

Water Quality Information for the Benefit of Society

*A joint meeting co-organised by GEO AquaWatch & the
NERC GloboLakes project*

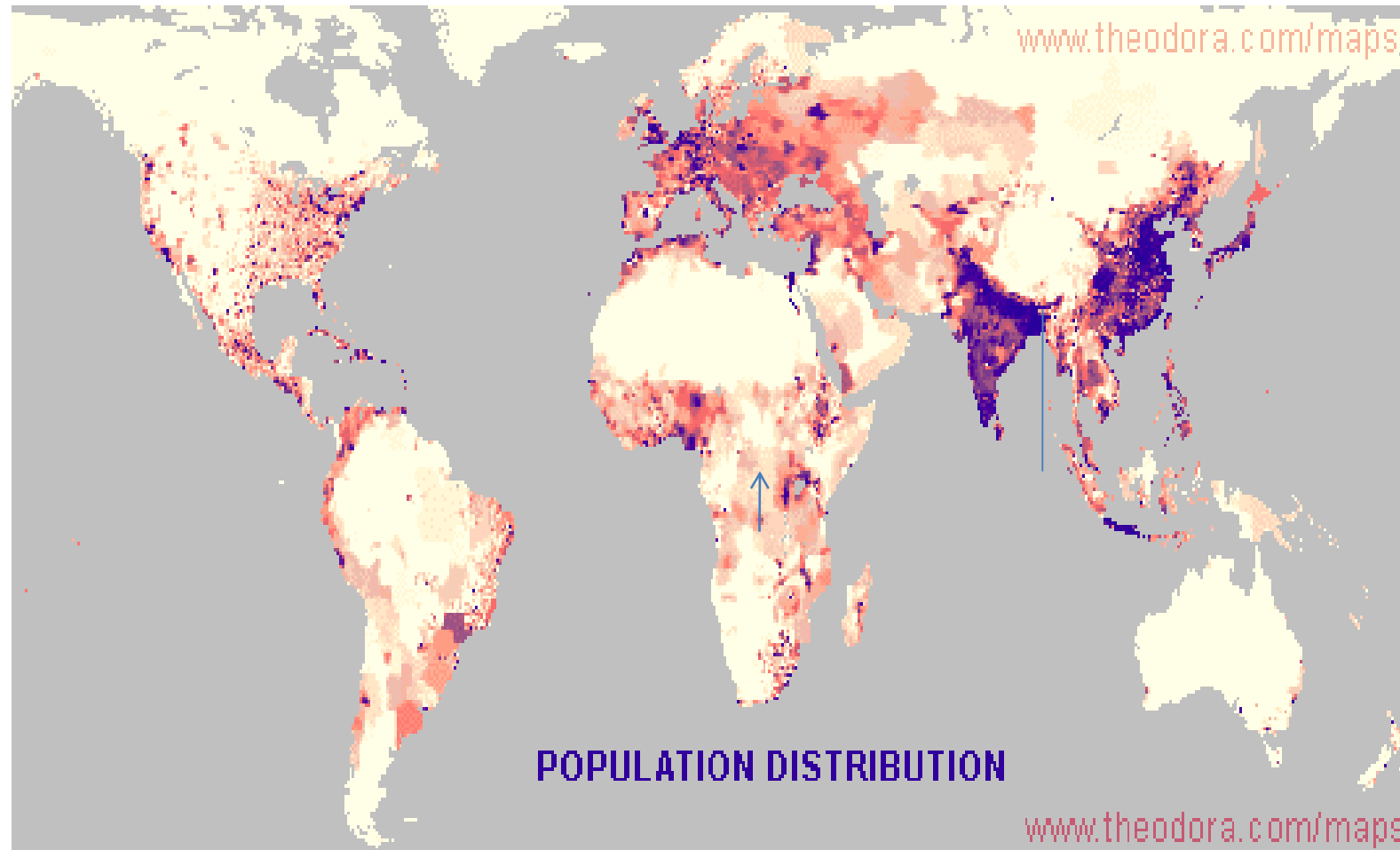
29-31 August 2018, University of Stirling, Stirling, UK

BANGLADESH AND SDG 6

Bilqis A. Hoque, *Sufia K., Samiul H., AZ Shipon, S.Ahmed -----EPRC*

Douglas Cripe, Merrie Beth Neely, Andrew Tyler

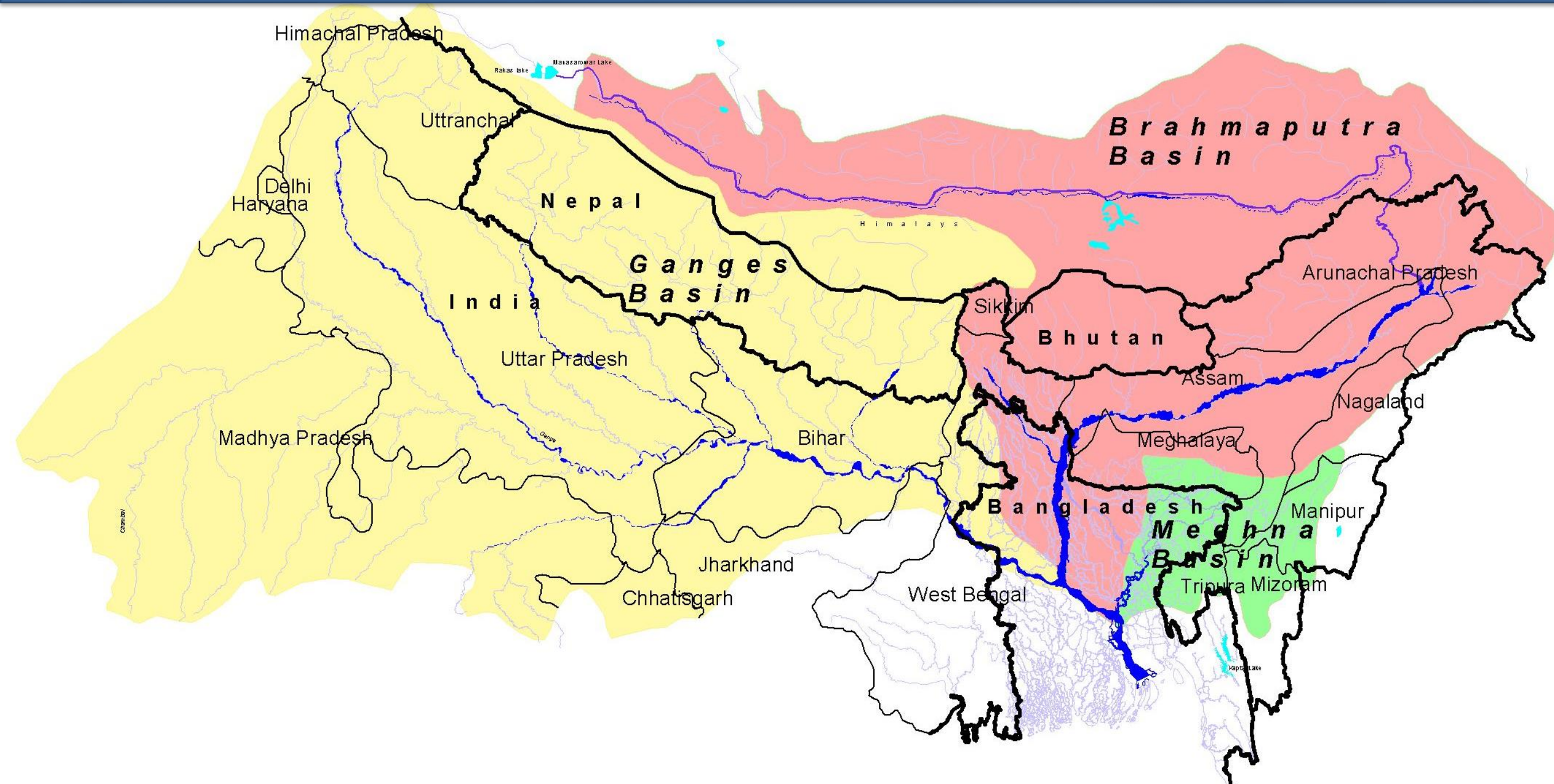
Bangladesh



- Approx. 167 M population
- 2890 people/sq m.
- Listed in 7 climate change hotspots
- Maintained GDP growth 6%
- Remarkable progress in some MDGs

Locate
freshwater
global map?

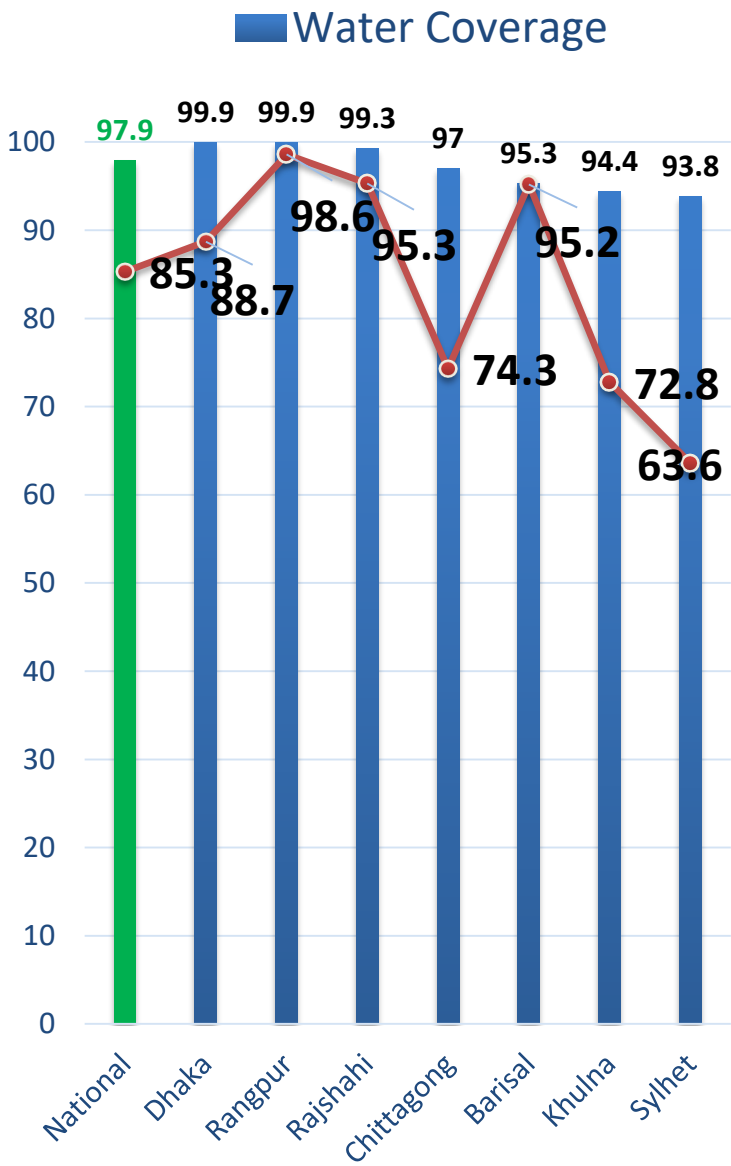
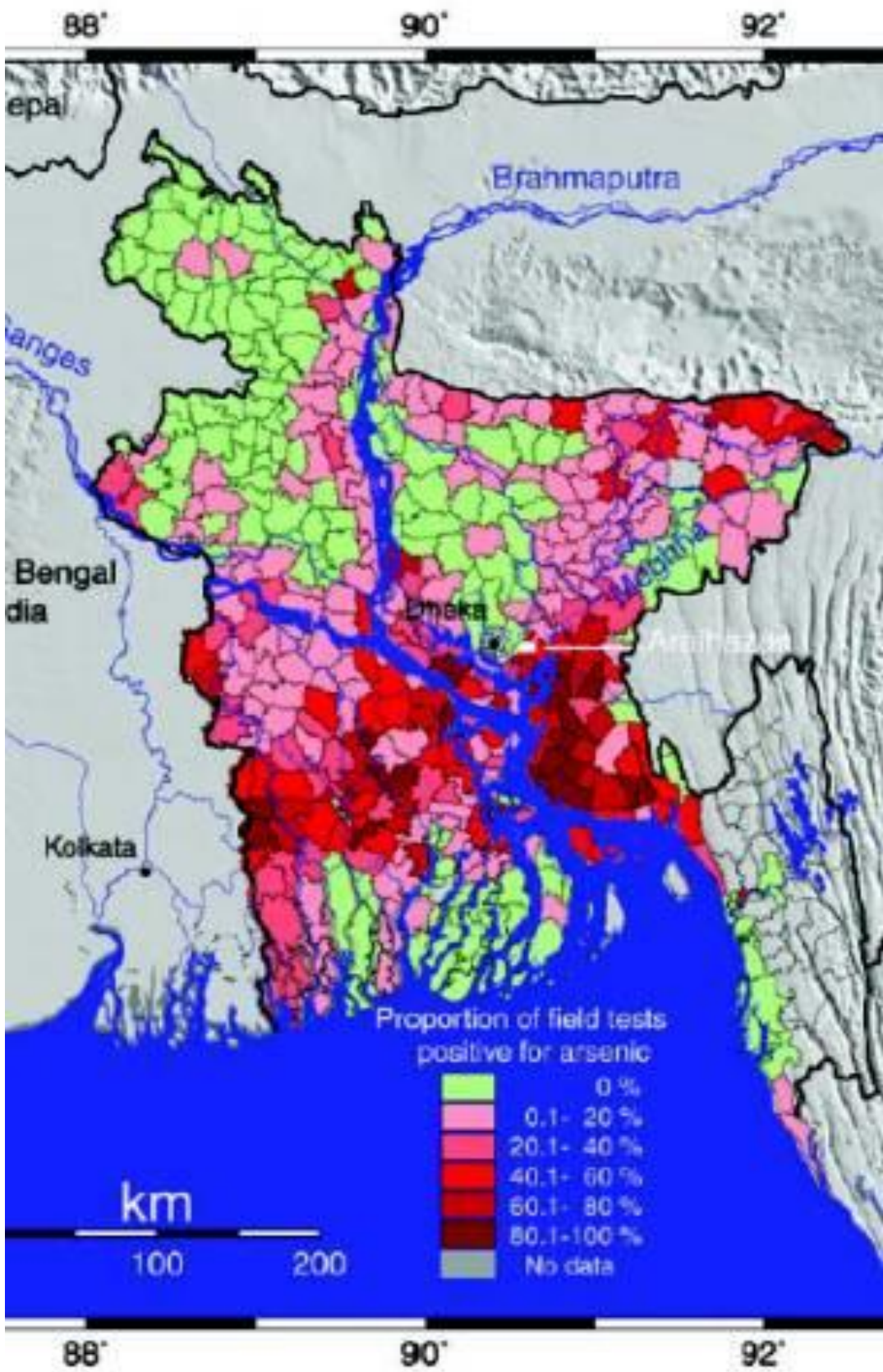
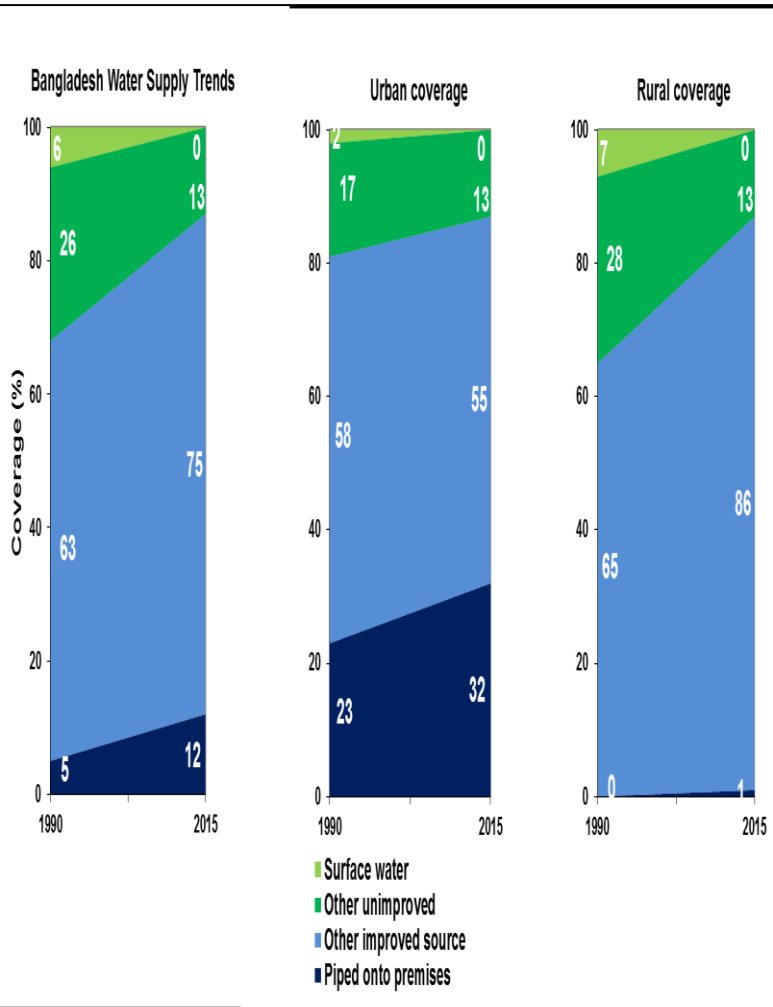
Bangladesh: Water system



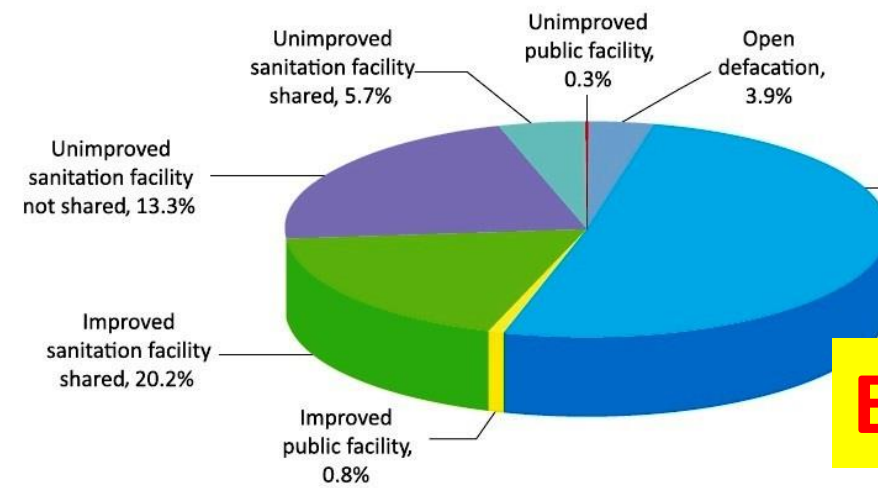
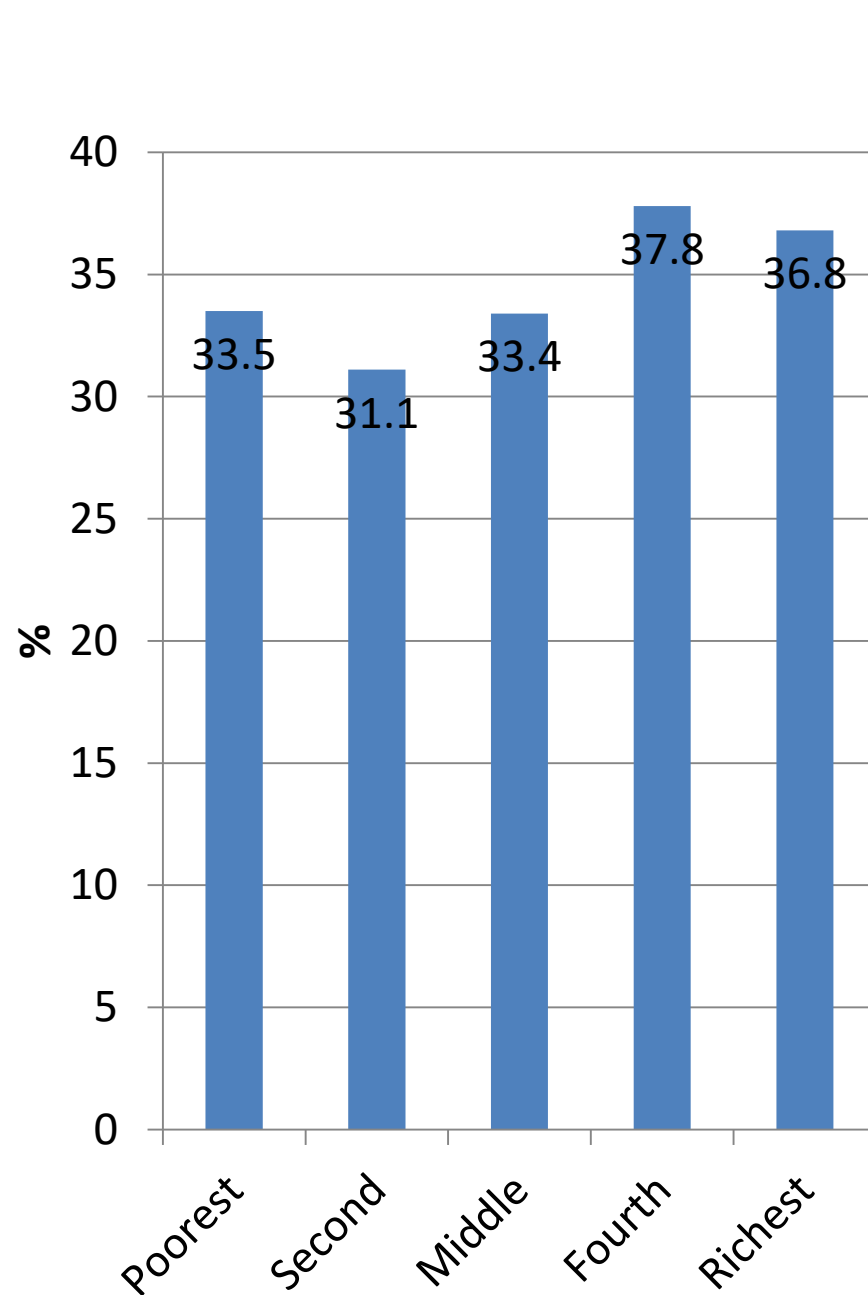
- Only 7% of the GBM basins area falls within Bangladesh
- On average, 1 121.6 km³ of water crosses the borders; **85% June-October**
- It is the lowest riparian country of 57 trans-boundary rivers

Progress in drinking water supply coverage between 1990-2015

(UNICEF &WHO, 2015)

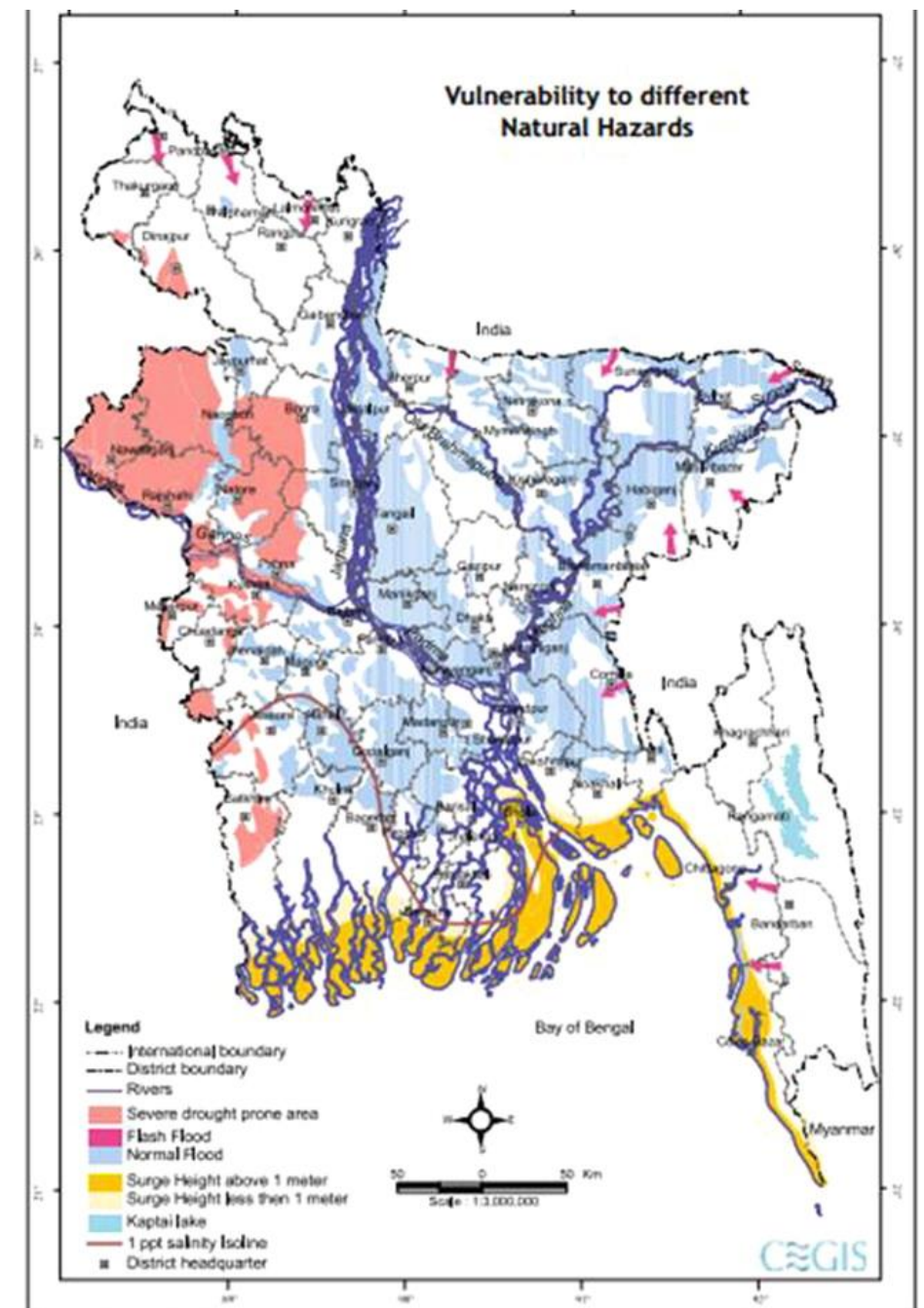


Water Quality Related Challenges



EPI Rank 179 out of 180

Sanitation coverage



Wealth index vs As ≤ 50 ppb and E.coli 0 cfu/100ml 2012-2013

Source: GoB-Unicef MICS (2012-13)

Mapping of Ministries/Divisions by Targets under Goal -6

Selected Actions to achieve the SDG targets within 7thFYP (2016- 2020)

Target 6.1

- To establish water quality examination, monitoring and surveillance systems
- Modern water management technology to be promoted
- To ensure safe water facilities in the hydro-geologically difficult areas

Target 6.3

- Shifting the dependence on water supply from groundwater to surface water

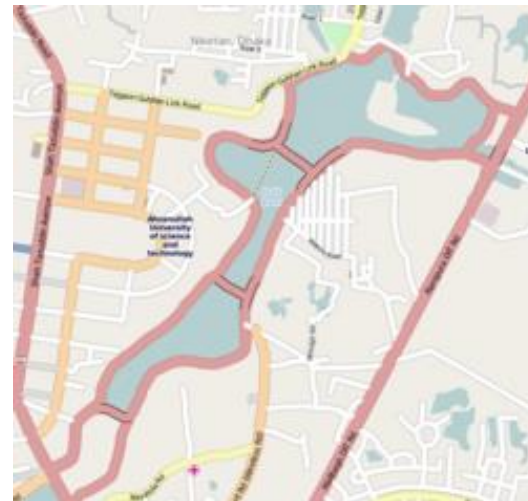
Target 6.4

- Monitor, control and prevent environmental pollution/degradation related to water
- Implement Water Act 2013
- Undertake environmental assessment

Target 6.5 & 6.6

- Basin-wide Water Resources Development Initiative
- The DoE to apply its legal authority to manage Ecologically Critical Area
- Proper ecosystem management to ensure the sustainability of natural resources without hampering the livelihood of people dependent on the goods and services.

Proposed to the groups for WQ monitoring



Gulshan Lake is about 100 ha, 3.8 km. Located in diplomatic and the richest residential part of Dhaka.

-



Arial Beel, a depression of about 723 sq km. Breeding ground of fish, plenty of rice, grasses for cattle, etc. Biodiversity reducing. Absorbing human and agricultural pollutants.



Rohingya Refugees approximately 1.3 million people

GEO & the SDGs

Douglas Cripe, GEO Secretariat
Stirling, 30 August 2018

GEO & the SDGs

Priority Engagement Area

Earth observations play a major role in achieving the SDGs.



Earth observations are used for monitoring goals, targets, and indicators, tracking progress and helping Member States and custodial agencies make decisions and ongoing adjustments.

GEO is instrumental in integrating Earth observation data into the methodology of measuring and achieving the SDGs.



	Population distribution	Cities and infrastructure mapping	Elevation and topography	Land cover and use mapping	Oceanographic observations	Hydrological and water quality observations	Atmospheric and air quality monitoring	Biodiversity and ecosystem observations	Agricultural monitoring	Hazards, disasters and environmental impact monitoring
1 No poverty										
2 Zero hunger										
3 Good health and well-being										
4 Quality education										
5 Gender equality										
6 Clean water and sanitation										
7 Affordable and clean energy										
8 Decent work and economic growth										
9 Industry, innovation and infrastructure										
10 Reduced inequalities										
11 Sustainable cities and communities										
12 Responsible consumption and production										
13 Climate action										
14 Life below water										
15 Life on land										
16 Peace, justice and strong institutions										
17 Partnerships for the goals										

GEO & the SDGs

Priority Engagement Area



Clean Water and Sanitation

GEO is working with UN Environment to refine methods for indicators on water extent, water quality, aquatic ecosystem health, water security, and human settlements in relation to water. This work includes helping to create a set of reproducible, scalable tools for use by national governments to report on aquatic ecosystems.

Pilot activities focus on the provision of Earth observations-based products and accompanying documentation, including how the products may be used by countries to report on SDG 6 indicators.



EARTH OBSERVATIONS FOR THE
SUSTAINABLE DEVELOPMENT GOALS

GEO Initiative:

Earth Observations for the Sustainable Development Goals (EO4SDG)

EO4SDG is a GEO Initiative working to organize and realize the potential of Earth observations and geospatial information to advance the UN 2030 Agenda.

EO4SDG is currently focused on addressing four SDGs:



www.eo4sdg.org

@EO4SDG

GEO & the SDGs

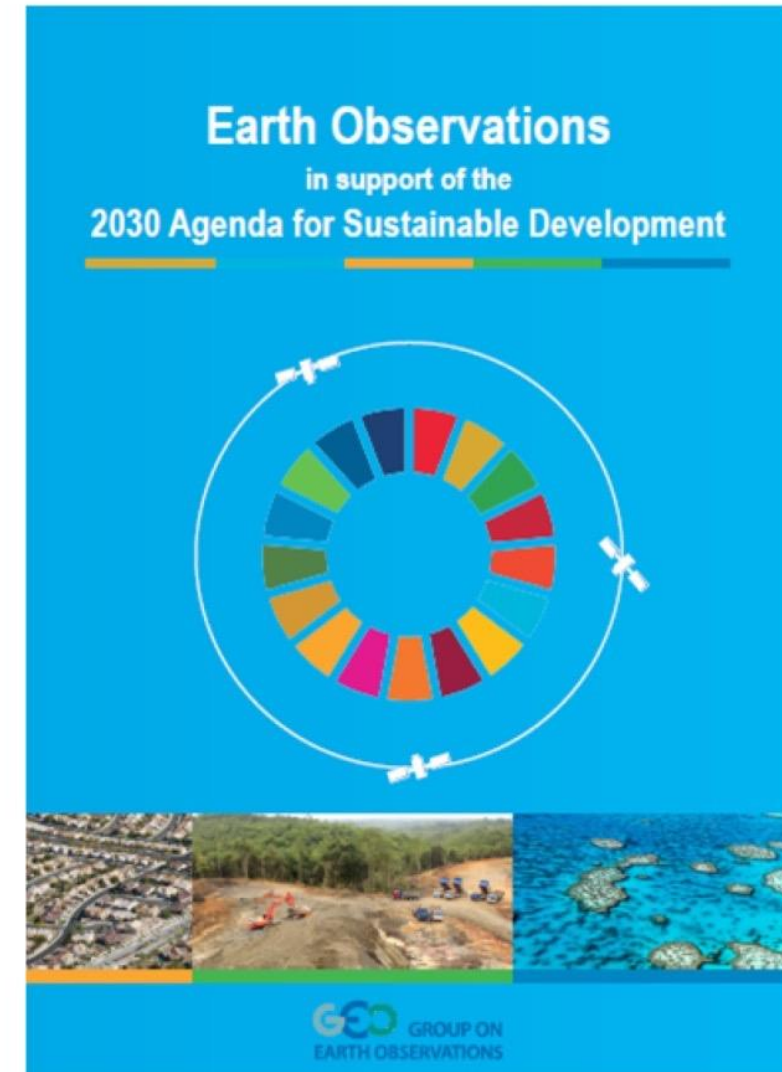
Priority Engagement Area

EO case studies

GEO is instrumental in integrating Earth observation data into the methodology of measuring, monitoring and achieving the SDG Indicators.

This brochure gives graphic illustrations of EO data allowing decision-makers to help identify the status of conditions they need to report, as well as visualize solutions.

https://www.earthobservations.org/documents/publications/201703_geo_eo_for_2030_agenda.pdf



Thank You

Communicate and Collaborate with GEO:



Recent Effort Toward Sustainable Development Goals.

Bilqis Hogue, Doug Cripe, Merrie Beth Neely

Water quality monitoring is particularly relevant to tracking progress towards SDG targets 6.3, 6.6 and 14.1:

6.3.2: Change in ambient water quality

6.6.1: Change in water related ecosystems over time

14.1.1: Life below water – coastal eutrophication and plastics

SDG 6.3.2 and 6.6.1 – GEMS Water, GEOAquaWatch, various Horizon 2020 projects, and others

Accomplishments

- GEO AquaWatch convened an *adhoc* technical advisory panel of international subject matter experts to inform the UNEnvironment/Ramsar satellite/EO practical guidance document on 6.6.1 subindicator 2 (lakes), led by GEMS Water Philippe Saile, suggested 2 progressive levels of monitoring
- Progress to ward Water Quality Information System & CEOS Open Data Cube
- Both were recently upgraded to Tier II by EO4SDG
- HABs and cyanobacteria

Gaps

- Bring *adhoc* SMEs input to bear on more topics
- Better coordination with GEOAquaWatch to get early view/editing of documents

SDG 14.1.1 – GEO AquaWatch, Blue Planet, Regional Seas, and others

- GEO AquaWatch assisted UN Environment and IOC-UNESCO (Campbell/Cox/Savelli) with efforts to identify global data providers on HABs and cyanobacterial counts, chlorophyll a, turbidity and reflectance, and plastic pollution. **GAP** - Also interested in nutrients, especially silica. GOAL: Compile existing N, P, Si data to calculate Index for Coastal Eutrophication Potential (ICEP) over time to demonstrate inter- and intra-annual scale variability and compare ICEP with HAB occurrences.
- GEO AquaWatch shared some available standard operating procedures and Best Management Practices for plastic pollution sampling. **GAP** – wants methodology for this indicator
- Upcoming SME Meetings in Paris and Blue Planet working groups and meetings for Sargassum and Ciguatera
- Data product effort for chlorophyll a and Dissolved suspended solids