



Fostering innovation in interdisciplinary public engagement through *Fair Water?*



Story of change: Key findings & emerging impacts

Summary

- The *Fair Water?* exhibition was developed through a collaboration between REACH scientists and public engagement experts at the Oxford University Museum of Natural History to engage the public in discussions on water justice and communicate the value and influence of research
- The exhibition received 273,370 visitors whilst on display in Oxford from November 2023 to September 2024
- Around two thirds of those who engaged with the exhibition emerged convinced of the power of research to influence decisions by government, industry and individuals in the home
- 4,134 people attended events associated with the exhibition, and the exhibition continues online
- Discussions are underway to enable the exhibition to travel to engage the public in the countries where the research was undertaken – Bangladesh, Ethiopia and Kenya – and more widely

Photo © Ian Wallman



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REACH
Improving water security for the poor



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Introduction

The *Fair Water?* exhibition, hosted at the University of Oxford's Museum of Natural History from November 2023 to September 2024, is an interesting and successful example of interdisciplinary public engagement. The result of an extensive collaboration between REACH researchers and the museum exhibitions team, it weaves together art, interviews, animations, interactive displays, and specimens from the museum to reveal some of the global barriers to water equality and explore how researchers, communities and policymakers are working together to shape a fair water future. Across the year, the exhibition received 273,370 visitors.

To support this initiative, the REACH programme was able to leverage in-kind investments from the University of Oxford Museum of Natural History as well as financial support from Reuben College, the Smith School of Enterprise and the Environment, the Economic and Social Research Council, and the Arts Council England.

The University of Oxford's Environmental Sustainability fund provided funding to ensure the exhibition was printed sustainably.

We also gained support from the Hilton Foundation for a pop-up preview of the *Fair Water?* exhibition at the museum from 15 September to 15 October 2023, which enabled us to capture the voices of a wide range of researchers and stakeholders attending the REACH international conference for use in the exhibition.

Highlighting the value and influence of government-funded research

Fair Water? aims to provide a constructive and inspiring approach to how we can maintain and improve our water security. It was designed to leave people feeling excited about the role of research and collaborations to bring about change; informed and concerned about the challenges, including climate change, but not overwhelmed; empowered by possible solutions but not passively hopeful.

Figure 1: The *Fair Water?* exhibition takes its visitors on an immersive journey along a river, from source to mouth (Image by Ian Wallman).



The practical, achievable and scalable solutions that the REACH programme has been able to support and develop in Africa and Asia provided illuminating and positive case studies, whilst revealing how life without reliable access to water has an especially great impact on women's lives and futures.

Evaluation by the museum based on visitor surveys suggest that over two thirds of the people engaging with the exhibition emerge convinced of the power of research to influence decisions by government, industry and individuals in the home (Figure 2).

This message is set to spread as the REACH programme moves forward with discussions to adapt the exhibition for travel.

Meanwhile, an online version of the exhibition is available on the University of Oxford Museum website. It uses [Shorthand design elements](#) including scrolling and movement to visually enhance the story-telling.

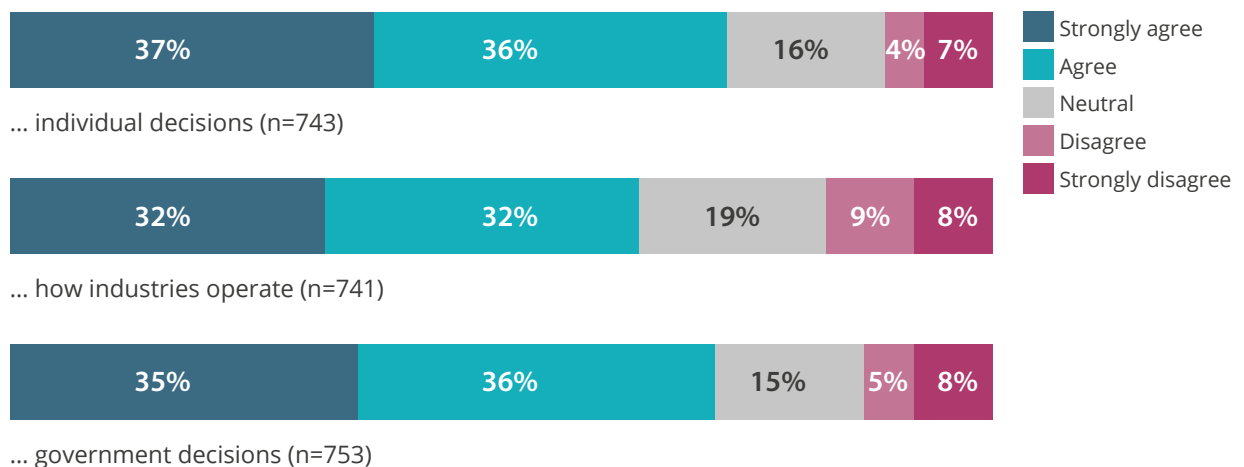
[Fair water? Online](#)

Building capacity for public engagement with interdisciplinary research

The MNH is the most visited university science museum globally, and is the most visited UK science museum outside the national museums. The experienced team at the museums – Professor Paul Smith, Janet Stott, Dr Kelly Richards and Ellena Grillo – have long been producing exhibitions based on globally-leading research from colleagues in the University of Oxford. However, the REACH *Fair Water?* exhibition was the first ever exhibition at the MNH to emerge from the Social Sciences Division. To translate nine years of research published in over 100 academic papers also required extensive input from across the REACH research team who dedicated generous time to share their work and ideas and provide feedback on different elements of the exhibition during its development.

Figure 2: Results from museum visitor survey conducted during the exhibition in Oxford. Visitors were asked to rate their agreement with statements about the influence of research on decision-making by individuals, industry and government.

Research has the power to change....





This learning process will extend beyond the British context and develop iteratively through engagement with museum staff in other countries as they develop and adapt the exhibition material to fit their contexts. With support from the Africa Oxford Initiative, National Museum of Kenya curators Winnie Irungu and Eileen Musundi travelled to Oxford to explore this new collaboration, with a follow-up visit by REACH Oxford colleagues to meet museum staff in Nairobi in September 2024.

Both museum and research teams reflect that the *Fair Water?* exhibition has been a unique and exciting opportunity to develop innovative and collaborative public engagement with research in a different and challenging area, and in particular one that really reflects the complexities of decision-making in the real world. Public engagement with research can create public support for research to address society's most challenging problems.

An immersive journey

"All the resources we could touch and watch or use were really entertaining and helping me to understand the facilities that certain people don't have." *Comment from visitor survey*

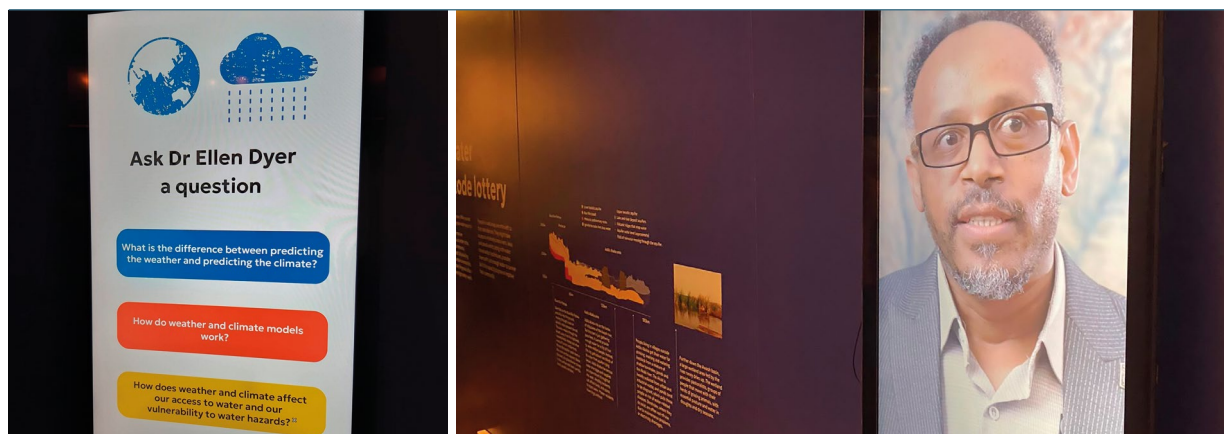
Laid out in a long gallery in the Oxford University Natural History Museum to reflect the course of a river, the exhibition's engaging design and focus on hands-on experience invited visitors to relate to the experiences of those who face water insecurity. Visitors were guided through a broad range of topics from geology to weather prediction and governance, and interacted with the real objects people use to manage their water. Tools like jerrycans and handpumps controlled a display about water access, and by turning a water wheel, visitors could match pollutants and their sources. In one section, visitors saw how heavy rainfall near a dam sets into motion a string of decisions that keep populations safe from flooding. Visitors continued their hands-on experience of the exhibition with touchable aquifer rocks from the Museum's collections to explore how water is stored underground.

A digital interactive installation was designed to explain the water cycle and how it is affected by climate change, whilst video panels allowed visitors to hear directly from researchers and practitioners working on water security issues worldwide. Meanwhile, the exhibition used the museum's collection to create visually engaging displays representing the river ecosystem in Dhaka, Bangladesh and the impact of pollution.

Figure 3: Headline figures from 2,577 visitor surveys at the University of Oxford Museum of Natural History captured between 6 December 2023 and 1 September 2024. The exhibition and accompanying programme of events in 2024 also highlight parallels with water security issues in the UK, using examples of river pollution and proposed dams to encourage visitors to reflect on their own contexts.



Figure 4: Talking heads and interactive displays in the exhibition (Dr Ellen Dyer, Dr Behailu Birhanu)



"The interactive screens really helped visualise the impact of global warming."
Comment from visitor survey

"...this programme has added to our knowledge about the hydrological cycle and how it works; that is the circulation of water from the earth surface to the atmosphere and back to the earth surface and the processes involved in it. We really loved the water cycle animation. This has been imprinted in our minds and it will help us when writing our projects in geography."
Comment from the schools programme in Cameroon joining the Museum Schools Day via video link

Raising the profile of Early Career Researchers

Part of the intention behind the exhibition was to create a platform to showcase the work of REACH's Early Career Researchers and support them to develop their profiles as experts and leaders in the field of water security. In the exhibition, video screens feature Dr Sonia Hoque, Dr Ellen Dyer and Dr Behailu Birhanu speaking about their research. Another interview with Dr Sonia Hoque was featured in the museum's World Water Day social media.

Early career researchers have also contributed to the programme of public talks associated with the exhibition in Oxford, a valuable opportunity to develop skills for public engagement and convening public events to share interesting and impactful research.

For example, REACH post-doc Dr Ellen Dyer was joined by Professor Wilfried Pokam Mba from the University of Yaounde I to speak on "Climate information: how is it made, by whom, and how can it be used for a more equitable and resilient future?", whilst Dr Saskia Nowicki hosted an evening event entitled "Clear water? Clear conscience?" with perspectives from researchers and activists on the nuances of using water quality information to reduce health risks associated with poor drinking and bathing water quality.

Increasing engagement through events

The exhibition in Oxford has formed the backdrop to an array of interactive and interdisciplinary events to appeal to a wide variety of audiences. Beyond those mentioned above, this included:

- A panel event with artists Invisible Flock, poet Alice Oswald and conductor Dr Cayenna Ponchione-Bailey, communication professional Alice Chautard and REACH Research Associate Dr Sonia Hoque focusing on how we can inspire positive action to help enable good quality water for all.

Figure 5: The exhibition also included a striking photographic series by renowned Ethiopian photographer and contemporary artist, Aïda Muluneh – a highlight of the display. Muluneh’s series responds to how living without clean water impacts women’s lives and futures. ©Aida Muluneh, Water life series 2018. Commissioned by Wateraid and supported by the H&M Foundation. More works from the series Water Life (2018) can be seen in the [Guardian online gallery](#)



- A talk by Nick Hepworth of Water Witness International on the Fair Water Footprints concept, inspiring action to transform how major players in global trade interact with the water environment and local suppliers.
- A community choir event where several of Oxford’s community choirs came together to sing about water in the main museum gallery and a natural dye workshop with Kate Turnbull.
- A hybrid panel event in April – Water and climate change: Adaptation at the margins which had over 100 participants in person and online, and explored the social and political barriers to sharing, accessing and using climate information to support adaptation at the margins.
- A touch tour for blind and partially-sighted visitors.

Figure 6: Students from PCSS Mankon in Northwest Cameroon dial in to the Museum of Natural History's lecture theatre for talks on water security



- A Late Night opening of the museum attracting thousands of local people to take part in water-themed engagement activities run by researchers and local environmental organisations and natural history experts.
- A Water Walk - a water-themed stroll around Oxford with Dr Kevin Grecksch to explore global and local water-related challenges.
- An evening talk with Prof. Seifu Kebede and Prof. Alan MacDonald offering a hydrogeological perspective on climate change resilience and the benefits of groundwater for productive and consumptive use across Africa.
- Events designed to attract families with children included a Water and Wildlife Discovery Day at the University of Oxford Botanic Garden with a Bioblitz focusing on organisms which live in or close to water; family sessions during school half term; and six Saturday object handling sessions entitled "Holding water". These family events engaged 2,528 people over the year.

The museum also ran a Schools Day in February with over 100 A-Level and GCSE geography students from Oxfordshire and surrounding counties joining in person and online. The event was also webcast to four secondary schools in Cameroon through the Water Learning Partnership project which was started by REACH researchers.

As well as visiting the exhibition – virtually in the case of the Cameroon schools through a video tour led by Dr Johanna Koehler – students attended a series of talks in the Natural History Museum's lecture theatre. For many students, it was their first experience of a university style lecture with speakers from the REACH programme covering a wide range of relevant topics and case studies.

Exhibition legacy and future plans

The team behind *Fair Water?* have been working with museums and international organisations on plans to bring the exhibition to wider public and policy audiences in countries where the research was undertaken – Bangladesh, Kenya and Ethiopia - and more widely. The online version of the exhibition will also remain on the museum website as a lasting resource and legacy of the project.

Selected outputs

Stott, J. and Vicente, C.C. 2024. Interdisciplinary public engagement: Untapped potential? *Biology Open*, 1;13(3): bio060108. doi: [10.1242/bio.060108](https://doi.org/10.1242/bio.060108).

[Exhibition website](#)

Water Learning Partnership Blog: [Schools from Cameroon participate in the *Fair Water?* Schools Day](#) (Water Learning Partnership)

News story: [Ripples of change: The *Fair Water?* exhibition now open at the University of Oxford Museum of Natural History](#)

[Fair Water? The people behind the exhibition](#)

News story: [Fair Water? exhibition reaches out to schools](#)

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Story of change themes



Groundwater



Land



Coasts



Gender



Schools



Services



Health



Climate



Cities



Basins

REACH is a global research programme to improve water security for the poor by delivering world-class science that transforms policy and practice. The REACH programme runs from 2015–2024 and is led by Oxford University with international consortium of partners and funded with UK Aid from the UK Government's Foreign, Commonwealth & Development Office. Project code 201880.