

Enviro Monitor

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- IIT study calls for fresh look at river linking plan
- Panel reveals 'pathetic' state of water bodies
- Water crisis looms large, Karnataka government decides to bar water use for agriculture purpose.
- Drinking water from sewage becomes reality

Water quality



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- 60% of groundwater of Indo-Gangetic basin unusable
- 50% heavy metal discharge from Peenya Industrial Area goes straight into Vrishabhavathi river
- Foam and fire - unending troubles of Bengaluru's largest lake
- Water table in Delhi heavily exploited

Air quality



- 41 Indian cities have bad air quality, CPCB survey finds
- Maharashtra accounts for 84% of air pollution cases in 2015
- Air pollution up by 35% in 6 years in Pimpri Chinchwad, Pune

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- Global warming worsening Earth's climatic health
- Northern India contributes to shrinking of glaciers in Third Pole
- Global warming making Siachen riskier for soldiers

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Water stress



River-linking to cost Rs 5-lakh crore. The government expects to spend a massive Rs 5,60,000 crore on various river interlinking projects, according to a statement by Minister of State for Water Resources, Mr Sanjeev Balyan in the Lok Sabha recently. The National Water Development

Agency — the central agency that plans and prepares cost estimates for such projects — has so far identified 16 peninsular rivers and 14 Himalayan rivers that could potentially be linked to transfer water.

At present, 30 inter-basin transfer links are proposed, involving rivers across the country. The first of these projects to be taken up for implementation, the Ken-Betwa link in Madhya Pradesh, has been approved by the cabinet and is awaiting environment and forest clearance.

Citing rainfall trends, IIT study calls for fresh look at river linking plan. Global rainfall patterns over the last few decades have shown that areas already wet are getting more rains, while rain-deficient areas are receiving increasingly less rainfall. In India, however, the reverse might be happening, a new study by two IITs has said. Academics from IIT Madras and IIT Bombay have presented evidence to suggest that the differences in mean rainfall at separate locations in India were actually decreasing. Mean rainfall across the country was getting more and more uniform. This could have important implications for India's water management policies, particularly the ambitious river linking project that the government is implementing.

An analysis of weather data for 103 years (1901 to 2004) by researchers from the Indian Institutes of Technology in Mumbai and Chennai shows that rainfall has decreased over the years, reducing water stocks even in river basins that have a surplus. The data was collected from 1384 weather stations of the India Meteorological Department.

Panel reveals 'pathetic' state of water bodies. The parliamentary standing committee on water resources has expressed deep concerns on the "pathetic" state of water bodies in the national capital where "as many as 2,015 have been fully encroached upon, while 89 have been converted into parks". Even worse, out of the 971 existing ones, 349 have dried up, the committee observed. The report, which was tabled in Parliament on August 2, also noted illegal occupation of nearly 100 "urban" water bodies for commercial and other activities in Uttar Pradesh, 44 in Tamil Nadu and 26 in Haryana, 12 in Assam and 7 in Uttarakhand. It blamed the Centre for "making no efforts to keep itself abreast of the ground situation". A

water body is a structure where water from streams, springs, rain or drainage of water from residential areas is accumulated.

- Total number of water bodies in India, as per Water Resources Information System, including temporary ones like abandoned quarries, industrial ponds, bays etc, is **7,98,908**
- Maximum water bodies are in Chhattisgarh, which is **1,04,716**
- Delhi is amongst the worst off as far as encroachment is concerned.
The water bodies have declined from **5,56,601** (in 3rd census in 2001) to **5,23,816** (in 4th census in 2007, which is the latest).
Out of these 5,23,816, **80,128** water bodies were not in use while **18,485** were never used resulting in loss of almost 2 million hectare of irrigation potential.

Water crisis looms large, Karnataka government decides to bar water use for agriculture purpose.

Karnataka is staring at serious water crisis with the cabinet deciding to ban the use of water for agriculture purpose in southern and coastal parts of the state. The ban for releasing water for agriculture purpose has been imposed in the Kaveri catchment area, with the Krishna Raj Sagar, Harangi and Kabini reporting a deficit in water storage. Ban has also been imposed in the Krishna and Tungabhadra basin as well. The cabinet has asked the agriculture department to mobilise the requisite demands for suggesting alternative crops to farmers, which are less water intensive.

Drinking water from sewage becomes reality. An invention by a Bengaluru-based scientist has seen his campus recover 10,000 litres of water from sewage every day and use it for drinking too. Dr Rajah Vijay Kumar's invention -the Boom Tube Resonator - recovers water fit for drinking and gives high-value fertilizer as a byproduct. It uses no chemicals or micro-organisms. The Boom Tube Resonator uses high-intensity shortwave to neutralize the fine particles present in sewage.

[The Asian Age](#), 8 August 2016 | [Hindustan Times](#), 8 August 2016 | [The Hindu](#), 9 August 2016 | [The Times of India](#), 10 August 2016 | [The Times of India](#), 11 August 2016



Smart Ganga City programme launched in 10 cities. The Smart Ganga City programme was launched in 10 cities selected by the [National Mission for Clean Ganga](#) through video conferencing. Haridwar, Rishikesh, Mathura-Vrindavan, Varanasi, Kanpur, Allahabad, Lucknow, Patna, Sahibgunj and Barrackpore are the 10 cities selected for the first phase of the programme. District-level mentoring committees will be constituted to monitor the speedy implementation of the programme, and the involvement of district administration and municipal body is key to success of this programme.

60% of groundwater of Indo-Gangetic basin unusable. As much as 60% of the groundwater in the Indo-Gangetic basin contains salt and arsenic in high concentration, scientists have warned. Widespread

contamination, rather than depletion of the groundwater, has emerged as a serious cause of concern in Pakistan, India, Bangladesh and southern Nepal, who rely on this basin for their livelihood. An international team of scientists found that for groundwater up to a depth of 200 metres — which represents a volume 20 times greater than the combined annual flow of

The Indo-Gangetic basin encompasses more than 250 million hectares across these four countries hosting more than 750 million people and constituting over 100 million hectares of agricultural land that accounts for a quarter of global groundwater withdrawal.

the Indus, Brahmaputra and Ganges rivers — almost 60% of the water is contaminated by arsenic or salt. Of the 30,000 cubic km of groundwater storage estimated in the basin, as much as 23% is estimated to have a salinity greater than 1 gm/litre. A further 37% of ground water contains arsenic in toxic concentration.

Scientists from National Institute of Hydrology, Roorkee, and Indian Institute of Technology, Kharagpur, are part of the team that came up with the findings reported in [Nature Geoscience](#).

50% heavy metal discharge from Peenya Industrial Area goes straight into Vrishabhavathi river. Heavy metals from Peenya Industrial Area are being released into the Vrishabhavathi river, adding to the untreated sewage that is polluting the once pristine river. Heavy metals include chromium, zinc, copper, lead, manganese and aluminum. Ashoka Trust for Research in Ecology and the Environment, which conducted a year-long study, has documented discharge from alloy smelters, textile industries and electroplating units as the main contributors to the heavy metal load.

Foam and fire- the unending troubles of Bengaluru's largest lake. Foam oozing out of Bengaluru's largest and most polluted lake — Bellandur Lake — has become very common. Recently, the foam caught fire yet again, raising severe environmental concerns. The lake has been covered with foam for several months now. The froth had earlier caught fire during May 2015. Many residents complain that discharge of effluents from nearby industries and untreated sewage from nearby areas has led to the accumulation of methane gas, which is the primary reason for fire.

Water table in Delhi heavily exploited. A study commissioned by the Delhi government on the groundwater status in the capital has found that the water table is over-exploited and disposal of solid waste into water bodies has led to depletion of the natural water table. The study was assigned to INTACH, which recently submitted its report to the government. The report deduced that except for a small area in central and north districts, the water table is exploited in other areas. The average exploitation level is around 170 per cent, states the report.

44 sites, having an estimated storage capacity of 9.51 lakh cubic metres, have been identified for constructing check dams in the Ridge area near Aya Nagar, Chandan Hula, Fatehpur Beri, Rajpur Khurd, Sainik Farms, Dhaula Kuan, Milakpur, Jaunapur and Deramandi area.



41 Indian cities have bad air quality, CPCB survey finds. In 2015, 41 Indian cities with a million-plus population faced bad air quality in nearly 60% of the total days monitored, said a latest analysis released by the Central Pollution Control Board (CPCB).

As per CPCB's data, which is India's nodal pollution watchdog,

Coimbatore and Rajkot had highest number of good quality days, while Varanasi, Gwalior and Allahabad didn't have even one good air quality day among all the days when their air quality was monitored.

Among the best, Coimbatore had 99% of good air quality days, Rajkot had 96%, Ahmedabad and Madurai 93% each, Vishakhapatnam, Surat and Chennai with 92% each.

Maharashtra accounts for 84% of air pollution cases in 2015. According to data from the National Crime Records Bureau (NCRB), of the 50 cases registered across the country under the Air (Prevention & Control of Pollution) Act, 1981, 42 were from Maharashtra, which booked 80 people from the state. In 2014, the state also recorded the second highest number of offences at 13 after West Bengal was the highest at 24.

According to data released by the National Crime Records Bureau (NCRB), the number of green crimes in 2015 came down to 5,156 from 5,835 in 2014. Rajasthan contributed in large measure to the decrease with the number of green violations coming down substantially from 2,927 in 2014 to 2,074 last year. However, despite the improvement, the state still reported the highest number of such violations in the country.

Environment related crimes in the country came down by over 11% last year compared to 2014 but there was no decline in states like Uttar Pradesh, Uttarakhand, Jharkhand and Assam where the number of such violations increased over the past year.

Air pollution up by 35% in 6 years in Pimpri Chinchwad, Pune. Over the past six years, air pollution in Pimpri Chinchwad has increased by 35.7% according to the environment status report prepared by the civic body. Air pollution in the city is monitored at six places. The percentage of pollutants has increased due to emissions from public as well as private vehicles, the report states.

[Mint](#), 19 August 2016 | [The Times of India](#), 27 August 2016 | [The Times of India](#), 31 August 2016 | [Hindustan Times](#), 1 September 2016



Global warming worsening Earth's climatic health. Earth's fever got worse last year, breaking dozens of climate records, scientists said in a massive report nicknamed the annual physical for the planet. Soon after 2015 ended, it was proclaimed the hottest on record. The new report shows the broad extent of other records and near-records on the planet's climatic health. Those include record heat energy absorbed by the oceans and lowest groundwater storage levels globally, according to a report from the National

Oceanic and Atmospheric Administration. The [2015 State of the Climate](#) report, Special Supplement to the Bulletin of the American Meteorological Society, August 2016, examined 50 different aspects of climate, including the melting of Arctic sea ice and glaciers worldwide. A dozen different nations set hottest year records, including Russia and China. South Africa had the hottest temperature ever recorded in the month of October: 119.1 degrees Fahrenheit (48.4 degrees Celsius).

Northern India contributes to shrinking of glaciers in Third Pole. The region covering the mighty Himalaya-Hindukush mountains and the Tibetan plateau happens to be the third largest ice-covered region on the planet falling behind the Arctic and the Antarctic regions. The Asian region, covered in ice and home to several glaciers, is thus nicknamed as the *Third Pole*. And like the other snow-covered regions on the planet, the glaciers in this region are not being spared by climate change and global warming. They are shrinking.

Quoting a Chinese study, The Washington Post recently reported that almost 18 per cent of China's glaciers have melted over the last five decades. NewAtlas.com reports that Western China itself serves as a home to 48,571 glaciers covering an area of 51,840 sq km. Thus the results are alarming as the Third Pole is located near densely populated countries like India and China, unlike the Arctic and the Antarctic regions. While the shrinking of glaciers will affect the water supply and industrialisation in these areas, billions of people sprawled in these countries are bound to be adversely affected subsequently.

Global warming making Siachen riskier for soldiers. Climate change is making the life of the soldiers posted in the world's highest and arduous battlefield – Siachen Glacier – tough and dangerous, as temperature rises and the snow melts faster. Siachen, which has the dubious distinction of having seen more soldiers dying due to extreme weather (temperatures at times drop below -50 degree Celsius) than the enemy bullet, is feeling the heat of global warming. The effect of the climate change is such that the snout of the Siachen Glacier has actually receded back by about 800 metres in the last one decade or so. Over 41 soldiers have lost their lives on the Siachen Glacier since 2013, even though not a single shot has been fired since the ceasefire between India and Pakistan in 2003.

[The Asian Age](#), 9 August 2016 | [Indian Express](#), 14 August 2016 | [Washington Post](#), 24 August 2016 | [Indian Express](#), 29 August 2016



Sunshine, seaweed help to break down dye waste. Scientists at the Central Salt & Marine Chemicals Research Institute (CSMCRI), Bhavanagar, Gujarat have been able to completely degrade three industrial dyes — methyl orange, methylene blue and reactive black-5 — in the presence of sunlight. The researchers developed a photocatalyst using titanium dioxide doped with red seaweed polymer carrageenan to degrade the dyes. The results were published recently in the journal [RSC Advances](#).

Despite stringent environmental regulations, a comprehensive method of treating industrial dye is not available. The methods available are expensive and do not completely break down the dye molecules to non-toxic constituents but merely concentrate the contaminants. Annually, more than 500 tonnes of non-degradable textile colour wastes are being disposed of in natural streams without adequate treatments

Goa: Bill seeks to set up waste management corporation. With the objective of dealing with the conundrum of waste management and disposal, the Goa government introduced the Goa waste management corporation bill 2016 in the state legislative assembly. The bill seeks to empower the Goa Waste Management Corporation with the authority to frame policies, establish and develop facilities for effective management of all wastes at places selected by the government. It would further be responsible to manage facilities, which have already been established or are in the process of establishment, and develop areas in consultation with the government for the purpose of making them available for waste management.

NHAI to use Ghazipur solid waste in expressway construction. Solid waste from the Ghazipur landfill site in East Delhi would be used in the construction of Delhi-Meerut Expressway, a section of NH-24, in a move aimed at curbing pollution in the city. The standing committee of the East Delhi Municipal Corporation (EDMC) has approved the proposal that would pave the way for EDMC's collaboration with National Highway Authority of India and the ministry of urban development on this project. The move comes after a study was conducted by the CSIR-Central Road Research Institute. The institute submitted its report to NHAI a couple of months back and said that the municipal solid waste contains about 65 to 70 per cent of soil components which can be used in embankment construction after segregation.

Most of Bengaluru's medical waste ends up in landfills. Going by the indication of Karnataka State Pollution Control Board (KSPCB) pilot project to pick up medical waste, a significant part of the pharmaceuticals that remain unsold in the city end up in landfills and garbage heaps. However, only 450 of the nearly 13,000 medical shops have enrolled in this first-of-its-kind project.

WASTE AT MEDICAL SHOPS	
<ul style="list-style-type: none">On an average drugs worth Rs. 2,000 expire monthly	
<ul style="list-style-type: none">Annually, medical shops dispose between 12 to 20 kg of expired drugs	
<ul style="list-style-type: none">13,000 medical stores in and around Bengaluru; 27,000 in Karnataka	
COLLECTION OF WASTE <ul style="list-style-type: none">Maiden project to collect medical waste monthly from shops450 medical shops enrolled from the city; 200 from Kolar and Chickballapur districtsEnrolment fee: Rs. 1,200In three months, ten tonnes collected	DISPOSAL <ul style="list-style-type: none">Packaging is separated from medical wasteMajority of waste sent to incinerators at Kolar, Bidadi, Dobbespete and Hoskote10 per cent estimated to be narcotics and cancer drugs that cannot be incineratedThese are sealed in cement, sand; encapsulated in drums and sent to landfills

Source. The Hindu, 23 August 2016

[Herald](#), 11 August 2016 | [The Hindu](#), 18 August 2016 | [The Hindu](#), 23 August 2016 | [The Asian Age](#), 26 August 2016