



Water & Wastewater Sector in India: An Overview

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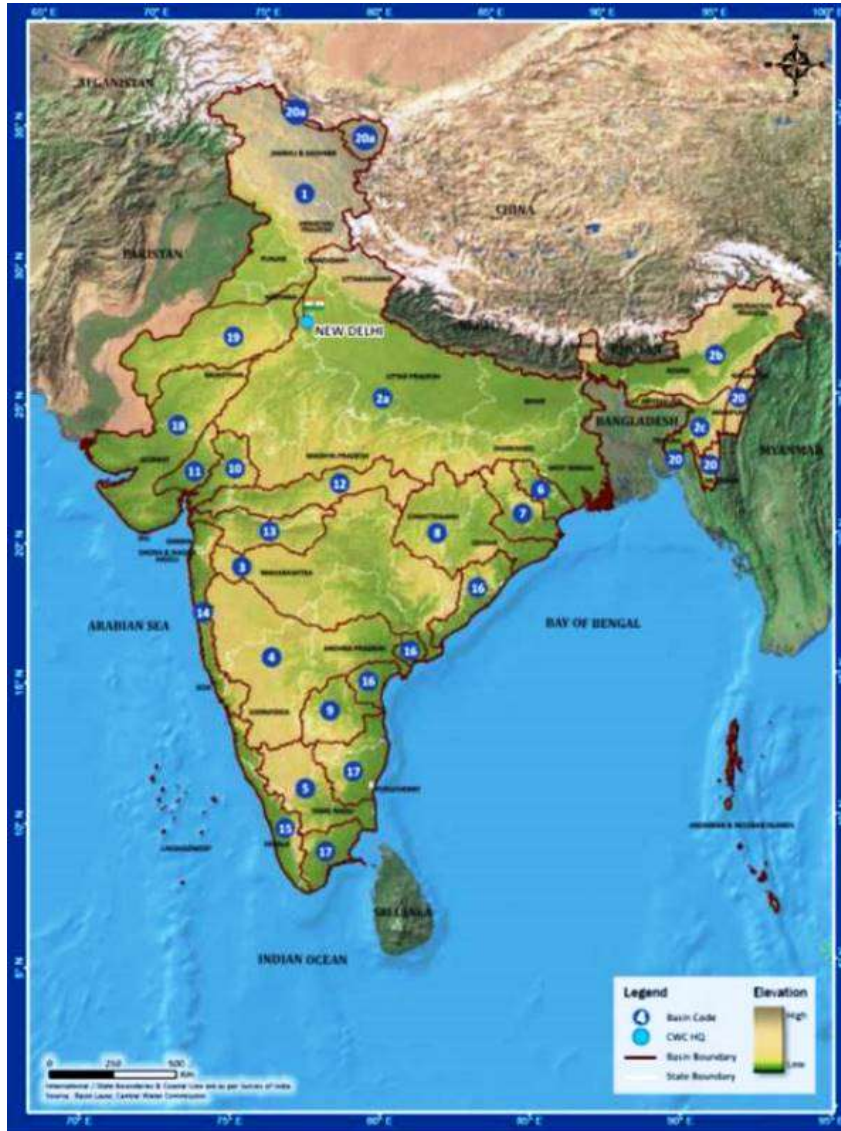
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Water challenges in India

- Water demands do not match with water resources availability
- Pollution (urban, industrial, agriculture)
- Climate variability and change
- Floods and Droughts
- Loss of habitats and species (e.g. dolphin)
- Monitoring, forecasting and planning of water management
- Enforcement (pollution, water allocation, water pricing)
- Conflict resolution (international, inter-State, sectors)

Water resources in India



- ❑ As per CWC, India has 20 major river basins receiving an annual natural runoff of 1869 BCM.
- ❑ Total utilizable annual water resources are 1123 BCM
 - ❑ 433 BCM groundwater
 - ❑ 690 BCM surface water
- ❑ Annual per capita water availability has reduced to 1545 cu. m in 2011.
- ❑ Thus the country has become water stressed and there is need to augment both water supply and manage demand.

Sectoral water demand in India

Sector	Water demand in BCM		
	2010	2025	2050
Irrigation	557	611	807
Drinking Water	43	62	111
Industry	37	67	81
Energy	19	33	70
Others	54	70	111
Total	710	843	1180

Problem of water quality

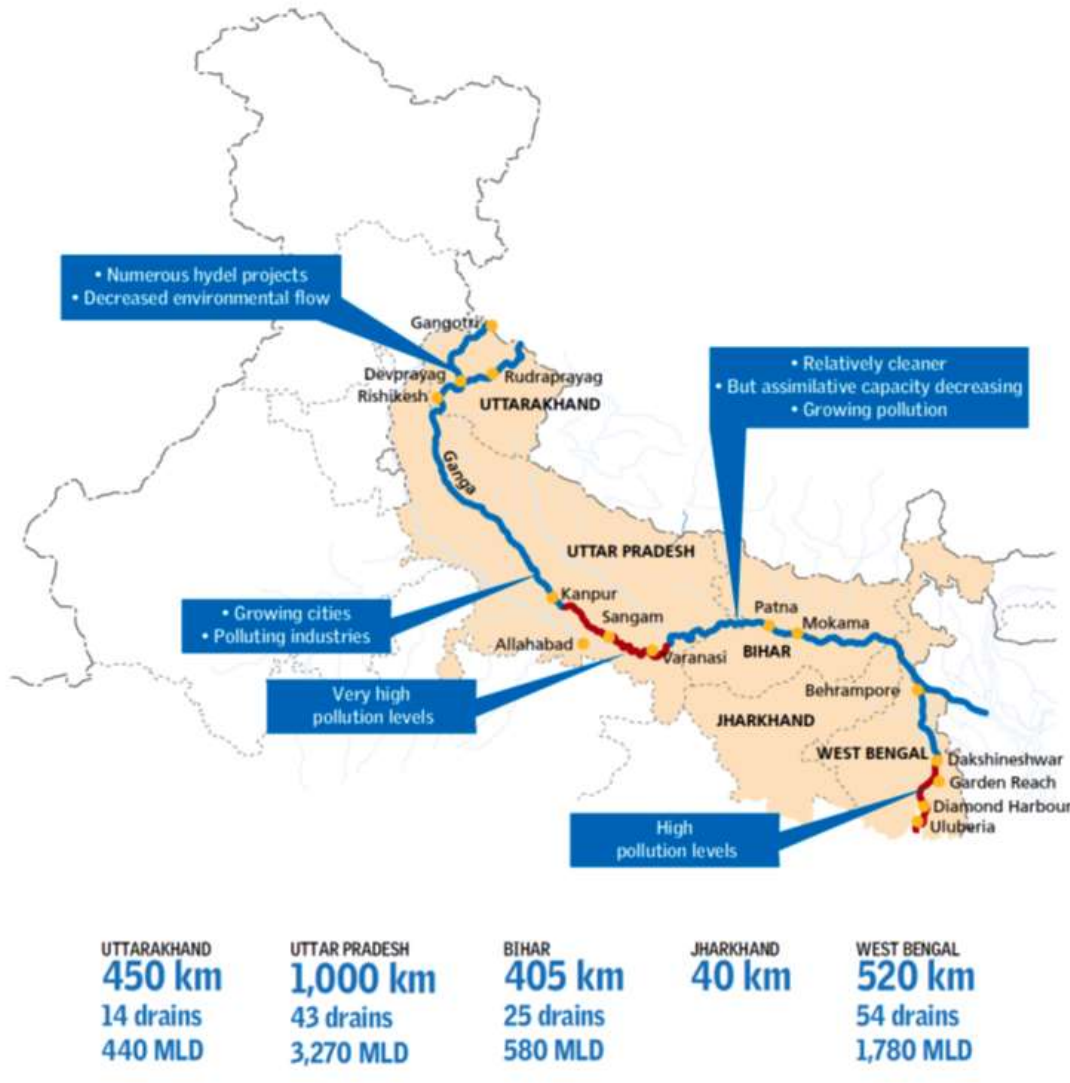
- ❑ Quality of water in Indian rivers is of serious concern.

States	% water samples not meeting quality standards				
	DO	pH	EC	BOD	FC
Andhra	2	7	1	22	0
Assam	3	5	0	24	0
Bihar	1	6	0	3	38
Delhi	63	3	0	61	84
Goa	2	73	0	8	0
Gujarat	4	2	14	38	3
Haryana	6	6	2	42	62
J&K	2	12	0	56	-
MP	2	4	3	25	0
Maharashtra	32	7	3	75	0
Punjab	5	0	0	45	38
Rajasthan	13	9	0	12	0
Sikkim	0	49	0	75	0
Tamil Nadu	4	4	5	12	7
UP	11	6	0	65	54
Uttarakhand	5	8	0	46	38
West Bengal	11	3	8	35	81

Sewage generation and treatment capacity in urban areas

Areas	Number	Population (million)	Water Supply (MLD)	Sewage generated (MLD)	Treatment Capacity (%)
Metropolitan Cities	35	143	44769	15644	51
Class I cities (excluding metro cities)	463			19914	18
Class II towns	410	30	3324	2697	8

A case of river Ganga



- ❑ 6087 MLD of wastewater generated.
- ❑ Treatment capacity exist for only 20%.
- ❑ Investment needed for STP and its conveyance system.
- ❑ Estimated cost of STP is US\$ 173,000/MLD and for O&M is US\$ 28/1000KI per day

Latest government plans for river cleaning

- ❑ National River Conservation Plan (NRCP): improve water quality of rivers through implementation of pollution abatement schemes.
 - ❑ Budget of US\$ 231 million for 2012-17

- ❑ National Mission for Clean Ganga: specifically to improve water quality of river Ganga
 - ❑ Budget of US\$ 3.1 billion till 2020
 - ❑ US\$ 1.2 billion alone for sewage infrastructure
 - ❑ Projects to be implemented on Hybrid-annuity mode
 - ❑ Up to 40% of the capital cost to be released during construction
 - ❑ Rest as annuity over 15-20 years after construction
 - ❑ Payment linked to performance standards

- ❑ MoWR is also planning to prepare basin management plans for selected rivers with the help of international expertise.

Specific needs concerning Ganga basin

- Thrust areas in Ganga river basin for which MoWR, RD & GR is looking for solutions from businesses:
 - Treatment of raw municipal sewage
 - Treatment of industrial effluents
 - Water use efficiency improvement.

- Private players can take part in government projects through forming consortiums.

- Invited bids will be technology neutral.

India-EU Water Partnership (IEWP)

- ❑ First, Indo-European Water Forum (IEWF) was organised by EC in association with NWM in November 2015.
- ❑ Declaration on India-EU Water Partnership was adopted on 30th March 2016 at EU-India Summit in Brussels.
- ❑ Finally, a MoU on water partnership is signed between EC and MoWR, RD & GR during 2nd IEWF at WSDS on 7th October in Delhi.
- ❑ Partnership scope include: research, institutional cooperation and business involvement.



IEWP platform for EU businesses

- ❑ IEWP organised meeting of 25+ EU businesses with MoWR, RD & GR regarding innovative technologies for cleaning river Ganga.
- ❑ IEWP team was invited by MoWR to contribute in development of ToR for a study on preparing RBMPs.
- ❑ IEWP aims for synergies with the activities of MS in India and can provide a platform for new Businesses to enter India water sector.
- ❑ IEWP also aims at learning from active EU business on the constraints faced for developing business and eventually address them in the wider India-EU cooperation.
- ❑ A database of interested EU businesses is maintained on a website hosted by EIP water. They are regularly updated on the latest activities and events organized under IEWP. For more information:
<http://www.eip-water.eu/india-eu-water-partnership-iewp>

Thank You

