

# REACH

Improving water security for the poor



## REACH Exit Strategy

January 2023

# WHO WE ARE

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REACH is a global research programme funded by the UK Foreign, Commonwealth & Development Office (FCDO) to improve water security for the poor by delivering world-class science that improves policy and practice. REACH is led by the University of Oxford in partnership with a global network of collaborators:

- UNICEF
- Bangladesh University of Engineering and Technology
- University of Nairobi
- Water and Land Resource Centre, Addis Ababa University
- International Centre for Diarrhoeal Disease Research, Bangladesh
- International Food Policy Research Institute
- International Water Association
- IRC International Water and Sanitation Centre
- Skat Foundation hosting the Rural Water Supply Network
- University of Dhaka

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[www.reachwater.org.uk](http://www.reachwater.org.uk)

## Reference

REACH, 2023. REACH Exit Strategy. University of Oxford, UK.



Cover photo by Alice Chautard

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Photo by Sonia Hocule

# REACH

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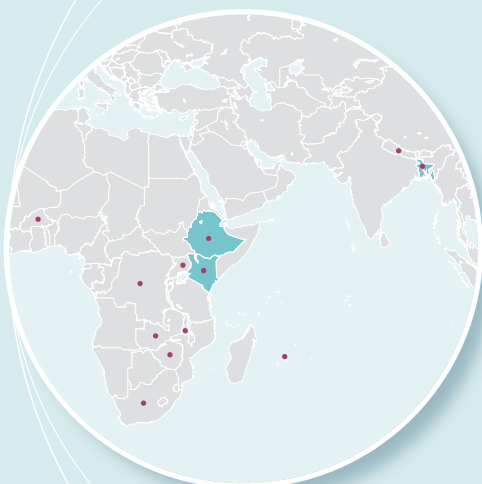
The REACH programme aims to improve water security for 10 million poor people in Africa and Asia by 2024. The GBP 22 million programme funded by UK FCDO started in 2015 with a focus in three countries (Bangladesh, Ethiopia and Kenya) working with government, UNICEF, academic, private sector and civil society partners.

In addition, partnership funding has supported 49 grants in a further eight countries to expand engagement and impact with global, regional and national partners beyond core partners. In 2020, a global strategy set out REACH's vision and approach to this work to 2024 ([REACH, 2020](#)).

This Exit Strategy aims to inform practical steps for three main objectives in the period to programme close and beyond:

1. To sustain REACH's results to date;
2. To identify how to scale up the impact; and,
3. To explore how to scale out the programme's lessons and models.

The design of REACH has purposefully though not perfectly considered an 'exit' from the start. The idea of science-practitioner partnerships had the goal of working to the priorities of local partners on the most significant but uncertain water security challenges they identified. The diagnostic studies for each focus country attempted to capture ideas and opportunities to inform the selection and design of the REACH Water Security Observatories. Choices had to be made to navigate multiple opportunities and competing objectives against the programme's outcomes and desired outcomes. Country Directors in academic institutes led the work, offering extensive networks and established water security expertise. These institutes, their staff and students, continue to offer strong links to local stakeholders and established REACH field offices to conduct interdisciplinary, instrumented, and long-term research to improve water security outcomes for the poor.



■ Core programme  
 8 observatories  
● Partnership funding



**Sustaining growth through water security**  
 📍 Awash Basin, Ethiopia



**Building water secure institutions**  
 📍 Kitui County, Kenya



**Water security for an urban river**  
 📍 Dhaka, Bangladesh



**Water security in fragile environments**  
 📍 Abbay Basin, Ethiopia



**Coastal water security**  
 📍 Khulna District, Bangladesh



**Universal water security**  
 📍 Matlab District, Bangladesh



**Small towns in fragile environments**  
 📍 Turkana County, Kenya



**Small town pathways to water security**  
 📍 Wukro, Ethiopia

The Exit Strategy identifies a series of practical actions to promote the legacy of the programme through a prioritisation of actions to sustain, scale up and scale out. A consultation process with country partners, UNICEF, and the University of Oxford has informed the strategy. This recognises that there is a funded programme of work to 2024 which allows action to support transition of key areas of the programme towards sustaining impact.

Part of this work also allows areas of scale up to be promoted through established partnerships. Finally, the scale out dimension reflects longer-term impacts beyond REACH's geographies where investment in capacity in national institutions and documented materials will be important to support future work.

# EXIT STRATEGY FRAMEWORK: SUSTAIN, SCALE UP AND SCALE OUT

REACH's impact work provides context for where and how current activities may inform the Exit Strategy. Aligned to the Global Strategy, three domains of impact are identified with prospects to improve water security for up to 10 million poor people and potentially tens of millions more people. Impact domains are shaped by reducing water security inequalities related to climate resilience, water quality, and rural water services. We briefly sketch these impact domains in relation to REACH's Observatories in the three countries.

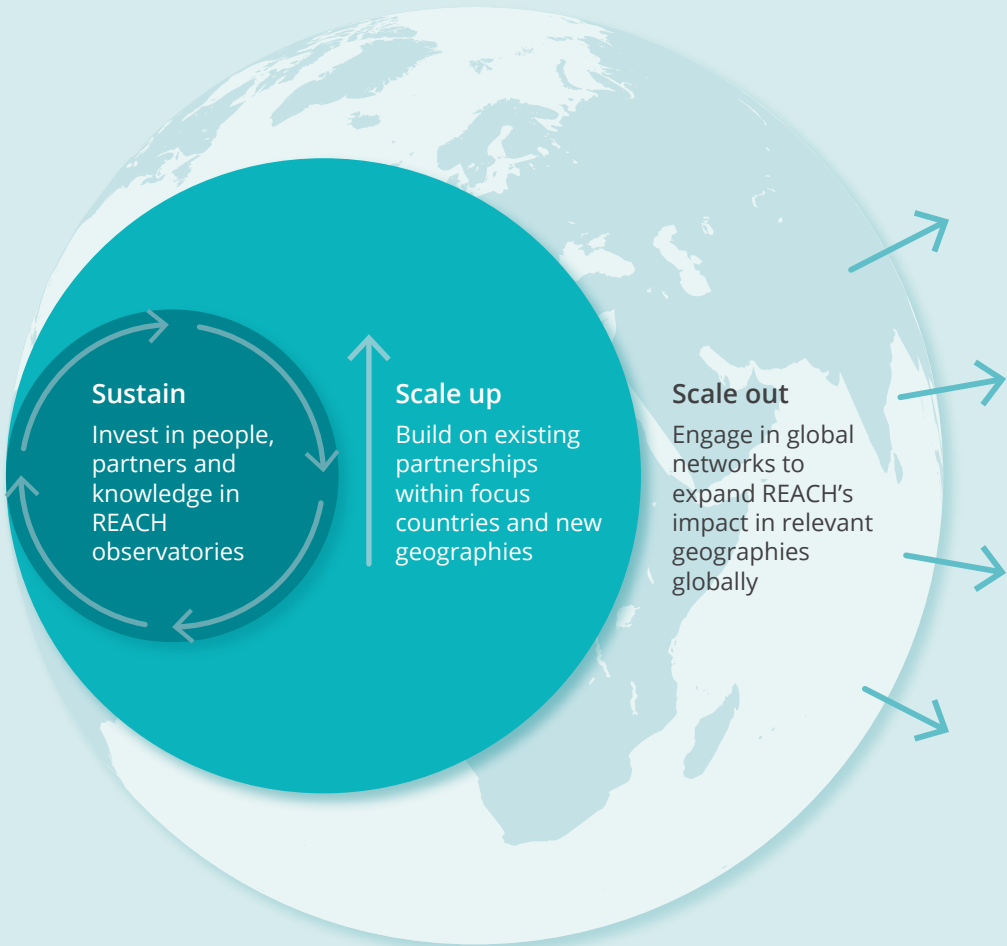
Climate resilience in East Africa will partly depend on understanding rainfall variability and reducing climate model uncertainty, which has influenced REACH's choice of Kenya and Ethiopia as focus countries. Observational studies on the Turkana low level jet have provided new insights on the biophysical processes transporting around one third of water vapour from the Indian Ocean to the interior of the continent. Findings have major implications in Kenya's arid and semi-arid lands linked to groundwater management.



## Climate resilience & water security

Improving climate resilience in the Awash basin, c. 18 million people. Addressing critical water shortages, seasonal water quality, flood risk, & flow measurements in Addis Ababa

REACH's Turkana Observatory is an example showing how climate resilience can be improved through a stronger scientific basis to inform government action and regional investment in the Horn of Africa on aquifer management. In the Awash Observatory in Ethiopia, climate science is supporting the basin authority's modelling and management of water resources and water quality to support economic and social development. In Bangladesh's Coastal Observatory, risk modelling of water systems and infrastructure has advanced understanding of the priority and sequencing of major investments for climate resilience. This work is supporting national efforts and planning through the Delta Plan to 2100.



Work on social inequalities has identified particular zones of greatest deprivation and which groups of people are most at risk from river pollution. Complementary research has looked at new technologies to cheaply and quickly measure toxicity through biosensors. Work on environmental regulation has also explored the opportunities and constraints for action given the political economy of actors and vested interests in the USD 30 billion per year ready-made garment (RMG) industry.

This work has implications and relevance for the growing RMG sector in Africa, including in the Awash Observatory.



## River water quality

- First-time modelling of Dhaka's river system risks to inform c. USD 8 billion of government investments to 2041



## Rural water services

- Kenya-registered trust fund issues results-based contracts to FundiFix. Progress from 80% donor funds in 2016 to 80% corporate funds in 2021

Water Quality is a defining feature of climate resilience in Bangladesh's Dhaka and Coastal Observatories. REACH's work in Dhaka has focused on monitoring and modelling river water quality. The first full systems model of Dhaka's rivers is now being used to develop scenarios for government and development banks to examine and test assumptions on the temporal and spatial distribution of risks and impacts of a projected USD 8 billion in planned infrastructure investments.

Rural water services have provided significant direct impacts through work in Kenya's Kitui Observatory and the Bangladesh Coastal Observatory. The work includes support for the Government of Kenya's 2016 Water Act with inclusion of professional service providers, based on evidence from findings from the FundiFix model incubated by the University of Oxford. In response to understanding and sustaining reliable water services, a Kenya registered Trust Fund has issued results-based contracts to FundiFix since 2016.

The Trust Fund's dependence on donor funds has fallen from over 80% in 2016 to less than 20% in 2021.

FundiFix is a founding member of Uptime which issued results-based contracts to 1.5 million people in seven African countries in 2022. In the Bangladesh Coastal observatory, the REACH team is piloting the SafePani model with government and UNICEF support to provide safe drinking water in schools at the District scale for 300,000 boys and girls. Complementing this work is an initiative to improve water and hygiene in hospitals from a pilot phase shaping pathways for national uptake through partnership with UNICEF.

Climate science, rural water services, and water quality all provide opportunities to sustain, scale up and scale out water security impacts for tens of millions of people. A critical gap in scaling impacts is to ensure resources are available in focus countries for partner institutions to be able to sustain the transition of work beyond programme close.



# SUSTAIN

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Sustaining and promoting water security outcomes will require investment in people, places and knowledge products at global and national scales.

Where investments cannot be secured, a structured and phased scale down will take place to inform the network of partners and stakeholders in field-based Observatories to ensure the handover of data and equipment and to capture and document learning in public records. Archiving and sharing data will be a component of this work.

## Investing in people

- A priority for investment is Research Chairs in leading Universities in Bangladesh, Ethiopia and Kenya to provide strategic leadership for water security research in the Global South. They will be at the apex of sustaining and scaling up delivery over the next decade.
- Identifying and investing in a cohort of outstanding early or mid-career REACH researchers to act as focal points to promote long term impacts with national and global partners, and to share critical insights through teaching the next generation linked to expanding REACH's global partner networks.

## Investing in partners

- National and sub-national governments are supporting the adoption of new water security models and interventions in the focus countries. The route to sustain impacts will depend on targeted investment in the most promising programmes led by country partners.
- In Kenya, work in Kitui and Turkana counties will work to consolidate reporting and effective communication with the other 45 counties and relevant stakeholders. Examples may consider the Water Services Maintenance Trust Fund<sup>1</sup> in Kitui or the work on a new Environmental Management Plan in Turkana, including extensive work on the Lodwar Alluvial Aquifer System, and collaboration with the Kenya Met Department based on new observations of the Turkana low level jet providing insights on regional rainfall patterns.

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1 [www.kituiwaterfund.org](http://www.kituiwaterfund.org)

- With adequate resources, the UoN's Institute for Climate Change and Adaptation can provide a national and regional hub to share REACH's work and lessons working with county governments, national government and regional bodies, such as the Intergovernmental Authority for Development (IGAD) in East Africa with links to the African Ministers' Council on Water (AMCOW).
- In Ethiopia, capacity building within the Ministry of Water and Energy is supporting uptake of REACH's work across the basins, from water quality modelling to climate information services for seasonal forecasting and incorporating the perspectives of marginalised people in creating climate information for planning purposes, and in partnership with UNICEF on managing intermittent water supplies for inclusive services.

## ETHIOPIA



### Invest in partners

- Preserve and strengthen the link between research activities and the policy-making space, utilising the national steering committee, and continue capacity strengthening events.
- Maintain operation and development of learning watersheds to advance knowledge and best practice on Sustainable Land Management (SLM) interventions for rural water security, including for water supply in SLM projects. Further funding would enable development of more demonstration projects for interventions and community engagement to demonstrate water security solutions, engaging NGOs and private sectors.

### Invest in knowledge

- Establish and promote AwashWare platform for consolidated data sharing on Awash basin research and data. Ensure sustained presence of REACH research on WLRC website.
- Synthesise information across water security programmes to improve accessibility for Ethiopian decision makers.
- Develop targeted policy briefs to inform key governmental initiatives on ONEWASH and wastewater management.

## KENYA



### Invest in partners

- Continue to support government stakeholders in county government climate committees and county steering committees through capacity building and partnerships.
- Invest in knowledge: develop plans for a national water security conference, linked to Kenya UNESCO IHE program, and focused on climate adaptation training, at both county and national levels.

### Invest in people

- Design a course for Kenyan stakeholders, based on the REACH risk-based framework, to increase knowledge dissemination and uptake.

## BANGLADESH



### Invest in partners

- Continue to strengthen capacity in government agencies on water quality modelling and support uptake of REACH lessons and insights into trainings, such as the International WASH training network.

### Invest in knowledge

- Produce briefs and synthesis reports on key areas of REACH research, targeted to meet the needs of local authorities and donors, including investment priorities for drinking water insecurity hotspots and effectiveness and trade-off of options for management of sedimentation risks and waterlogging.



Photo by Water for Good, 2020

# SCALE UP

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Scaling up can occur within focus countries or through expansion into new geographies, based on existing partnerships.

- In Bangladesh, support from the Prime Minister's Office SDG coordinator has facilitated multiple agencies to engage with REACH's work in Dhaka and the coast. Plans to sustain (1) Dhaka's water quality monitoring system and uptake of the INCA model, (2) the coast's SafePani schools' model and government application of sediment management plans are key opportunities, and (3) UNICEF's work on hospital hygiene and safe water services are opportunities for major impacts aligned to government interests.
- Training and knowledge exchange activities are building skills on monitoring, modelling and data management in the Dhaka, Khulna, Turkana, Kitui, and Awash observatories. This collaborative work is supporting government officers and key stakeholders to strengthen their capacity to learn and apply new climate, hydrological, financial and institutional models, tools and technologies developed under the programme. Knowledge products require people to respond to tailored requests to maximise the value and impact over the medium and long term.

- REACH's international conference in September 2023 will be a key forum with national events to identify and agree what is realistic and can be delivered.

## Investing in knowledge

- REACH's website offers an extensive library of written and video materials to inform and sustain water security practice. Oxford will ensure these materials are maintained for public access to 2030. The Oxford Water Network offers a means to sustain the materials and promote regular exchanges with partners through an annual seminar and guest lectures.
- Oxford will prepare a summary of the REACH methodology and programme lessons learnt to inform global policy and practice, including the design and delivery of future programmes.



Photo by Rob Hope

- Academic partners in Bangladesh, Ethiopia, Kenya and Oxford provide undergraduate and postgraduate education. Thousands of students have graduated from courses informed by research from REACH. In turn, these students now work in increasingly senior positions working on water security challenges in national governments and global agencies. REACH material will remain relevant to academic courses and inform global policy and practice for many years to come.

This domain would incur new and larger costs outside the scope of the current programme. A preliminary list of existing opportunities to promote water security for tens of millions of poor people is presented below.

- **Climate resilience in East Africa.**

The new observations and modelling insights from the Turkana low level jet studies positions the University of Nairobi (UoN) as a regional hub of expertise in collaboration with the University of Oxford. Regional implications include work to improve climate resilience in the Awash basin which is home to 18 million people and the capital, Addis Ababa, which faces critical water shortages, seasonal water quality challenges, and flood risk.

Capacity strengthening can support national meteorological agencies to develop specific climate information to inform national adaptation plans that considers the impact of climate on marginal populations. Adaptation finance discussed at COP27 would align with this work.

- **Groundwater resilience.** REACH's work on groundwater systems in all three countries is informing a portfolio of national and regional initiatives. In Bangladesh, mapping and modelling groundwater quality in the coastal zone is helping to inform the national Delta Plan and the SafePani model. In East Africa, detailed studies in Ethiopia and Kenya is informing a USD 385 million World Bank programme in the Horn of Africa on groundwater resilience with links to FundiFix and Uptime.
- **SafePani.** A high-level and multi-departmental government steering committee with UNICEF is supporting and guiding REACH's work to ensure drinking water is safe and reliable for schools in the coastal zone which faces water quality, reliability and flooding risks. The SafePani model is being piloted at the district level with the aim to be replicable at the national level, and applicable to health care facilities and hospitals.

# SCALE OUT

Scaling out will be achieved by engaging with global and regional networks of shared interests and investors in global water security.

- **Uptime results-based funding models.** REACH has partnered with FundiFix in Kenya to develop a new institutional and operational model for reliable drinking water services for rural communities and facilities. FundiFix is a global partner with Uptime which has funded results-based contracts for 1.5 million people in seven African countries in 2022. In 2023, Uptime will issue contracts for 4 million people and expand to Latin America and Asia. Collaboration between Uptime and SafePani can advance water quality metrics to be introduced into results-based contracts to scale up to 100 million people by 2030.

- **River health in industrialising countries.** As in many large and fast-growing industrial cities, Dhaka's rivers are heavily polluted with health risks for millions of people living and working in riparian areas. In the Awash basin, these impacts carry downstream to those who use the water for drinking and irrigation.

River quality monitoring and modelling has provided a first systems' analysis to be able to model the effects of prioritising and sequencing billions of USD in infrastructure investments over the next decade. In Bangladesh and Ethiopia, work led by BUET, WLRC and Oxford will contribute to government and investment planning to improve water security outcomes for the poor.

The REACH programme has established relationships with a range of such organisations which can be further developed over time, subject to ongoing investments in people. Follow-on partnership programmes for water security will be explored to scale out the work of REACH with long standing partners such as UNICEF, RWSN/ Skat Foundation, IWMI, and Uptime Global, as well as newer partners such as Global Centre on Adaptation, the Intergovernmental Authority on Development (IGAD) in East Africa, the World Bank and regional development banks (AfDB, ADB and IADB), WHO, IPCC, and bilateral donor agencies, such as USAID, Sida, SDC, and others. Initial actions in this domain are to:





Photo by REACH Field Officer

### **Identify target geographies and typologies for scale out**

- Locate key opportunities to apply the REACH model in relevant geographies globally where improving water security must be a priority, and where adaptation of the REACH model is likely to deliver transformative results.

### **Consolidate evidence of success**

- Summarise the evidence of the impact of the REACH model, along with brief country case studies, to provide potential bilateral, multilateral, or private sector donors with a compelling narrative and specific examples of the impact and results that can be achieved (e.g. SafePani, Water Services Maintenance Trust Fund).

Case studies will include various collaborative work with UNICEF on water quality, affordability and professional service delivery models in multiple geographies for communities, schools, health care facilities and hospitals which complements work with the World Health Organisation to explore how climate variability and seasonality affect water quality and service delivery.

### **Use innovative approaches to disseminate REACH's research and impact to relevant interests and investors in global water security**

- Target engagement of key stakeholders in final meetings and at the REACH international conference in 2023.

- Engage with new and existing global partners at the UN Water conference in March 2023 and through associated initiatives such as the Global Commission on the Economics of Water Security, on which REACH is providing technical support. This will build on existing and ongoing processes by which REACH work is informing progress towards Sustainable Development Goal 6 and its associated targets in 2030.
- Seek to engage and inspire networks of private enterprise partners bringing corporate support to the delivery of SDG6 (e.g. UN CEO Water Mandate, Run Blue Campaign)
- Develop a travelling museum exhibition to engage new audiences to facilitate conversations on improving water security in different countries
- Produce a documentary that tells the overarching story of REACH's model, combining information about the overall impact in each target country (what), the approach used (how), and compelling country examples, including key data and testimonials from local beneficiaries.

## **Explore regional collaboration and partnerships**

- Host meetings and conference workshops to explore viability for extending work beyond the three REACH countries e.g. quantifying the impact of climate change on groundwater resources in the Horn of Africa or the Nile Basin (i.e. more studies on monitoring components); design of rural water laboratories to monitor and manage safe drinking water more effectively, building on REACH partnership funding to eawag and iccdr,b).

# ACKNOWLEDGEMENTS

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Photo by UNICEF Ethiopia

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