

Enviro Monitor

July 2018

Water quality



- Across India, high levels of toxins in groundwater
- Arsenic contamination in paddy is rising in Bengal
- Groundwater in Tamil Nadu's Sterlite plant area contaminated beyond permissible limits
- German bank to give aid for cleaning Ganga

Air quality



- Delhi's Environment Ministry to launch three pilot projects to tackle air pollution
- Fine dust killed 15,000 prematurely in 2016, says study
- Air quality sensors to come up at 1,000 spots in Bengaluru

Climate change



- Climate change may increase rainfall intensity in India
- As temperatures rise, nearly half of South Asia's population at risk
- Climate change threatens the Nilgiri tahr

Smart cities



- Boost for "100 smart cities" initiative
- Government announces new model to finance infra projects in smart cities
- Rs 809 crore French loan for 15 Smart Cities projects



Across India, high levels of toxins in groundwater. Discharge of toxic elements from industries and landfills and diffused sources of pollution like fertilisers and pesticides over the years has resulted in high levels of contamination of groundwater with the level of nitrates exceeding permissible limits in more than 50% districts of India. Apart from nitrate contamination, the presence of fluoride, iron, arsenic and heavy metals has also touched worrying levels, information provided by the government

to Parliament reveals. According to WHO, nitrate in drinking water can cause methaemoglobinaemia or the decreased ability of blood to carry vital oxygen around the body.

Arsenic contamination in paddy is rising in Bengal. A recent publication by researchers at the School of Environmental Studies, Jadavpur University, reveals not only rise in arsenic contamination of paddy plants from ground water in West Bengal, but also that concentration of 'arsenic accumulation' depends on the variety of paddy and its stage in the crop cycle. The study titled '[Arsenic accumulation in paddy plants at different phases of pre-monsoon cultivation](#)', published in the scientific journal *Chemosphere*, highlights the processes and dependencies of arsenic trans-location in rice from contaminated irrigation water.

The study shows that arsenic uptake in the paddy plant reduces from root to grain, and that its concentration is related to the variety of the rice cultivated.

Groundwater in Tamil Nadu's Sterlite plant area contaminated beyond permissible limits. The Centre has confirmed that ground water in Thoothukudi had been polluted by Sterlite's copper smelter plant. Replying to questions posed by Sasikala Pushpa Ramaswamy, Rajya Sabha member from Tamil Nadu, the Water Resources Ministry confirmed that ground water in Thoothukudi had been contaminated by the Sterlite plant. The Central Ground Water Board had carried out a study to ascertain the ground water quality in and around the State Industries Promotion Corporation of Tamil Nadu industrial area in Thoothukudi (wherein Sterlite is one of the industries). The study has indicated that most of the ground water samples are contaminated with high total dissolved solids and heavy metals like lead, cadmium, chromium, manganese, iron and arsenic, which are beyond permissible limits of Bureau of Indian Standards' norms for drinking water.

German bank to give aid for cleaning Ganga. German Development Bank will provide financial assistance of Rs 960 crore for clean drinking water and cleaning of the Ganga a memorandum of which is likely to be signed in December this year. Experts from Germany will supervise the construction of 15 Sewerage Treatment Plants (STPs) and their 10 networkings. Modern technology will be used for providing clean drinking water. More cities will be taken up in the second phase of the project

[The Tribune](#), 18 July 2018 | [The New Indian Express](#), 24 July 2018 | [The Hindu](#), 25 July 2018 | [The Times of India](#), 30 July 2018



Delhi’s Environment Ministry to launch three pilot projects to tackle air pollution. Ahead of the critical months of November and December when air quality dips to severe levels in Delhi, the Environment Ministry has lined up a host of measures to tackle dust pollution, including three launching three pilot projects — mounting filters on buses, using dust separation chemical sprays and installing equipment to suck in particulate matters. National Environmental Engineering Research Institute will run

the pilot project on installing equipment to suck in particulate matters. The National Clean Air Programme is likely to be finalised soon and sent to states so that they can make plans to curb air pollution.

Fine dust killed 15,000 prematurely in Delhi in 2016, says study. Close to 15,000 people died

prematurely in Delhi in 2016 from illnesses linked to fine particulate matter pollution, according to a new [study](#) by researchers from India, Singapore and Thailand that assessed pollution-related deaths in 13 megacities in south Asia and China. The study is published in *Process Safety and Environmental Protection* journal. Heart disease, stroke, lung diseases, lung cancer among adults and upper respiratory tract illnesses in children are all related to particulate pollution exposure. The study found that most deaths related to PM 2.5 (particulate matter 2.5 microns or less in diameter), were reported from Beijing (18,200), Shanghai (17,600) and Delhi.

Premature deaths attributed to PM2.5 pollution in 2016	
• Beijing, China	18,200
• Shanghai, China	17,600
• Delhi, India	14,800
• Mumbai, India	10,800
• Chongqing, China	10,400
• Tianjin, China	9800
• Dhaka, Bangladesh	9100
• Guangzhou, China	7600
• Kolkata, India	7300

Source: Hindustan Times, 13 July 2018

Air quality sensors to come up at 1,000 spots in Bengaluru. The Bruhat Bengaluru Mahanagara Palike (BBMP) will hold workshops for its engineers on air quality monitoring and climate change in the city under the global Cities Climate Leadership Group (C40) initiative. By being part of the initiative, the BBMP is getting Rs 20 crore grant to set up a monitoring centre which will also analyze data collected by air quality monitoring sensors which will be installed across 1000 locations in the city.

[Indian Express](#), 12 July 2018 | [DNA](#), 12 July 2018 | [Hindustan Times](#), 13 July 2018 | [Bangalore Mirror](#), 26 July 2018



Climate change may increase rainfall intensity in India. Rise in surface temperatures due to climate change is likely to boost monsoon depressions over India, which will increase the intensity of extreme rainfall events, says a new [research](#). The study published in *Nature Scientific Reports* was carried out by researchers from School of Earth, Ocean, and Climate Sciences, Indian Institute of Technology (IIT), Bhubaneswar, Odisha. According to the recent data from the European Centre for Medium Range Weather Forecast, the

relative humidity in the mid-troposphere has increased about 2% over the sub-continent in last 39 years, which has led to the increase in extreme rainfall events over central India.

Crop yields falling due to climate change impact: Govt study. A scientific study commissioned by the government to assess the impact of climate change has projected reduction in crop yields for irrigated maize, wheat and rain-fed rice, the Rajya Sabha was informed. the study has assessed the impact of climate change on four key sectors of the economy -- agriculture, water, natural ecosystems and

biodiversity and health in four climate-sensitive regions -- the Himalayan region, Western Ghats, coastal region and the Northeast.

As temperatures rise, nearly half of South Asia’s population at risk. Average temperatures have risen over the past six decades and continue to do so in South Asia, making it, particularly India, where 75% of the population is dependent on agriculture, one of the regions most vulnerable to climate change. More than 800 million people, almost half of South Asia’s population, currently live in areas that are projected to become moderate to severe hot spots by 2050 under the carbon-intensive scenario when minimal collective action is taken, according to a recent World Bank report on South Asia’s hot spots. Low-lying coastal areas are at risk because of changes in sea-level rise and tropical storms, while mountain areas are at risk because of changes in snow, melting glaciers and natural disasters.

India’s average annual temperatures are expected to rise by 1°C to 2°C by 2050, even if preventive measures are taken as recommended by the Paris climate change agreement of 2015. If no measures are taken, the average temperatures are predicted to increase by 1.5°C to 3°C.

Climate change threatens the Nilgiri tahr. The Nilgiri tahr -- endangered wild mountain goats – found only in high altitudes in India’s Western Ghats — could be losing their footing with increasing climate change. Even under moderate scenarios of future climate change, tahrs could lose approximately 60% of their habitats from the 2030s on, predict scientists in their study in *Ecological Engineering*, that emphasises the need for ecological restoration. Scientists tried to predict how climate change can affect tahr habitat in the Ghats by mapping tahr distribution (using existing information and field surveys) and then using climatic factors of these locations to see where tahrs would be able to survive, given current and future climate change scenarios. They found that tahr strongholds such as Chinnar, Eravikulam and Parambikulam in Kerala will still be stable habitats under different climate change scenarios.

[The Hindu](#), 11 July 2018 | [Mint](#), 11 July 2018 | [The Times of India](#), 23 July 2018 | [Mint](#), 23 July 2018



Boost for “100 smart cities” initiative. The University of California-Berkeley (UC Berkeley) and global technology company Quantela have announced their partnership to establish smart city accelerator and innovation centres in India, a move that is expected to boost government’s “100 smart cities” initiative. The partnership is a platform that provides the required mentorship and

guidance to succeed on a comprehensive scale. UC Berkeley will design the innovation accelerations programmes, teaching, delivery and curriculum. It will also focus on coaching of Lean Startup methods and customer development process for selected startups and assisting and supervising innovation projects from the ideation to validated business models.

The **Accelerator** will teach selected startups intensive immersion in innovation developments designed to identify business opportunities (real problems that require real solutions), validate product ideas, engage with potential customers, build scalable business models, and manage team dynamics.

Government announces new model to finance infra projects in smart cities. The government has announced a new Cities Investment To Innovate, Integrate and Sustain (CITIIS) challenge to identify top projects in 15 of the 100 selected smart cities, which will then receive an additional funding of approximately Rs 80 crore each. The new funding will be financed by a €100 million loan from the French government's international development agency L'Agence Française de Développement (AFD). The cities would be encouraged to pitch projects in four particular sectors: sustainable mobility, public open spaces, urban governance & ICT, and social innovation in low-income settlements.

Rs 809 crore French loan for 15 Smart Cities projects. Four months after Agence française de développement (AFD), the French development bank, signed a €100 million loan agreement for Smart Cities Mission, the Centre has announced a new challenge process to select 15 projects for the funding. The loan, which amounts to Rs 809 crore, will be given for projects in one of the four sectors: sustainable mobility, public open spaces, urban governance and ICT and organizational innovation in low-income settlements.

[Mint](#), 9 July 2018 | [The Hindu](#), 10 July 2018 | [The Financial Express](#), 2 August 2018