

## Water

### IMPROVING WATER SECURITY IN INDIA

- ▶ Industrialisation, urbanisation and population growth – coupled with inefficiencies in water use – lead to groundwater depletion and a declining quality of surface water. Climate change exacerbates these pressures.
- ▶ While access to improved water supply has expanded significantly over the past two decades, over 600 million people in India still defecate in the open.
- ▶ Well-managed water resources and adequate water supply and sanitation can contribute to ensuring sustainable economic growth, alleviating poverty and providing food security.
- ▶ India needs to put in place appropriate water charges and allocation mechanisms – and remove perverse subsidies – to improve efficiency of water use; strengthen water governance; and ensure sustainable financing for water infrastructure through appropriate cost-recovery.

#### What's the issue?

India faces a serious and persistent water crisis owing to a growing imbalance of supply and demand, as well as poor water resource management and climate change. India is projected to face severe water stress by 2050 (see Figure).

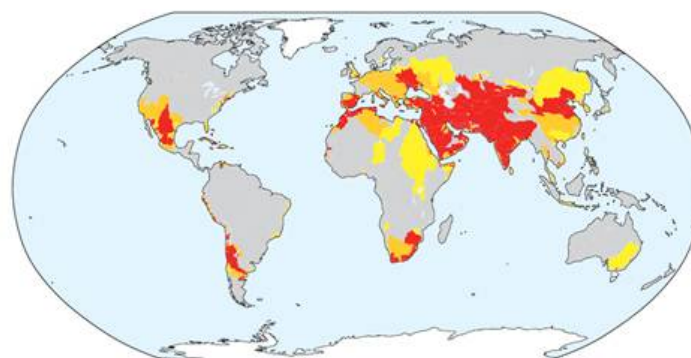
Although industry is the largest contributor to India's GDP, agriculture accounts for nearly 90% of water use. Two-thirds of India's irrigation needs and 80% of domestic water needs

are met using groundwater, contributing to the significant groundwater depletion rate. Although India has one of the world's largest irrigation systems, it is characterised by high levels of inefficient water use (OECD/FAO, 2014).

Water quality is also an issue. The discharge of untreated sewage into water bodies is the most important source of water pollution in India; eighty percent of the sewage generated goes untreated. Finally, lack of access to improved water supply and adequate sanitation persists. According to

#### India will face severe water stress

Water stress by river basin in 2050



Severity level (water exploitation rate)

Grey	Yellow	Orange	Red
No (< 0.1)	Low (0.1-0.2)	Medium (0.2-0.4)	Severe (> 0.4)

*Note:* Water stress is a measure of the total, annual average water demand of freshwater in a river basin compared with the annual average water available (precipitation minus evapotranspiration) in that basin.  
 Source: OECD (2012), *Environmental Outlook to 2050: The Consequences of Inaction*.

the government census of 2011, only about 30% of the 167 million rural households in India have access to tap water and household toilets.

The existing policy framework lacks a clear incentive structure for efficient and sustainable water use. Low or absent water charging and energy subsidies for groundwater pumping drive severe depletion of resources. Issues related to intra- and inter-state water sharing and lack of adequate enforcement and monitoring of existing water policies undermine water governance. A lack of sustainable financing for water infrastructure results in poor maintenance of existing infrastructure and limits further investment. Prime Minister Modi's commitment to prioritising water security, including the Ganga Rejuvenation, provides a window of opportunity to advance a paradigm shift for water management in India.

## Why is this important for India?

Improving water security is essential for India's development. With total water demand in India expected to rise by over 70% by 2025, a huge demand-supply gap is expected in the coming years. This will act as a potentially significant constraint on economic growth. The alarming rate of groundwater depletion is also cause for serious concern. Declining water tables mean increased cost of pumping, salty irrigation water as a result of over-abstraction leading to crop and revenue losses for farmers, and long-term consequences for water availability. Poor water quality and lack of adequate access to sanitation are also major causes of disease and poor health.

## What should policymakers do?

- ▶ Put in place clearer incentive structures to improve the efficiency of water use. This includes removing perverse incentives, improving allocation arrangements, and considering appropriate water charges.
- ▶ Strengthen water governance establishing better mechanisms and institutions to facilitate vertical (among levels of government) and horizontal (among sectors) co-ordination and resolve conflicts.
- ▶ Ensure sustainable financing to ensure that existing water infrastructure (e.g. irrigation canals, water supply and sanitation) is maintained and used to its full potential.
- ▶ Increase investment in the expansion of water supply, sanitation and waste water treatment facilities, and put in place appropriate cost recovery to contribute to sustainable financing flows.



## Further reading

OECD (2014), *Climate Change, Water, and Agriculture: Towards Resilient Systems*, OECD Studies on Water, OECD Publishing. [http://www.oecd-ilibrary.org/agriculture-and-food/climate-change-water-and-agriculture\\_9789264209138-en](http://www.oecd-ilibrary.org/agriculture-and-food/climate-change-water-and-agriculture_9789264209138-en)

OECD/FAO (2014), *OECD-FAO Agricultural Outlook 2014*, OECD Publishing. <http://www.agri-outlook.org/>

OECD (2013), *Water Security for Better Lives*, OECD Publishing. <http://www.oecd.org/env/resources/watersecurity.htm>

OECD (2013), *Water and Climate Change Adaptation: Policies to Navigate Uncharted Waters*, OECD Publishing. [http://www.oecd-ilibrary.org/environment/water-and-climate-change-adaptation\\_9789264200449-en](http://www.oecd-ilibrary.org/environment/water-and-climate-change-adaptation_9789264200449-en)

OECD (2012), *OECD Environmental Outlook to 2050: The Consequences of Inaction*, OECD Publishing. <http://www.oecd.org/env/indicators-modelling-outlooks/oecdenvironmentaloutlookto2050theconsequencesofinaction.htm>

OECD (2011), *Water Governance in OECD Countries: A Multilevel Approach*, OECD Publishing. <http://www.oecd.org/governance/regional-policy/48885867.pdf>

