

# India-UK Water Security Exchange Initiative - February 2016 Visit Programme



# Hosts

The initiative is being coordinated by:



The visit is being managed by:



Funding for the visit is being provided by:



Support is being provided by:



# Contact Point

For further information about the initiative please contact the Project Manager:

Dr Harry Dixon  
NERC Centre for Ecology & Hydrology (CEH), Maclean Building, Benson Lane, Wallingford, OX10 8BB,  
United Kingdom

Email: [harr@ceh.ac.uk](mailto:harr@ceh.ac.uk)  
Tel: +44 (0)1491 692254

For logistical issues please contact:

Sandie Clemas  
NERC Centre for Ecology & Hydrology, Maclean Building, Benson Lane, Wallingford, OX10 8BB,  
United Kingdom

Email: [samc@ceh.ac.uk](mailto:samc@ceh.ac.uk)  
Tel: +44 (0)1491 692214



# Introduction

The UK has invited a delegation of senior water managers and decision makers to take part in a high level exchange initiative to share knowledge on water security and the Ganga clean-up. A progressive and informative agenda has been developed, bringing together UK key policymakers, regulators, researchers and water industry specialists to engage with Indian counterparts.

The initiative has been developed by the UK Water Partnership with funding from a number of UK organisations. The India-UK Water Security Capability Exchange Initiative aims to promote direct engagement between UK and Indian water planners and implementers, so as to exchange knowledge on governance and regulation, science and innovation, and UK water sector capability.

This initiative was announced in the Joint Statements between India and the UK following Prime Minister Modi and Prime Minister Cameron's meeting in London in November 2015. It was developed in response to an initial request for co-operation in the Ganga clean-up. It follows a fact-finding mission by the UK to India in March 2015.

## Background

Prime Minister Modi has made the clean-up of India's rivers a priority for action. The showpiece is the clean-up of the River Ganga and the National Mission for Clean Ganga (NMCG). Responsibility for the river's management lies with the Ministry of Water Resources, River Development and Ganga Rejuvenation and the Honourable Minister Uma Bharati. The most recent version of Ganga River Basin Management Plan (2015) sets out an action plan for short-term (three years), medium-term (five years) and long-term (ten years +) to clean the river.

Water management is an area of UK commercial and policy expertise and the River Thames experience is widely cited in India as a model for successful river clean up. A UK mission to India in March 2015 established the need for increased governance and regulation, ongoing science and innovation links and significant UK-India engagement opportunities in the water sector. The UK has many skills in these areas, with parallel administrative and legal systems. Its water planning and protection capability has resulted in significant improvements in water quality and water security. Strengthening India-UK links in this area will bring significant benefits to India and opportunities for partnership with the UK water sector.

The exchange initiative aims to increase Indian water management capability to plan and implement integrated river basin management plans. If water infrastructure is improved, impacts will be seen in terms of improved public health, improved water supply and sewage treatment. Ultimately, enhanced water security and improvements to the water environment will be achieved.

## Joining Instructions

Venue addresses are shown in this document at the top of each days programme. Participants are asked to report to reception upon arrival.

Presenters should bring their presentations with them on the day in PowerPoint format and provide these to Harry Dixon upon arrival. Presenters are asked to limit their presentations to the allocated time slot, including allowing time for questions from the audience.

**All participants are invited to attend the Friday wrap-up session and reception. Please let Harry Dixon know if you wish to attend.**

# List of Indian Delegates

Name	Title	Organisation
Mr M.P. Singh	Chief Engineer (P)	Central Water Commission
Dr Dipankar Saha	Member (SAM)	Central Groundwater Board
Mr Hari Har Mishra	Director (Finance)	National Mission for Clean Ganga
Mr Suneel Dave	Additional Director	Central Pollution Control Board
Mr Radhey Shyam Tyagi	Member Water	Delhi Jal Board
Prof. Ravindra Kumar Sinha	University Professor and Head of Zoology Department, Environmental Biology Laboratory	Patna University
Prof. Arun Kumar	Professor and MNRE Chair Professor, Alternate Hydro Energy Centre	Indian Institute of Technology Roorkee

# Visit Structure

The visit will provide the Indian delegation with a week of intensive exposure to the UK water sector. It aims to increase competence and capability in water strategy and implementation through regulation, permitting and enforcement. In addition, it will consolidate water research links and be an opportunity to demonstrate innovation and implementation of research findings into policy and strategy. The visit will include a number of specific components:

1. A national perspectives day exploring UK and EU water strategies, including a focus on the clean-up of the River Thames and other UK rivers. This will be London based and include contributions from the Department for Environment, Food & Rural Affairs, the Scottish Government, Natural Environment Research Council, Chatham House and the UK Water Partnership.
2. A core workshop held over two days on strategic water planning, governance and regulatory best practice. Technical, social and legal issues will be explored. UK regulatory experts will discuss the UK regulatory approaches to water strategy, permitting, enforcement and stakeholder communication. The workshop will aim to bring UK regulatory experts from the Environment Agency, the Scottish Environment Protection Agency, Water Industry Commission for Scotland, leading water law firms, consultants and other key disciplines to develop and consider options for India. The workshop will be split between London and Wallingford (Oxfordshire).
3. A one-day Innovation forum focusing on what science innovation and research can contribute to sustainable water management in India. The day will draw on the experiences of those already involved in technical development and research activities in a full day of networking and interaction. The forum, hosted in Wallingford, will bring together UK water scientists and practitioners, as well as commercial innovation companies/organisations with interests in India.
4. A final wrap-up day and forward look will be facilitated, allowing Indian and UK experts to work together to consider options for improving water security and future collaboration.

Throughout the visit two way interaction will be encouraged and Indian experts will be invited to outline key gaps and needs for improving water security in India. While such presentations are expected to focus on the clean-up of the Ganga, other examples are welcome. Following the visit a “future action” report will be produced.



Flooding in the River Thames at Wallingford.

# Day 1 - Monday 15<sup>th</sup> February

## National Perspectives Introductory Day

Venue: Department for Environment Food & Rural Affairs (Defra), Nobel House, 17 Smith Square, London, SW1P 3JR

Chair: Alison Maydom (Defra)

Time		Speaker
09:15	Arrival, tea and coffee	
09:30	Welcome and opening remarks	<b>Sonia Phippard</b> Director General, Policy Delivery, Defra
09:50	An overview of regulation and its importance in river basin management	<b>Paul Leinster</b> Cranfield University
10:20	An introduction to the UK Water Partnership	<b>Mark Lane</b> Director, UK Water Partnership
10:40	Tea and coffee	
11:10	Introduction to the week and feedback from the March 2015 scoping visit to India	<b>Gwyn Rees</b> Science Area Lead for Water Resources, Centre for Ecology & Hydrology (CEH)
11:20	Overview of India priorities and needs - River Ganga rejuvenation	<b>Hari Har Mishra</b> Director (Finance), National Mission for Clean Ganga
11:50	An introduction to the Scotland Hydro Nation agenda	<b>Bob Irvine</b> Deputy Director of Climate Change and Water Industry, Scottish Government
12:20	UK-India collaboration in hydrological sciences	<b>Ruth Kelman</b> Head of Freshwater Science, Natural Environment Research Council (NERC)
12:45	Lunch	
13:45	Water as a focus for regional relations and sustainable resource economies – Chatham House's work with partners in India	<b>Glada Lahn</b> Senior Research Fellow, Chatham House
14:15	British Water - UK water supply chain, innovation and opportunities	<b>Paul Mullord</b> UK Director, British Water
14:45	Technical presentation from Defra	<b>Ashley Holt</b> Water Quality Project Manager, Defra
15:30	Tea and coffee	
15:45	River Yamuna Action Plan	<b>Radhey Shyam Tyagi</b> Member Water, Delhi Jal Board
16:15	Overview of the Thames clean-up within the context of the week	<b>Martin Griffiths</b> Pillon Ltd
17:00	Close	

## Day 2 - Tuesday 16<sup>th</sup> February

### Regulatory Workshop (Part 1)

Venue: Pinsent Masons, 30 Crown Place, Earl Street, London, EC2A 4ES

Chair: Mark Lane (UK Water Partnership)

Time		Speaker
09:00	Arrival, tea and coffee	
09:30	Welcome and opening remarks	<b>Paul Rice</b> Partner, Pinsent Masons
09:40	Overview of approaches to water law and regulation in the UK and EU	<b>Eluned Watson</b> Associate, Pinsent Masons
10:05	Overview of approaches to water law and regulation in India	Member of Indian delegation
10:25	Water and innovation	<b>Mark Lane</b> Director, UK Water Partnership
10:40	Tea and coffee	
11:00	Facilitated workshop session on water regulation and governance	<b>Alan Sutherland</b> Chief Executive, Water Industry Commission for Scotland <b>Fiona Parker</b> Shepherd & Wedderburn
12:45	Lunch	
13:30	Law on water resources management: global best practice and challenges for implementation	<b>Andrew Allan</b> Centre for Water Law, Policy and Science, University of Dundee
14:00	An introduction to water regulation	<b>Martin Griffiths</b> Pillon Ltd
14:30	Implementing UK regulation	<b>Chris Chubb</b> Chris Chubb Environmental Policy Consultancy
15:00	Tea and coffee	
15:30	Water industry session	A number of companies will present
17:30	UK Water Partnership drinks reception	
19:00	Close	



## Day 3 - Wednesday 17<sup>th</sup> February

### Regulatory Workshop (Part 2)

Venue: NERC Centre for Ecology & Hydrology, Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB

Chair: Martin Griffiths (Pillon Ltd)

Time		Speaker
09:00	Arrival, tea and coffee	
09:15	Welcome and opening remarks	<b>Mark Bailey</b> Director, Centre for Ecology & Hydrology
09:20	An overview of the Water Framework Directive	<b>Martin Griffiths</b> Pillon Ltd
09:40	Catchment management in India	Member of Indian delegation
10:00	India's aquifer mapping and management programme	<b>Dipankar Saha</b> Member (SAM), Central Groundwater Board, India
10:20	Tea and coffee	
10:45	Thames river restoration	<b>Alastair Driver</b> Environment Agency
11:15	Water quality planning: modelling for investment and decision making	<b>Tony Warn</b> Independent
11:35	River basin management planning in Scotland	<b>David Harley</b> Scottish Environment Protection Agency
12:00	Lunch	
13:00	Water security and water resources management - scene setting presentation for workshop	<b>Ben Piper</b> Technical Director for Water Resources, Atkins
13:25	Water resources planning and management	<b>Steve Tuck</b> Abstraction Manager, Thames Water
13:50	Thames Water's approach to wastewater management	<b>Sarah-Jane Westlake</b> Thames Water
14:15	An overview of HR Wallingford Ltd	<b>Andy Brown</b> Business Development Director, HR Wallingford Ltd
14:30	Tea and coffee	
14:45	Depart CEH and walk to HR Wallingford Ltd	
15:00	Demonstration of Environment Agency flow monitoring capabilities	<b>Nick Everard</b> Technical Adviser, Hydro-Acoustics, Environment Agency
15:30	Tour of HR Wallingford's Froude Hydraulic Modelling Laboratories	<b>Sarah Moxon</b> HR Wallingford Ltd
16:30	Demonstration of UK Ship Simulation Centre	<b>Mark McBride</b> HR Wallingford Ltd
17:15	Return to CEH	



# Day 4 - Thursday 18<sup>th</sup> February

## Research and Innovation Forum

Venue: NERC Centre for Ecology & Hydrology, Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB

Chair: Perry Guess (NERC)

Time		Speaker
09:00	Arrival, tea and coffee	
09:15	Welcome and opening remarks	<b>Perry Guess</b> Head of Knowledge Exchange, NERC
09:20	India's water science priorities and needs	<b>Arun Kumar</b> Professor, Indian Institute of Technology, Roorkee
09:45	An overview of NERC science innovation in India	<b>Ruth Kelman</b> Head of Freshwater Sciences, NERC
10:05	CEH and India: summary of relevant expertise and activity	<b>Gwyn Rees</b> Science Area Lead for Water Resources, Centre for Ecology & Hydrology (CEH)
10:25	BGS and India: summary of relevant expertise and activity	<b>Andrew McKenzie</b> British Geological Survey
10:45	Tea and coffee	
11:15	Results of recent UK-India research projects	
11:15	The hydrologic and carbon services in the Western Ghats Project	<b>Nick Chappell</b> Lancaster University
11:30	The South Asian Precipitation, a Seamless Assessment Project (SAPRISE)	<b>Inrani Roy</b> Exeter University
12:45	Modelling flow and water quality in the Ganga catchment	<b>Paul Whitehead</b> University of Oxford
12:00	The structure and dynamics of groundwater systems in northwestern India	<b>Alexander Densmore</b> Durham University
12:15	Research and innovation for sustainable rural communities	<b>Richard Allan</b> James Hutton Institute
12:45	Conservation of the River Ganga's biodiversity	<b>Ravinda Kumar Sinha</b> Professor, Patna University
13:00	Lunch and posters	
14:00	UK-India support for research and innovation	<b>Jonathan Abra</b> Knowledge Transfer Manager - Theme Lead, Water, Knowledge Transfer Network
14:20	Breakout discussion on how UK environmental science and innovation can contribute to India's water security	Facilitated by: <b>Anita Jobson, Anita Weatherby, Nick Jackson</b> Centre for Ecology & Hydrology
15:30	Tea and coffee	
15:50	Feedback from breakout groups and plenary discussions	
16:50	Concluding remarks	<b>Perry Guess</b> Head of Knowledge Exchange, NERC
17:00	Close	

## Day 5 - Friday 19<sup>th</sup> February

### Future Collaboration Wrap-up Day

Venue: NERC Centre for Ecology & Hydrology, Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB

Chair: Alan Jenkins (CEH)

Time		Speaker
09:00	Arrival, tea and coffee	
09:30	Welcome and opening remarks	<b>Alan Jenkins</b> Deputy Director and Science Director for Water & Pollution Science, Centre for Ecology & Hydrology (CEH)
09:45	Introduction to the wrap-up	<b>Gwyn Rees</b> Science Area Lead for Water Resources, CEH <b>Martin Griffiths</b> Pillon Ltd
10:00	Key response from Indian delegation: lessons learnt from visit and priorities for future partnership	Member of Indian delegation
10:30	Tea and coffee	
11:00	Discussion on key issues and priorities	Facilitated by: <b>Anita Jobson, Nick Jackson</b> CEH
13:15	Final wrap-up and thanks	<b>Alan Jenkins</b> Deputy Director and Science Director for Water & Pollution Science, CEH
13:30	Buffet lunch reception	
16:00	Close	



[www.ceh.ac.uk](http://www.ceh.ac.uk)