brahmaputra Meghna Delta is also under immense pressure. It is Asia's largest delta and home to more than 200 million people, 160 million of whom live in Bangladesh. Recent catchment developments, as well as population and economic growth, have had a profound effect on the fragile delta ecosystem, making it vulnerable to coastland flooding, wetland losses, shoreline retreat, and infrastructure losses. In the north-west, extended droughts and declining groundwater levels are threatening agricultural productivity. UP TO **85%** OF FACTORIES DO NOT TREAT WASTEWATER

HEAVY POLLUTION

PROJECTED WATER GAP DURING DRY SEASON OF

.

26% BY 2030

GROUNDWATER FALLING UP TO **3 meters** A YEAR IN DHAKA



"I am encouraged by the 2030 WRG's collaborative initiatives which aim at contributing towards improvement of the water security of Bangladesh. In the agri-water-use space, the 2030 WRG's Bangladesh water multi-stakeholder partnership is in a position to influence the implementation of appropriate measures to achieve significant farm productivity in a sustainable manner."

Dr Khondaker Azharul Haq, President, Bangladesh Water Partnership (Bangladesh Chapter of Global Water Partnership)

These challenges are exacerbated by legislative gaps, policy overlaps, and a lack of institutional capacity, which make it difficult to govern the country's water resources

Focus areas

The government of Bangladesh and the 2030 WRG have formalized a multistakeholder partnership, which includes high-level representatives from the government, the private sector, nongovernmental organizations, civil society, and academia. The partnership developed three work streams to address the country's water challenges:

- Water governance and sustainability
- Greater Dhaka watershed restoration
- Agricultural water

Results and outcomes

In 2016, Bangladesh formed a national steering board under the leadership of the Cabinet Secretary, the most senior government official in Bangladesh. The multi-stakeholder partnership is developing concrete proposals as part of four concepts approved by the steering board for the Bangladesh program.

Water governance and sustainability

The multitude of government bodies responsible for water governance in Bangladesh has been largely unsuccessful in coordinating its activities. Interagency coordination is vital for successful water reforms. The 2030 WRG partnership will continue to promote coordination across sectors to establish efficient and sustainable partnerships.

This work stream developed two concepts: Institutional reform and economic incentives for sustainable water management, which will now be developed into detailed proposals. The work stream will review and validate the reasons for previous reform failures, and propose how they might be overcome. On December 7-8, 2016, a multi-stakeholder workshop was held in Cox's Bazar in which priorities for institutional reform has been identified and preliminarily agreed by different government and non-government agencies. This will now be further developed by the work-stream and expected to move towards implementation.

Greater Dhaka watershed restoration

The 2030 WRG is supporting the Bangladesh Economic Zones Authority on industrial wastewater treatment and reuse. The program aims to formulate a
strategy for wastewater treatment and reuse within the area's economic zones, develop innovative financing mechanism with private sector participation, and support emerging zones as they develop and become more populated. As Bangladesh rapidly industrializes, it is important that it learns from past unplanned industrial growth. Providing facilities for environmental compliance such as central effluent treatment plants help ensure sustainable growth and better access to export markets.

The 2030 WRG also started collaborating with the Bangladesh Local Government Department and other stakeholders to develop pathways for accelerated and sustainable treatment of municipal waste water in the greater Dhaka area, including wider roles for the private sector.

Agricultural water

The 2030 WRG Bangladesh partnership aims to improve irrigation efficiency by promoting a gradual shift to high-value crops that are not water-intensive, which in turn will increase farmers' adaptive capacity, resilience, and income. This work stream focuses on developing waterefficient solutions for farmers in the north-west and south-west of the country.

The work stream is conducting a scoping study to identify technology packages and financing solutions acceptable to farmers. The policytechnology-financing package on water-saving technology and processes proposal will be submitted to the national steering board at the beginning of 2017.

Bangladesh Delta Plan 2100

The Bangladesh Delta Plan 2100 aims to identify and prioritize infrastructure investments, primarily related to water resources, to ensure sustainable development of the Bangladesh Delta. The 2030 WRG and the World Bank are supporting the development of an investment plan for the Bangladesh Delta Plan. The investment plan focuses on three thematic areas (institutional and policy reform; enabling private sector participation; and climate change adaptation) and six regional hotspots in the Bangladesh Delta. The draft investment plan is undergoing internal review before submission to the government.





Contact

BANGLADESH

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Key partners



"The long-term sustainability of the Bangladesh textile industry is dependent on better water governance through multi-stakeholder engagements and incentives for better water use, water quality improvements, and a circular approach. By working with the Bangladesh water multi-stakeholder partnership, H&M is supporting the WRG 2030 in a collaborative initiative to drive holistic change in how water is valued and perceived as a precious resource.

Alexander Andersson, Sustainability Manager, Bangladesh & Pakistan, H&M

Cleaning up tributaries to India's largest river, Ganga

and Total and Annual A

INDIA (NATIONAL AND UTTAR PRADESH)

The challenge

The Ganga basin, which covers more than a quarter of India's land, is home to 450 million people. More than 60 percent of these people depend on agriculture for their livelihoods. Population growth and rapid urbanization have placed unprecedented stress on water resources, leading to seasonal water shortages and water pollution.

The estimates suggest 78 percent of wastewater is untreated nationally.³ of which 8,000 million liters per day of untreated wastewater flows directly into the River Ganga.⁴ In the state of Uttar Pradesh, the Hindon River, a tributary of the River Ganga, is heavily polluted and its flows are diminishing. This has a severe effect on the surrounding environment and the people who rely on the river for water. Millions of pilgrims visit religious towns like Mathura and Vrindavan, which adds to the complexity of creating sustainable solutions in the region.

Focus areas

The government of India is committed to rejuvenating the River Ganga and its tributaries. The Ministry of Water Resources is the planning and policymaking body at the federal level for areas of national priority, whereas the administrative power to address water challenges rests with the state governments.

THE GANGA BASIN IS HOME TO MILLION PEOPLE **MORE THAN** OF WASTEWATER IS UNTREATED NATIONALLY

³ Center for Science and Environment (2016).

⁴ http://nmcg.nic.in/pollution.aspx

The 2030 WRG works at a national, state, and sub-basin level to help mobilize the financing and policy reform needed to reduce wastewater discharge and promote efficient water use across key sectors in India's largest river basin. Three major work streams have been formed to address the water challenges faced in the region:

- Rejuvenating Ganga tributaries, with initial focus on the Hindon River in Uttar Pradesh.
- Improving agricultural water-use efficiency in the sugarcane sector and drought-prone areas, and encouraging participatory groundwater management.
- Increasing municipal wastewater treatment and reuse in the Ganga basin.

Results and outcomes

Rejuvenating Ganga tributaries

The 2030 WRG is working with the Uttar Pradesh government, the India Water Partnership, the Federation of Indian Chambers of Commerce and Industry, Jal Jan Jado Abhiyan, the Millennium Alliance, the Dutch government, and the Indian Institute of Technology, among others, to develop a multi-stakeholder approach to restoring the Ganga river's tributaries. The partnership is focusing on rejuvenating rivers in the state, including introducing irrigation best practices, cleaner industrial production, and sustainable and equitable urban water management. This will be done by developing collaborative approaches, anchored by local stakeholders, to trigger sustainable transformation in river sub-basins.

Hindon River demonstration initiative

The Hindon River Rejuvenation Partnership is a transformational program with significant community involvement. The Hindon basin has a population of about 10 million people. The 2030 WRG is working with the India Water Partnership, the divisional administration, local industry representatives, and civil society to collectively identify opportunities and solutions to water challenges. The initiative is building a model for integrated water resources management that can be replicated across other tributaries in the Ganga basin.

The collective effort has mobilized various sources of funding to establish a governance structure through a Hindon Basin Council and Secretariat led by the India Water Partnership. The 2030 WRG has also signed an MoU with the Millennium Alliance to fund technological and community-based innovations. It has made its first call for proposals for river rejuvenation.

To date, 20 best-practice case studies from across the Hindon basin have been documented, with a vision to achieve bathing-quality water by 2030. The partnership has conducted knowledge-sharing workshops in eight cities, which helped identify 35 projects from different stakeholders to collectively clean the Hindon River. The projects comprise a package of measures to be implemented collectively in the agricultural, industrial, urban, and environmental sectors.

The 2030 WRG, together with its European partners and the Muzaffarnagar Paper Manufacturers Association, organized an industry workshop in the northern town of Muzaffarnagar in Uttar Pradesh. The objective of the workshop was to share best practices from Europe and India to address the industrial wastewater challenges of the Hindon River, and develop a basis for collective action towards wastewater reduction.

Improving agricultural water-use efficiency and participatory groundwater management

Bundelkhand

The 2030 WRG is working with women water-user groups, local authorities, nongovernmental organizations, and donors to mitigate the effect of recurrent droughts on agriculture and livelihoods, induced by climate change, in the Bundelkhand region of western Uttar Pradesh. A multi-stakeholder approach is being developed, targeting seven districts as a replicable model for promoting groundwater recharge, agri-water use efficiency, and crop diversification for dryland farming.

Through this work, the 2030 WRG aims to revive traditional water bodies through community-based participatory management in collaboration with central government rural development schemes. Institutional linkages between state departments and women water-user groups will be developed to support drought-resistant cropping.

Sugarcane

The 2030 WRG is partnering with the state government, the sugar industry (including DSCL, one of the largest sugarcane companies in the state), civil society, the beverage sector, and IFC Advisory Services to improve sugarcane productivity and water-use efficiency, and develop innovative solutions for large-scale artificial aquifer recharge to reverse the trend of declining groundwater.

Increasing municipal wastewater treatment and reuse in the Ganga basin

The 2030 WRG is engaging with the Ministry of Water Resources, River Development, and Ganga Rejuvenation to develop new partnership-based engagements, leveraging the expertise of private and civil society organizations to find wastewater solutions for the Ganga basin. The 2030 WRG has facilitated pre-feasibility studies and multi-stakeholder discussions to define the project scope and partnership approach for municipal waste-water treatment and reuse in the twin cities of Mathura-Vrindavan. The lessons from these pilot cities could provide a template for replication in other towns in the Ganga basin.

The 2030 WRG has also supported the development of tripartite terms of engagement between the federal government, the state, and the municipality to streamline wastewater project implementation, identify clear roles and responsibilities, and mitigate project-related risks.

Contact

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"The government of India is committed to the rejuvenation of the Ganga River and its tributaries. Given the

formidable challenges, we need to develop new innovative solutions, leveraging the contributions that other partners can bring, including the private sector and civil society. In this respect we are pleased to cooperate with the 2030 WRG, whose team brings new perspectives, international experiences, and a refreshing catalytic process towards sector transformation."

Dr. Amarjit Singh, OSD, Ministry of Water Resources, River Development & Ganga Rejuvenation, Government of India.

"We were privileged to be associated with the 2030 WRG as a part of Hindon Yatra. Their sincere and focused work in bringing diverse stakeholders to a common cause has been truly inspirational for us."

.....

Sunil Nanda, Managing Director, JS Water Energy Life Co.

INDIA NATIONAL/UTTAR PRADESH*



Publications

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Key partners







KARNATAKA

The challenge

Karnataka is the ninth-largest state by population in India. Its population is expected to increase to 80 million by 2030. The water-stressed state is projected to need double the amount of water in 2030 as it uses today. But, without a change in its management approach, it will only be able to supply about half of the water needed.

A total of 26 districts in Karnataka have been hit by drought, limiting the supply of drinking water for communities and fodder for their cattle, in addition to water for agriculture, industrial, and urban consumption. The long-standing Cauvery River water dispute between the state of Tamil Nadu and Karnataka continues, recently leading to violent outbursts in both states.

Karnataka contributes 7 percent of India's national GDP and it is one of the fastestgrowing states in the union. Although the capital of Bengaluru is a global technology hub, farmers make up half of the state's workforce and agriculture remains a vital sector for the economy. About 65 percent of Karnataka's land is farmed, but only a quarter of this land is irrigated. Wise water management in agriculture will not only benefit farmers, but also contribute to the state's overall development.

KARNATAKA CONTRIBUTES OF INDIA'S NATIONAL GDP ABOUT **OF KARNATAKA'S** LAND IS FARMED **BUT ONLY** OF THIS LAND IS IRRIGATED

"Integrated, concerted efforts to conserve water are crucial. The equitable and sustainable wastewater reuse policy facilitated by the 2030 WRG and its multi-stakeholder partners will encourage political will, economic rationale, and social consensus in this direction."

S Vishwanath, Director, Biome Environmental Trust

The 2030 WRG's hydro-economic analysis of Karnataka showed that it could become the most progressive agri-water state in India, increase average farmer incomes by 100 percent, and reduce demand by 11.2 billion cubic meters of water by 2030. To achieve this vision, the state will need to implement integrated water resources management and increase investment in infrastructure.

Focus areas

The 2030 WRG has been working with the government of Karnataka to address the projected water gap by improving water efficiency in the sugarcane sector and reusing wastewater.

Results and outcomes

Improving water efficiency in the sugarcane sector

The 2030 WRG is supporting the government of Karnataka to introduce the state-wide adoption of micro-irrigation for sugarcane.

The 2030 WRG has encouraged a multi-stakeholder approach to this initiative, facilitating consultations with the government, banks, sugar mills, domain experts, and technology companies to collectively address policy frameworks, processes for loan facilitation, and the sharing of information.

Through these public-private partnerships, the 2030 WRG is helping to unlock approximately \$700 million in blended finance through the government and commercial banks, including financial risk mitigation measures through tripartite arrangements between banks, sugar mills and farmers. A market-driven approach is shifting subsidy-driven farmer engagement towards initiatives driven by business cases, thereby overcoming a key constraint to technology adoption. The banks will loan the funds for drip irrigation to the state's 700,000 sugarcane farmers, while the government will pay for retrofitting infrastructure requirements in command areas.

The 2030 WRG is also supporting the creation of a facilitation and monitoring committee, composed of representatives from the government, key financial institutions, and industry. The committee will support the drip finance program's implementation, review results and lessons, and facilitate adjustments to the initiative if necessary.

Reusing wastewater

Accelerating wastewater reuse in Karnataka faces two significant hurdles:

- There is no comprehensive state policy framework to govern use of wastewater.
- There is inadequate technical capacity within the state government departments to develop projects in this area.

The 2030 WRG, together with the Urban Development Department, the Department of Industries and Commerce, the Karnataka State Pollution Control Board, private companies, civil society organizations, and academia, has instituted a formal committee to advocate for and implement wastewater reuse in Karnataka. The committee has drafted a policy that synthesizes global best practices, evaluates international policy frameworks, and makes recommendations on how the proposed regulations could be enforced to support integrated urban water management plans and accelerate wastewater reuse in Karnataka. The committee is finalizing the policy for Cabinet approval.

The 2030 WRG assisted the Urban Development Department in envisioning and formalizing a resource center to help urban local bodies and potential wastewater reuse customers identify viable projects, conduct financial and economic analysis, provide transaction support, and assist with the implementation of wastewater reuse projects. The Karnataka Urban Water Supply and Drainage Board approved the center's formation in June 2016. An expert team is expected to be established in early 2017 in preparation for pretransaction work in three selected towns.

Contact

Bastiaan Mohrmann, Regional Co-Head Asia, bmohrmann@ifc.org L. V. Nagarajan, Senior Advisor, Karnataka, I.v.nagarajan@gmail.com "The 2030 WRG initiative to encourage the creation of a policy for wastewater reuse via a consultative process is a key step to ensure prudent water management, while helping to address the demand for water for allround economic growth."

Dr. Suman Majumdar, Chief Sustainability Officer, JSW Group



KARNATAKA (INDIA)





MAHARASHTRA

The challenge

Maharashtra has the largest economy and the second-largest population in India. Agriculture provides a livelihood for half of the state's population, while industry provides 13 percent of the national industrial output and 46 percent of the state's GDP.

The state's agricultural sector has strong growth of 6 percent per year, but only 20 percent of the land is irrigated, productivity is relatively low, and the sector is vulnerable to rainfall variability. The government is striving to increase productivity and enhance farmer income by expanding irrigation, developing value chains, introducing technology and mechanization, and making markets more efficient.

The Indian government launched the Delhi-Mumbai Industrial Corridor Project, under the seminal Make in India campaign, to develop industrial zones across Maharashtra. These zones, together with the Smart Cities initiative to modernize 10 midsize cities in the state, will substantially increase industrial and urban water demand.

People, the environment, and critical sectors of the economy all compete for the limited water in Maharashtra – one of India's driest states.

MAHARASHTRA'S AGRICULTUAL GROWTH IS STRONG



ONLY 20% OF THE LAND IS IRRIGATED "The 2030 WRG's endeavor to build partnerships for climateresilient agriculture in rain-fed villages involving financial institutions is critical to water and livelihood security of vulnerable farmers. It is very much aligned with NABARD's approach to scaling up and mainstreaming climate change adaptation in India."

Dr Harsh Kumar Bhanwala, Chairman, NABARD, India

Focus areas

The 2030 WRG's partnership with the Government of Maharashtra, private companies, and civil society organizations was initiated in 2014 under the leadership of Maharashtra's Chief Minister. The partnership aims to mobilize diverse stakeholders to help address water challenges across the state's agricultural, industrial, and urban sectors.

Based on its hydro-economic analysis, the 2030 WRG is facilitating multiple public-private partnerships for integrated agricultural development under the Maharashtra Cotton Water Platform. In 2016, the 2030 WRG also supported the development of a multi-stakeholder partnership to accelerate and streamline investments towards drought mitigation in the Aurangabad region.

Results and outcomes

Agriculture

The 2030 WRG is helping the Government of Maharashtra to work with the private sector and civil society to implement the most efficient and equitable solutions to maintain agricultural growth in the state using the same amount of water, or less. The Maharashtra Cotton Water Platform was launched in 2015 in partnership with the government to deliver coordinated, multi-stakeholder solutions for 500,000 farmers who use rain-fed irrigation, making them particularly vulnerable to climate change.

As part of this platform, the 2030 WRG convened leading public, private, and civil society representatives and developed a comprehensive program to improve the livelihoods and strengthen the resilience of smallholder farmers in rain-fed agricultural areas in Maharashtra. The 2030 WRG is facilitating the development of a proposal for US\$250 million in funding from the Green Climate Fund. The program focuses on the Marathwada and Vidarbha regions of the state, alongside the proposed Project on Climate Resilient Agriculture of the World Bank. The two projects are expected to catalyze jointly significant investments to drought-proof Maharashtra's rain-fed agriculture, including contributions from the Government of Maharashtra, private sector and financial markets. The programs include a combination of water-efficiency solutions, infrastructure development, local water governance, good agricultural and sustainability practices, and market-linkages, supported by an enabling policy and regulatory environment.

The 2030 WRG supported the development of water efficient Public-Private Partnerships for Integrated Agricultural Development (PPP-IAD), a government program that engages with the private sector to improve agricultural productivity and farmers' income. Five PPP-IADs were formalized in 2015, estimated to reduce the abstraction of a cumulative 5.7 billion liters of water per year. In 2016, five additional projects were in the pipeline, with commitments from private companies amounting to US\$600,000. These projects, albeit small, provide for valuable proof points in multi-stakeholder collaboration in the agri-water sector.

Industrial and urban sectors

In Aurangabad, in the climate-vulnerable Marathwada region of Maharashtra, the 2030 WRG assessed industry-led corporate social responsibility initiatives for water conservation, as an approach to unlock bottom-up participatory responses to prevailing droughts.

Based on stakeholder feedback, a multi-stakeholder platform comprising between 30 and 40 public, private, and civil society representatives is being established in Aurangabad, supported by the Divisional Commissioner. The platform will promote information sharing, best practice adoption, CSR investments and the development of concrete new innovative approaches in the water sector. The resulting projects will aim to improve water security by reducing the demandsupply gap, improving the quality of available water resources for agricultural, industrial, and domestic use, and ensuring the sustainability of essential ecosystems.

Contact

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"In drought-prone Aurangabad, we see a major role for the 2030 WRG's multi-stakeholder platform towards streamlining corporate social responsibility funds from the private sector and in accelerating project design and implementation."



Alok Bhargava, CEO, Nalanda Foundation (an Infrastructure Leasing & Financial Services Limited Group corporate social responsibility initiative)

MAHARASHTRA (INDIA)



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Finding sustainable, cost-effective solutions to water challenges

and all a

MONGOLIA

The challenge

At a macro level, Mongolia has enough water to support its population, but there are water-scarce areas in the urban and economic zones of the country's capital of Ulaanbaatar and the mining-intensive and water-starved Southern Gobi region. By 2030, Mongolia is projected to be unable to meet almost half of the total water demand in Ulaanbaatar.

As Mongolia transitions from an agrarian economy to one driven by mining and urbanization, the country's limited and unevenly distributed water resources are under increasing pressure. Over the last few years, mineral products have consistently accounted for more than 80 percent of total export revenue. The arid Gobi region is set to experience a major mining boom. However, poor water governance, lack of long-term management and resolution of water issues could significantly affect the country's growth.

MINERAL MINING ACCOUNTS FOR **855%** OF MONGOLIA'S TOTAL EXPORT REVENUE

BY 2030, ULAANBAATAR IS PROJECTED TO HAVE A

50% water demand/ supply gap

Focus areas

In partnership with the government of Mongolia, the 2030 WRG conducted an analysis to assess the scale and urgency of the country's water challenges and the required solutions. Following the analysis, the 2030 WRG partnered with private, public, and civil society organizations to address the identified challenges. The multi-stakeholder platform is led by a steering board, which oversees the program and pushes for concrete solutions. The partnership is focused on::

- Reducing water demand and augmenting supply in the South Gobi and Ulaanbaatar regions
- Improving water valuation and developing incentives for sustainable water resources management.
- Building the capacity of stakeholders and encouraging collaboration in the following areas:
 - Water database development
 - Stakeholder training
 - River basin governance.

Results and outcomes

Reducing water demand and augmenting supply

The 2030 WRG conducted a hydro-economic analysis to identify cost-effective solutions to reduce water demand and boost supply in South Gobi and Ulaanbaatar. The results of the analysis were presented to stakeholders, which led to several key actions:.

Mining

In order to augment water supply, the government was contemplating an expensive solution to transfer water from the north of Mongolia to South Gobi. Using its hydro-economic analysis, the 2030 WRG was able to catalyze a new discussion among stakeholders including the government and the mining industry to explore new and cheaper solutions to close the water gap. Guided by a multi-stakeholder working group of mining companies, public sector representatives, and civil society organizations, the country is focusing on more cost-effective demand-side management solutions for the mining region.

The 2030 WRG also supported the IFC Mining Roundtable,

which led to eight mining companies in South Gobi adopting a voluntary code of practice for water management in mining industry. The code is a critical step towards building trust among local stakeholders working to manage common water resources.

Ulaanbaatar

The 2030 WRG is supporting wastewater reuse in Ulaanbaatar. It aims to achieve substantially more municipal wastewater reuse in the city, particularly by industry, by developing a comprehensive policy framework, developing capacity, and facilitating the implementation of wastewater reuse projects. In conjunction with Ministry of Environment and Tourism, Ulaanbaatar Governor's Office, Mongolian University of Science and Technology, Ulaanbaatar Water Supply and Sewerage Authority (USUG), IFC, Millennium Challenge Corporation, and thermal power plants, among other partners, the engagement focuses on wastewater reuse guidelines, including institutional arrangements, roles and responsibilities, mechanisms for enforcement, and implementation support to industries and the government.

Improving water valuation and creating right incentives

The Mongolian multi-stakeholder partnership has conducted a comprehensive assessment and drafted a new methodology for the country's ecological and economic valuation of water resources, contributing to the design and implementation of smart incentives for efficient water use across sectors. The Ministry of Environment has accepted the methodology and it has been tabled for Cabinet approval.

Building on these efforts and the recommendations of the hydro-economic analysis focusing on the mining sector, the 2030 WRG recently initiated a process looking into different incentive mechanisms and regulatory improvements in the mining sector. These incentives are expected to translate into practical changes in mining companies' water-use efficiency and wastewater treatment measures.

Building capacity and encouraging stakeholder collaboration

The 2030 WRG is facilitating collaboration between the Ministry of Development and Tourism; the river basin administrations; and the multi-stakeholder river basin councils. Three river basins have been selected as pilot projects to implement equitable water allocation for the private sector, the government, and civil society, with the aim of improving livelihoods, ensuring environmental sustainability, and promoting gender equality. If successful, these projects can be replicated in all river basins in Mongolia.

The 2030 WRG is working towards increasing transparency and inclusiveness in water resources management in Mongolia. To this end, the Global Green Growth Institute has developed a user-friendly online water database. The portal crowd-sources data from private and public sources for stakeholders to use.

In collaboration with the IFC Mining Roundtable, the 2030 WRG has conducted 20 training sessions on groundwater and sustainable surface water management for the government, the private sector, and various communities between November 2015 and March 2016. In order to build capacity in the water sector to further enable implementation, 15 more training sessions are planned for 2017.

Contact

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Publications



"The 2030 WRG's hydro-economic analysis of Gobi's coal regions has become an important tool, leading us in the right direction for water-related decision making. We endorse and actively support the 2030 WRG's multi-pronged approach for mine water management to promote improved practices on the ground."

Ts Tumentsogt, CEO, Erdenes MGL



'The hydro-economic analysis of Ulaanbaatar city conducted by the 2030 WRG has brought many new ideas for us. The 2030 WRG's help in prioritizing solutions enabled us to think outside the box, looking for innovative methods to address the challenges. I am looking forward to working with the 2030 WRG on the next steps."

B Batsukh, Chief Engineer, Ulaanbaatar Water Sewage and Supply Authority

"For Ulaanbaatar city, the most pressing issue is wastewater treatment. I am very glad that the 2030 WRG is working towards this crucial and challenging issue, specifically on reuse of wastewater by industry; building partnership models for engagement."

L Erdenebulgan, Senior officer of Water Resources Division, Ministry of Environment and Tourism

MONGOLIA



Key partners



A new partnership for environmental, social, and economic sustainability

VIETNAM

The challenge

Vietnam is the 13th most populous country in the world. Two-thirds of its 86 million people live along the country's three main river basins—Thai Binh, the Mekong Delta, and Dong Nai. Vietnam has 2,360 rivers with lengths of more than 10 kilometers, with an abundant supply of water. But a lack of infrastructure and financial capacity to improve infrastructure means much of this water is not used.

This is exacerbated by uneven rainfall distribution and a prolonged dry season, resulting in floods and droughts. The geography and topography of the country also makes it susceptible to natural hazards such as typhoons and storms. Vietnam is among the top five countries most vulnerable to the effects of climate change.

These challenges are exacerbated by dramatic increases in water demand from growing urbanization, agriculture, and industrial growth, combined with pollution from untreated wastewater. The effects of water pollution are being seen in the health and wellbeing of Vietnam's people and in its natural ecosystems.

86 PEOPLE LIVE ALONG VIETNAM'S THREE MAIN RIVER BASINS

OF THE COUNTRY'S WATER IS USED FOR AGRICULTURE



Vietnam is one of the top producers of rice, pepper, and coffee in the world. About 35 percent of the country's land is used for agriculture. In terms of sectoral water demand, agriculture places the largest burden on water resources, using more than 80 percent of the country's total water production.

Vietnam's ability to manage its water is hindered by institutional and fiscal challenges. Increasing pressure on water resources has the potential to become a social issue that could spark conflict.

Focus areas

The 2030 WRG's engagement in Vietnam began in 2016 with a scoping assessment to understand the country's water challenges and opportunities. Following interest from stakeholders within the government, the private sector, civil society, and academia in the 2030 WRG's collaborative model of engagement, a high-level water sector analysis has been initiated to identify priority areas for engagement, guided by a multi-stakeholder advisory board.

Opportunities for the 2030 WRG to potentially add value and contribute to Vietnam's efforts to ensure environmental, social and economic sustainability include:

- Improving agri-water efficiency by promoting technology and structuring of financing mechanisms.
- Encouraging urban-industrial wastewater treatment and reuse, including developing partnership models for engagement..
- Improving governance, potentially including water pricing and other economic instruments.

Contacts

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country's land is used for

agriculture using



CHAPTER FOUR OUR KNOWLEDGE PRODUCTS

Managing water use in scarce environments: A catalogue of case studies.

The 2030 WRG Catalogue of Best Practices in water resource management includes several case studies from the 2030 WRG's partners. The revised set of case studies analyzes real programs, implemented by various actors that address water scarcity. These case studies use the same simple but robust framework and assessment methodology used to evaluate projects presented in the pilot catalogue published in 2013.

In the current phase, we have highlighted cases from World Bank projects in Mexico and Egypt, IFC's textile project in China, and projects from various partners such as H&M and Olam. The catalogue captures information on processes, structures, financing (such as blended financing), and interventions (including new technologies around industrial/urban wastewater treatment and agricultural water-saving technologies) from projects around the world (www.waterscarcitysolutions.org).

Three cases on blended financing were presented at the World Water Week in Stockholm in 2016.

Unlocking private and public sector finance to implement agri-water-saving technologies and practices: Business cases

Based on the request of stakeholders in various countries, the 2030 WRG leads efforts to consolidate innovative financial mechanisms and bring new funding to the water sector. At a global level, we are assessing the challenges and opportunities for using public, private, and blended finance for water-saving technologies in agriculture. The 2030 WRG has developed business cases on cost-effective tools and mechanisms and institutional frameworks that use public-private partnerships to implement water-efficient technologies. The findings from this global study will guide our work in several countries.

2030 WRG Knowledge Exchange, South Africa

The 2030 WRG held an international knowledge exchange for its member countries in South Africa from February 29 to March 4, 2016. The event:

- Provided an opportunity for participants to gain practical insights from South Africa to guide water management policy and practice in their own countries.
- Provided an opportunity for partners to meet and learn from each other.
- Enabled South Africa, as host, to showcase its water management achievements.

The event brought together many water professionals from around the world. New partnerships have been established and valuable lessons are being shared. For example, Kenyan stakeholders plan to explore the feasibility of implementing South Africa's No Drop program in their own country. The preliminary event summary report and presentations are available on the 2030 WRG's website (www.2030wrg.org).

CHAPTER FIVE COMMUNICATION OUTREACH

With a more focused communication, outreach and advocacy strategy the 2030 WRG intends to create momentum for dialog and new partnerships at global and national forums. This new strategy encompasses the development of a pro-active media strategy, leveraging partner networks for a wider reach and ramping up regional/national communications resources.

Synergies

The 2030 WRG has sought out the development of synergies in its communications efforts with partners at the global as well as national levels. Successful examples include the collaboration with the India Water Partnership, Jal Jan Jodo Abhiyan, FICCI and the UP government and the launch of the joint report on the Hindon Yatra. The publication documented 20 case studies of multiple efforts to rejuvenate the river through multi-stakeholder partnerships. Over 30 news stories appeared in the local media as a result of this partnership. Another example is the global launch of the Kenya 2030 WRG Partnership in collaboration with the Global Green Growth Forum in Copenhagen, Denmark, during their annual summit in June. The launch was very well attended and had a greater (social) media reach because of the extent of both networks utilized as well as the momentum we were able to create jointly.

Outreach

In 2016, 2030 WRG was featured in more than 267 (Africa 66, Asia 114, LAC 77, Global 10) news articles. This is an increase of 124.4% compared to 2015. These include feature stories, interviews, op-eds in newspapers, specialized publications and occasional TV broadcasts. Our presence in mainstream media, local media and online/social media is important to maintain credible and relevant in the eyes of our partners, but is also a helpful tool to advocate, raise awareness and position the work of 2030 WRG in the various countries in which we operate. On social media 2030 WRG has increasingly focused on engaging with its Twitter followers. The corporate account has more than doubled from approximately 300 followers two years ago to nearly 1200 followers. And our newsletter distribution list currently counts over 5000 subscribers and continues to grow with each new issue we send out.

Inspirational case studies

The stories we have produced include various partner and beneficiary perspectives to our collaboration on the ground. We wish to continue to produce thematic partner stories, thought leadership pieces and audiovisual material that can be more widely disseminated. The Kenya country film as well as the Kenya work stream videos contest to this effort. Please see the 2030wrg.org website to access the films.

Events

We participated in various workshops, seminars and conferences at the global, regional and national levels, including the World Economic Forum Annual Meetings and Regional Forum events, the Global Green Growth Forum Summit in Copenhagen, the Stockholm World Water Week where we participated as Key Collaborating Partner this year, and the Budapest Water Summit. In those events, we strived to collaborate with existing partners and key clients to raise awareness about our country work, seek synergies with others, and put multi-stakeholder partnerships and collective action in the water sector high on the agenda.

CHAPTER SIX

Governing Council

The 2030 WRG's governance structure comprises a Governing Council, Steering Board, and Secretariat. The Governing Council consists of 18 senior executives of development partners, who guide the strategic direction of the 2030 WRG.

2016 Governing Council members

- Peter Peter Brabeck–Letmathe (Chair), Chairperson of the Board, Nestlé
- Philippe Le Houérou (Vice-Chair), Executive Vice President and CEO, International Finance Corporation, World Bank Group
- Sir Fazle Hasan Abed KCMG, Founder and Chairperson, BRAC
- Akinwumi Adesina, President, African Development Bank
- Inger Andersen, Director-General, International Union for Conservation of Nature
- Lennart Båge, Director-General, Swedish International Development Cooperation Agency ⁵
- Guang Zhe Chen, Senior Director for the Water Global Practice, World Bank Group ⁶
- Helen Clark, Administrator, United Nations Development Programme

- Muhtar Kent, Chairperson of the Board and CEO, The Coca-Cola Company
- Andrew Liveris, Chairperson and CEO, The Dow Chemical Company
- Nomvula Mokonyane, Minister of Water Affairs and Sanitation, South Africa
- Luis Moreno, President, Inter-American Development Bank
- Mads Nipper, CEO, Grundfos
- Indra K Nooyi, Chairperson and CEO, PepsiCo
- Frank Rijsberman, Director-General, Global Green Growth Institute ⁷
- Richard Samans, Head of the Centre for the Global Agenda, Member of the Managing Board, World Economic Forum
- Oyun Sanjaasuren, Chairperson, Global Water Partnership ⁸
- Manuel Sager, Director, Swiss Agency for Development and Cooperation

⁵ Lennart Båge succeeded Charlotte Petri Gornitzka in the Governing Council.

⁶ Guang Zhe Chen succeeded Jennifer Sara in the Governing Council.

⁷ Frank Rijsberman succeeded Yvo de Boer in the Governing Council.

⁸ Oyun Sanjaasuren succeeded Alice Bouman-Dentener in the Governing Council.

Steering Board

The Governing Council appoints the members of the Steering Board, which oversees the management of the 2030 WRG. The Board reviews and submits annually to the Governing Council the strategic plan and budget, supervises the Secretariat, and approves its plan, the budget, and the proposed country programs. The Board also supervises funding and resource development within countries, and comments on the 2030 WRG's annual performance reviews and impact assessments.

2016 Steering Board members

- Dominic Waughray (Chair). Head of Public-Private Partnerships, Member of the Executive Committee, World Economic Forum
- Roberta Barbieri, Vice President, Global Water and Environmental Solutions, PepsiCo ⁹
- Anders Berntell, Executive Director, 2030 WRG
- Rudolph Cleveringa, Executive Secretary, Global Water Partnership
- Snehal Desai, Global Business Director for Dow Water & Process Solutions, The Dow Chemical Company
- Johan Gély, Senior Water Policy Advisor, Swiss Agency for Development and Cooperation

- Ana Gren, Senior Policy Specialist Water Resources Management and Sanitation, Department for International Organizations and Policy Support, Swedish International Development Cooperation Agency.
- Greg Koch, Global Director, Water Stewardship, The Coca-Cola Company
- Emmanuel Nyirinkindi, Senior Manager, International Finance Corporation
- Morten Riis, Group Public Affairs Director, Grundfos
- Jyoti Shukla, Senior Manager, World Bank Water Global Practice
- Mark Smith, Director of the Global Water Program, International Union for Conservation of Nature
- Ghislaine Weder, Head, Economics and International Relations, Nestlé

⁹ Roberta Barbieri succeeded Dan Bena in the Steering Board.

CHAPTER SEVEN OUR DONORS AND PARTNERS

We thank our partners for their generosity and continued support.

Our Global Partners


CHAPTER EIGHT

The donors and their contributions for this fiscal year (FY 17) are provided below.

Global level contributions

In addition to the financial contributions stated in the table, WEF, SDC and IFC have provided significant in-kind contributions. WEF provides logistical support as well as access to its network via the Annual Davos Forum event and the various regional or country specific events. Additionally, WEF supports 2030 WRG in the development and implementation of a private sector outreach strategy. SDC has committed to seconding a senior staff for the entire FY15–17 strategy cycle.

Finally, IFC continues to provide significant in-kind administrative support including office space, legal, financial, procurement, and trust fund management at the IFC headquarters in Washington, D.C

Annual expenses

The expenditures for the year are listed table. Compared to last year when total expenses were US\$7.13 million at this time, the expenses this year total US\$7.09 million. More than 75% of our expenses occur in the various country programs, where they finance support for setting up the multi-stakeholder platform and setting up working groups in the country, hiring of local 2030WRG representatives, comprehensive economic analysis in several countries, and development of concrete projects, programs and policy proposals.

Contributions			FY17 Income (in USD '000s)
Donors (Contributions to 2030 WRG Trust Fund)	Bi- & Multilateral Donors	IFC	1.000
		SDC	1,220
		Danish Green Growth	200
		Hungary	1,200
		SIDA	1,000
	Private Sector	PepsiCo	500
		Coca Cola	750
		Nestlé	500
		Dow	500
		Grundfos	500
	Carry over from FY16		2,146
Total Income			9,516

This year, 2030 WRG also led a successful knowledge exchange in South Africa where more than 80 of our country partners were brought together to learn from each other.

Expenditures in the first half of the 2017 calendar year will continue to rise with intensified activities in several of our existing countries as well as engagement in the new countries Vietnam, Ethiopia and Sao Palo (Brazil).

Hydro-Economic analysis in countries is a significant part of the 2030WRG total expenses. To do this analysis a panel of service providers have been selected via the formal World Bank procurement procedures. At present they are AMEC Foster Wheeler, ARUP, COWI A/S, Deloitte Consulting LLP, McKinsey and Company, Pricewaterhouse Coopers Pvt. Ltd (PWC). 2030 WRG is evaluating the option of enlarging its pool of service providers

Country level contributions

South Africa

Development of the SWPN-SA projects is supported by an annual USD 150 000 contribution from the 2030 WRG and an earlier contribution of USD 216,000 from GIZ. To further support partnership activities and the secretariat of the SWPN-SA, members of the SWPN-SA have offered their time and support services. SAB Miller earlier made an initial

Regional program support by 2030 WRG Trust Fund (USD '000)	Expenditure (Expenses + Commitments)
South Asia	1,951
East Asia	1,046
Africa	1.497
Latin America	1,028
Total	4,522
Global Program by 2030 WRG Trust Fund	
Knowledge management	281
Communications	314
Conference & workshops	257
Total	852
Secretariat	
Staff salary and benefits	514
Travel	153
Others	50
Total	717
Grand Total	7,091

upfront contribution of USD 250,000 to the partnership (with further funding this year). More than USD 82000 USD was raised so far this year primarily from the private sector: SAB Miller, Anglo American, South32 (former BHP Biliton), Eskom, Sasol, GIZ, Nestle, Exxaro, The Coca Cola Companu.

India

In India, we are expecting contributions from other donors/companies to support our work at national as well as state level. For example, WAPCOS/India Water Partnership has confirmed 100 000 USD for the Secretariat for our Hindon River program in Uttar Pradesh (tributary to Ganga)..

Bangladesh

In Bangladesh H&M has agreed to support the activities of the multistakeholder platform by funding 52,000 USD to the work streams on governance and greater Dhaka watershed restoration..

Mongolia

In Mongolia the Global Ggreen Growth Institute is providing support by taking the responsibility for the financing and development of an Integrated Data base for Water, which will result in improved access to information, public service delivery, and water data analysis. For the final phase, they have committed 25 000 USD. Swiss Development Corporation (SDC) has also committed to support for strengthening of multi-stakeholder governance at the river basin level.

Peru

The Global Green Growth Institute is working with us and funding analytical work (US \$125 000) on prioritization of Investments in the water sector. Apart from that, other institutions such as SECO (US \$120 000) has committed to support the project focusing on promoting the AWS methodology for Asparagus producing companies, together with Universidad del Pacifico.

Inter-American Development Bank (IDB) support in Peru

The 2030 WRG has a Memorandum of Understanding (MOU) with IDB for cooperation to help create wider conditions and momentum for actions that address the water scarcity issues. As of now, IDB has provided funding to hire consultants (8 000 USD) to support projects in Peru. The 2030 WRG will continue to discuss collaboration with IDB in Peru and when we identify opportunities in other Latin-American and Caribbean countries.

Asian Development Bank (ADB) and African Development Bank (AfDB)

ADB and AfDB have expressed interest in working with the 2030 WRG, including possible joint funding of activities and assignments in countries of mutual interest.

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The 2030 Water Resources Group is hosted by the International Finance Corporation.