

REACH 2023 Conference Programme

DAY
1

Wednesday 20 September

13.30 **Registration** | Sheldonian Theatre

14.00 **Welcome**

Professor Irene Tracey, Vice-Chancellor, University of Oxford

Reflections from the UK Foreign, Commonwealth & Development Office

Professor Charlotte Watts, Chief Scientific Adviser, UK Foreign Commonwealth & Development Office

Within Reach

Professors Katrina Chales and Rob Hope, REACH Programme Directors

High-level Panel: Water Security Risk and Poverty

Chair: Professor Katrina Charles, University of Oxford

- HE Mr Muhammad Abdul Mannan, Minister of Planning, Government of Bangladesh
- Hon. Ms Alice Muthoni Wahome, Cabinet Secretary for Water, Sanitation and Irrigation, Government of Kenya
- Dr Ana Gren, Senior Program Manager Specialist, Sida, and Senior Climate Change specialist, World Bank
- Dr Peter Harvey, Regional WASH & Environment Adviser, South Asia, UNICEF
- Professor Tassew Woldehanna, President, Addis Ababa University

Mr Md. Emdadul Hoq Chowdhury, Additional Secretary, Local Government Division, Government of Bangladesh

15.45 Refreshment break

16.15 **Plenary: The Search for Clarity on Future Climate: Meeting the Needs of Adaptation and Vulnerability Planning**

The climate system imposes stresses on development, potentially jeopardising investment and efforts towards the SDGs. Climate science has responded with a concerted push to quantify climate change, especially in the form of extremes, hazards and risks. This session showcases some of the remarkable progress made by REACH and the FCFA programme. We will also ask how current climate science approaches respond to adaptation challenges and climate-related vulnerabilities and how future research agendas might contribute to greater impact in a changing climate.

Chairs: Dr Ellen Dyer and Dr Callum Munday, University of Oxford

- Dr Rachel James, University of Bristol
- Ms Patricia Nying'uro, Kenya Meteorological Department
- Professor Daniel Olago, University of Nairobi
- Dr Wilfried M. Pokam, University of Yaounde 1
- Dr Louise Wilson, UK Foreign Commonwealth and Development Office

17.30 Close

18.00 **Reception** | Museum of Natural History - Sponsored by C.N. Hilton Foundation





Thursday 21 September

9.00 **Plenary: Regulating Rural Drinking Water Services to Deliver Safe Water** |

Examination Schools

70% of the 2 billion people who lack access to safe drinking water live in rural areas. In these areas, where people often rely on small water systems, drinking water safety is often assumed rather than managed with poor results. REACH's work has demonstrated new models for delivering safe drinking water services in rural areas in South Asia and Sub-Saharan Africa through fit-for-purpose labs and professional service providers.

In this session, regulators and service providers will explore how regulations might be adapted for professional service providers to advance drinking water safety for rural populations.

- Professor Katrina Charles, University of Oxford
- Dr Sara Marks, Eawag

Panel discussion:

- Mr Md. Emadul Hoq Chowdhury, Local Government Division, Government of Bangladesh
- Dr Anabelle Edwards, Drinking Water Inspectorate
- Eng Robert Gakubia, Blackburn Associates Ltd
- Dr. Duncan McNicholl, Uptime
- Mr Nurul Osman, HYSAWA

10.30 Tea and coffee break

11.00 **Parallel Sessions | Examination Schools** (see details about parallel sessions on p.4)

- **River Water Pollution and Social Inequalities in Africa and Asia**
- **Water Cycle Analytics and Climate Services for Decision Makers in Africa**
- **Unpacking Processes of Care and Dependencies: Extreme Water Vulnerability in Bangladesh, Ethiopia and Kenya**

12.30 Lunch

14.00 **Parallel Sessions | Examination Schools** (see details about parallel sessions on p.5)

- **Climate Risks and Groundwater Security in Drylands**
- **Designing Research Calls to Drive Impact**
- **Improving Coastal Resilience: How to Manage Multi-dimensional and Multi-scalar Risks in a Fragile Delta**

15:30 Tea and coffee break

16.00 **Plenary: Rural Water Finance | Examination Schools**

Rethinking financial flows and policy reform to ensure safe drinking water in rural areas are necessary to achieve and sustain water security outcomes. The economic, health and social costs are well-rehearsed for the two billion people without safe drinking water today. In response, governments and enterprise are testing new approaches in Africa and Asia to adapt to increasing climate, fiscal and public health risks.

The session aims to: (1) Characterise the conditions for, and experience of, government funding for rural water supply, (2) Determine pathways to increase long-term funding from non-traditional resources, (3) Identify how development funding can transition to more sustainable models to reduce social inequalities.

Introductions:

- Professor Rob Hope, REACH programme Director, University of Oxford

Keynotes:

- Mr L.K. Atheeq, Government of Karnataka, India

Panel discussion:

- Ms Iris Braun, share
- Dr Duncan McNicholl, Uptime Global
- Mr James Origa, World Bank
- Ms Kie Riedel, Conrad N. Hilton Foundation

17.30 Close

19.00 **Conference Dinner | Keble College**





Friday 22 September

9.00 **Parallel Sessions | Examination Schools** (see details about parallel sessions on p.6)

- **Service Delivery Models for SDG6.1**
- **Climate Uncertainty-Precarity Continuum: Interdisciplinary Perspective**
- **Tools for Measuring Women's Empowerment and Agency in the Water Sector**

10.30 Tea and coffee break

11.00 **Water Security Within Reach: Progress and Prospects | Examination Schools**

Water security is recognised as a defining local and global challenge for economies, the environment and human welfare. Governments, private sector and civil society have launched a myriad missions, commissions, programmes and projects with billions of dollars of funds and finance over the last decade. What is working, for whom, and why? What is not working and what action should be taken over the next decade? This session provides critical reflections and perspectives, based on the evidence and insights from some of these initiatives, to shape the agenda for the decade to come.

Panel discussion:

Chair: Professor Rob Hope, REACH programme Director, University of Oxford

- Mr Kitka Goyol, UNICEF East and Southern Africa Region
- Professor Quentin Grafton, UNESCO Chair of Water Economics, Australian National University
- Dr Rachael McDonnell, Deputy Director General – Research for Development, IWMI
- Ms Debashree Mukherjee, Secretary, Department of Water Resources, Ministry of Jal Shakti, India
- HE Jeremiah E.L. Napotikan, Governor, Turkana County, Kenya

Closing remarks: The Rt Hon. the Lord Patten of Barnes KG CH, Chancellor, University of Oxford

13.00 Lunch

Parallel Sessions:

Thursday 21 September (11:00-12:30)

11.00 **River Water Pollution and Social Inequalities in Africa and Asia | South School**

In rapidly growing cities and river basins, millions of people are exposed to health and economic risks from untreated industrial and municipal wastewater discharged into rivers. This session aims to engage national and regional networks of academics, industry partners and governments with shared interests in addressing river pollution and social inequalities in Asia and Africa. The session will showcase REACH's stories of change in the Greater Dhaka watershed and the AWASH River basin in Ethiopia with a view to scale-up and scale-out impacts through uptake of knowledge, strengthening existing collaborations, and reaching out to new partners.

- Dr Yosef Abede, Awash Basin Authority (AwBA)
- Dr Engdasew Feleke, Water and Land Resource Centre (WLRC), Addis Ababa University
- Dr Sonia Hoque, University of Oxford
- Mr Lewys Isaac, Primark
- Professor Mohammed Abed Hossain, Bangladesh University of Engineering and Technology
- Ms Shammi Shawal, Bangladesh University of Engineering and Technology

11.00 **Water Cycle Analytics and Climate Services for Decision Makers in Africa | East School**

To minimize the effects of climate extremes in Africa, high-resolution information on water availability is essential. However, the usability and accessibility of this information is also critical to it being used in decision making. This session will:

- Highlight the potential role of new technologies to inform decision makers of water cycle threats. Next-generation land-surface and weather predictions provide information that quantifies the exposure of existing and planned assets and provide situational awareness during major floods and droughts.
- Examine these new developments and their use through a climate services lens. Providing climate services currently poses a distinct set of technical, institutional, and communication challenges that narrows their effective scope.

We will highlight novel climate information tools while grappling with the barriers to them having impact.

- Dr Solomon Gebrechorkos, University of Oxford
- Dr Gilbert Ouma, University of Nairobi
- Dr Linda Speight, University of Oxford
- Dr Joshua Talib, UK Centre for Ecology and Hydrology
- Dr Meron Teferi Taye, International Water Management Institute

11.00 **Unpacking Processes of Care and Dependencies: Extreme Water Vulnerability in Bangladesh, Ethiopia and Kenya | Seminar Room 6**

In water insecure places, the difficulties in accessing water create new dependencies, challenges and complexities for care. Care interweaves water in many ways: physically compromised people need to be cared for with water provision by their kin, care givers need to include water caring responsibility and single parents need to juggle water care with other forms of care and livelihood provision. We discuss how different extreme water vulnerabilities are constructed, perceived and managed by people themselves and communities, drawing on gender norms and social structures. We question how, if, when and why care should have a special approach in research and practice.

Discussant: Dr Marina Korzenevica, University of Oxford

- Mr. Andy Bastable, Oxfam
- Mr Md. Emadul Hoq Chowdhury
- Mr Kitka Goyol, UNICEF East and Southern Africa Region
- Ms Fahreen Hossain, Bangladesh University of Engineering and Technology
- Ms Mercy Mbithe, University of Nairobi
- Mr. Nathan K. Vungo Kitui County Government

Parallel Sessions:

Thursday 21 September (14:00-15:30)

14.00 **Climate Risks and Groundwater Security in Drylands | South School**

Drylands experience severe water scarcity and are highly vulnerable to the effects of climate variability. Extreme climate risks, such as prolonged droughts, extreme temperatures, and low and unpredictable rainfall patterns, greatly impact groundwater availability and quality. This session will address water security challenges in rural and urban dryland regions. Speakers will share insights on effective monitoring and management strategies for long-term groundwater sustainability. Operational strategies for water supply utilities will be proposed to ensure equitable water access. The session will also explore gender-differentiated vulnerabilities caused by water insecurity and suggest opportunities to build resilience in vulnerable populations under climate change.

- Dr Behailu Birhanu, Addis Ababa University
- Professor Salome Bukachi, University of Nairobi
- Mr Benard Kirui, Ministry of Water, Sanitation and Irrigation, Government of Kenya
- Mr Maxwell Odira, University of Nairobi
- Professor Daniel Olago, University of Nairobi
- Dr Florence Tanui, University of Nairobi
- H.E. Augustine Wambua, Deputy Governor, Kitui County, Kenya

14.00 **Designing Research Calls to Drive Impact | Seminar Room 6**

The REACH programme has achieved impact for over 7 million people on water security from a diverse range of impact pathways. Our Stories of Change characterise how our science-practitioner partnerships with government, donors, UNICEF and NGOs have supported changes to policy and practice to improve water security in areas from sustainable land management, to building climate resilience, to gender equity. This session will bring together stakeholders working towards research for impact in discussion to share experiences from co-producing research for impact to inform design of future programmes.

Introductions: Professor Katrina Charles and Dr Catherine Grasham, University of Oxford

Panel discussion:

Chair: Anna Nileshtar, UK Foreign Commonwealth & Development Office

- Ms Catherine Flynn, Economic and Social Research Council
- Mr Kitka Goyol, UNICEF East and Southern Africa Region
- Mr Muhammad Ibrahim, Local Government Division, Government of Bangladesh
- Dr Alex Lewis, The British Academy
- Dr Modi Mwatsama, Wellcome Trust
- Ms Patricia Nying'uro, Kenya Meteorological Department

14.00 **Improving Coastal Resilience: How to Manage Multi-Dimensional and Multi-Scalar Risks in a Fragile Delta | East School**

The coastal zone of Bangladesh is faced with multi-dimensional and multi-scalar water security risks, resulting from bio-physical challenges and socio-economic vulnerabilities. The level of risk is ever-increasing because of the changing environment, socio-economic vulnerabilities, and anthropogenic intervention. While the intensity and frequency of hazards and disasters are increasing risks to both physical systems and human dimensions (including livelihoods, gender, and inequality), certain interventions may aggravate risks or transfer risks across multiple scales. This session will focus on the importance of a systems approach in understanding the complexity of coastal risks. We will discuss risk-based identification and prioritization of resilient water security interventions which seek to enhance both biophysical and socioeconomic resilience.

- Dr Shamal Chandra Das, Bangladesh Water Development Board
- Professor Jim Hall, University of Oxford
- Professor Andy Large, Newcastle University
- Dr Kasia Paprocki, LSE
- Professor Md. Rezaur Rahman, Bangladesh University of Engineering and Technology
- Professor Mashfiqus Salehin, Bangladesh University of Engineering and Technology

Parallel Sessions:

Friday 22 September (9:00-10:30)

9.00 **Service Delivery Models for SDG6.1 | South School**

With 80% of the global population without access to water located in rural areas, better management of rural water infrastructure to provide sustainable services is essential to water security. As a response, Service Delivery Models are evolving in rural areas to chart pathways to universal safe drinking water.

What can we learn to guide policy and practice to accelerate progress to meet the 2030 SDG6.1 target? This interactive session will provide a framework to assess the distribution of roles and responsibilities between the state, operators and rural water users, with examples drawn from East and West Africa, and Bangladesh.

Introductions: Dr Johanna Koehler, VU Amsterdam

Lightening talks and panel:

- Dr Sonia Hoque, University of Oxford
- Ms Yvonne Löwenstein, share
- Professor Albert Mumma, University of Nairobi
- Ms Meleesa Naughton, Skat Foundation/ RWSN
- Mr Cliff Nyaga, University of Oxford
- Mr James Origa, World Bank
- Mr Md. Nurul Osman, HYSAWA

9.00 **Climate Uncertainty-Precarity Continuum: Interdisciplinary Perspective | Seminar 6**

Climate uncertainty denotes both a level of unpredictability in modelling tools and a living experience for people in difficult environments. Uncertainty is mentioned in relation to the risk framework (e.g., IPCC report 2020) however, the ways in which uncertainty is perceived are underexplored. Climate uncertainty is also a socio-political construct and can transform into climate precarity, driven by underlying causes of social vulnerability, dynamics of power and others. We discuss the multidimensional climate uncertainty-precarity continuum: what uncertainties are from natural variability and levels of confidence in models, how climate uncertainties are communicated, but also, when climate uncertainty becomes precarious and why.

Discussants: Dr Ellen Dyer, University of Oxford and Dr Alan Nicol, IWMI

Panel:

- Mr David Bosuben, Ministry of Water Sanitation and Irrigation, Government of Kenya
- Dr Richard Jones OBE, UK Met Office and University of Oxford
- Dr Marina Korzenevica, University of Oxford
- Mr Mohammad Golam Muktadir, DPHE, Government of Bangladesh
- Mr Dennis Ong'etch, University of Nairobi
- Mr Dan Yeo, Terta Tech

9.00 **Tools for Measuring Women's Empowerment and Agency in the Water Sector | East School**

To understand water security, it is important to go beyond simply analyzing who has access to water, but to understand the interactions between water security and women's empowerment. While women who are more empowered may be able to negotiate better access to water; the infrastructure and social norms around water may also influence women's empowerment. In this session, we will discuss new survey tools designed to provide insights into these relationships. These include the Women's Empowerment in WASH modules as well as modules on measuring women's agency developed in collaboration with the World Bank MAGNET project. .

- Dr Elijah Bishung, Queen's University
- Dr Sarah Dickin, Uppsala University
- Professor Cheryl Doss, University of Oxford
- Dr Ana Gren, World Bank Climate Change Group
- Dr Maria Hernandez de Benito, Universidad de Alicante
- Dr Marya Hillesland, University of Oxford