



Heavy rains in the state have led to water-logging in low-lying areas in Nainital and Pauri districts.

HTPHOTO

7 die as rains batter U'khand, rivers rise

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DEHRADUN : Seven people were killed across Uttarakhand as heavy rains lashed the state, officials said, adding that five rivers of the state were flowing above the warning level.

In Uttarkashi, a 30-year-old pilgrim from Maharashtra was killed and another was injured when a boulder fell on the bus they were travelling in near a landslide-prone zone on Yamunotri Highway, Uttarkashi district disaster management officer Devendra Patwal said.

One death was reported from US Nagar, one from Pauri district, two from Dehradun and one each from Pithoragarh and Nainital districts.

The incessant rains in the state have led to water logging in low-lying areas in Nainital and Pauri districts while several rivers and rivulets are in spate in Kumaon and Garhwal.

According to officials at least four houses have collapsed due to the overflowing rain-fed drains in Haldwani, Kathgodam and nearby areas of the district, Nainital officials said.

SDRF media cell incharge Lalita Negi said, "The SDRF teams were rushed to save people trapped ... (amid) heavy rains."

As of 8am on Monday, five rivers were flowing above the warning level in state, according to Central Water Commission data, while according to data issued by Public Works Department over 234 roads are blocked in state.

Meanwhile, chief minister Pushkar Singh Dhami visited the State Emergency Operation Centre in Dehradun to take stock of the situation across the state.

He directed all district magistrates to remain on alert and coordinate with departments and agencies to ensure quick relief and rescue work.

Hindustan Times- 10- August-2023

Jal Board to begin dredging, desilting in Yamuna riverbed



Dredging means clearing the riverbed of sediments and debris. HT

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NEW DELHI: The Delhi Jal Board (DJB) will soon start dredging and desilting on the Yamuna riverbed and the Wazirabad pondage area to increase the water holding capacity of the adjacent barrage and improve the quality of water in the river channel, according to officials aware of the matter.

The exercise will entail the removal of around 387,000 cubic metres of silt over a period of about eight months, a senior DJB official said on Wednesday.

The work is expected to start only after mid-September, once the monsoon ends, and bids have been invited. The modalities are likely to be finalised on August 16, the official said.

Dredging involves the removal of sediments and debris from the bottom of rivers and other water bodies, typically to deepen the water. Desilting refers to the removal of silt or fine particles from a waterbody to improve water flow and prevent flooding.

DJB last initiated dredging in 2013, but the activity was stayed at the time by the National Green Tribunal (NGT) citing environmental concerns. The stay was later vacated in 2015.

The Wazirabad pondage region acts as the primary holding area for drinking water from the Yamuna, and pumps raw water to the primary major Wazirabad, Okhla and Chandrawal water treatment plants, which supply a quarter of the city's daily water requirement.

Officials said that the dredging and desilting will help improve water holding capacity of the pond area which acts as reservoir for raw water and subsequently

prevent shortage of water supply, especially during the summer season.

The exercise will involve the removal of weeds with roots above the slushy soil and removal of silt and sand by dredging from riverbed by deploying cutter-suction dredgers with pipelines for disposing of water slurry, the official cited above said. "This slurry material will be transported to the shore of the lake area downstream for its disposal away from the river," the official said.

According to an assessment carried out by DJB in March 2023, the optimum level the riverbed level at Wazirabad should be 671ft and the depth of pond area should be 14ft, but due to the accumulation of silt, the average depth is nearly 7ft. After the dredging, the level of the riverbed is expected to reach around 661 feet, officials said.

The Delhi government's water agency plans to deploy dredgers attached with a kilometre-long 30cm wide pipelines, which will remove the slurry at a rate of 1,200 cubic metres per hour. For its disposal, a private contractor will be hired, who will also sell the sand against a portion and royalty to DJB and the revenue department, officials said.

According to a DJB report, the work for desilting of Yamuna at Wazirabad was last initiated at a smaller scale in 2013. It was, however, stopped by NGT over concerns about sand mining. But in 2015, the tribunal permitted the work. However, DJB cancelled the contract since the project made little progress. Diwan Singh, an environmental activist, said, "It is fine if they (DJB) wishes to remove the silt... but DJB should ensure they do not go below the natural river bed level."

The Indian Express- 10- August-2023

HARYANA CHIEF ENGINEER SUSPENDED**Delhi floods caused by encroachment on floodplains: Probe panel****EXPRESS NEWS SERVICE**
CHANDIGARH, AUGUST 9

HARYANA GOVERNMENT has suspended a chief-engineer level officer of state irrigation department posted in Delhi, Sandeep Taneja, apart from ordering a chargesheet to be filed against three officers of the department for dereliction of duty during the floods in parts of Haryana caused by rise in Yamuna levels due to excessive rains over a short period.

Officials said a probe panel has found the flooding in Delhi occurred due to encroachment of floodplains up to ITO due to which water overflowed to Ring Road. The panel was formed to investigate into allegations that four gates of a Yamuna barrage near ITO in Delhi were not opened during the flood last month.

Due to heavy rains, according to Haryana government, which released a few findings of the report on Wednesday, a significant surge in Yamuna level was witnessed. Due to "non-opening of four gates" of the barrage near ITO in Delhi, excess water could not be

Delhi's ITO barrage. *Archive*

cleared in time causing massive waterlogging and floods, it added.

Haryana Chief Minister Manohar Lal Khattar had formed a three-member committee to investigate the matter.

In the report that was furnished, the committee observed that these gates were submerged in flood water that was about 12-feet deep. Besides, they were also filled with silt. These gates can be open only when both upstream and downstream silt around these gates is removed through special techniques, it added. According to the report, no power connection was available to carry out the

process. "Floods in Delhi mainly occurred due to excessive encroachment, due to which the water reached up to the Ring Road. Excessive and unplanned construction around the river is obstructing the flow of Yamuna," the report stated.

According to the report, during the dry season, the flow of the river stops completely. "The release of polluted water into the river through various drains leads to the accumulation of silt and rise in the river-bed levels. In such a situation, Delhi government should remove the heavy silt in front of gate number 28 to 32 so that flood water can flow through these gates. The Yamuna's natural flood outlets have been systematically encroached upon for decades," said the Haryana government while quoting the state probe report.

Reacting to the development, Delhi's Water Minister Saurabh Bharadwaj tweeted, "Chief Engineer of Haryana suspended and several engineers chargesheeted for jammed gates of ITO Barrage. Has the responsibility of Delhi floods been fixed?"

The Statesman- 10- August-2023

Agnihotri meets Shekhawat, seeks aid for rain-ravaged HP

Himachal Deputy CM urges for relief in the wake of damages due to flash floods and heavy rains in state

STATESMAN NEWS SERVICE
NEW DELHI, 9 AUGUST

Himachal Pradesh Deputy Chief Minister Mukesh Agnihotri met the union Jal Shakti Minister Gajendra Singh Shekhawat here on Tuesday and sought aid in the wake of damages caused to the hill state due to flash floods and heavy rains recently.

Agnihotri, who also holds the charge of Jal Shakti department, apprised the union minister of the unprecedented losses suffered by the state particularly due to the damage caused to the water supply services and irrigation projects.

Claiming that the Jal Shakti department alone suffered losses to the tune of Rs 1,630 crore, he urged the union government to release Rs 500 crore for the restoration and retrofitting of the damaged projects under the Jal Jeevan Mission (JJM). Agnihotri said there was an urgent requirement of funds for the restoration of water supply schemes, irrigation schemes, and water-related infrastructure which



have been badly damaged due to incessant rains.

Speaking to the Statesman, Agnihotri mentioned that the minister agreed to take up the issue with the finance ministry and the union cabinet for the requisite assistance.

Elaborating on the issue, Agnihotri pointed out that

the maximum devastation has been observed along the banks of river Beas in Kullu-Manali Valley. Mentioning that there has been a history of such occurrences along this river, he cited that the Jal Shakti Vibhag has prepared a detailed project report for Rs.1669 crores for channel-

ization of Beas after conducting model studies from CWPRS, Pune.

"I have requested the union minister to approve the project at the earliest to safeguard life and property of people, particularly in Kullu-Manali Area," he said adding that the same was important in view of its

strategic importance as Kullu-Manali Airport, the Chandigarh-Leh National Highway lies on the banks of this river. He added that channelisation of this river would ensure the safe movement of tourists besides transportation of Horticulture produce from the Kullu and Lahaul Valley.

MATTER TO BE HEARD ON OCT 3

Yamuna pollution: SC asks Delhi, Hry to file status report

OUR CORRESPONDENT

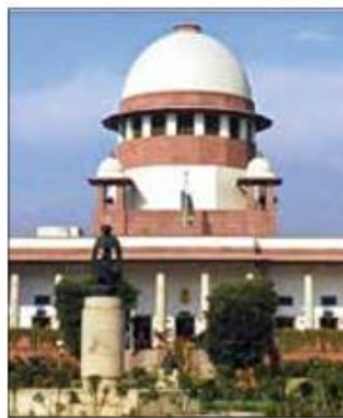
NEW DELHI: The Supreme Court has asked Haryana and Delhi to file their status reports on pollution of Yamuna River and said it would consider the issue on October 3.

While hearing a suo motu case titled 'Remediation of polluted rivers' on Tuesday, the apex court noted it has been brought to its notice that matters relating to pollution of Yamuna as also the coastal areas and remedial measures are before it.

A bench of justices A S Bopanna and Prashant Kumar Mishra observed it has been pointed out that it would be appropriate if these issues are bifurcated and heard so that there could be effective implementation of the remedial measures.

"In that view, we deem it appropriate to first hear the issue relating to the pollution of the Yamuna river. In that regard, the status report shall separately be filed by the state of Haryana as also by the state of Delhi," it said.

"Similarly, insofar as the coastal areas, though the issue would be taken up separately, for which a date would be fixed on the subsequent occasions



when these matters are listed, the status report in that regard, is also necessary to be filed by the competent authorities," the bench said.

It said to consider the issue relating to the pollution of Yamuna, the matter would be listed on October 3.

"The date for consideration of the matters relating to the coastal areas would be thereafter fixed. However, separate status report be filed in the meanwhile on exchanging the copies with the counsel representing the parties," the bench said.

On January 13, 2021, the apex court had taken cognisance of contamination of rivers by sewage effluent and observed that pollution free water forms the basic right under the Con-

stitutional framework and a welfare state is "bound" to ensure the same.

It had issued notices to the Centre, the Central Pollution Control Board (CPCB) and five states, including Delhi and Haryana, on the issue.

The top court, which had directed its registry to register the suo motu case as 'Remediation of polluted rivers', had said it would first take up the issue of contamination of the Yamuna and asked the CPCB to submit a report identifying municipalities along the river which have not installed total treatment plants for sewage.

The order was passed by the apex court which was hearing a plea of the Delhi Jal Board (DJB) alleging that water containing high pollutants was being released into the Yamuna from Haryana.

The order had referred to a 2017 judgement and said it was directed that the norms for generating funds, for setting up and operating the 'Common Effluent Treatment Plant' as well as 'Sewage Treatment Plants' shall be finalised on or before March 31, 2017, so as to be implemented from the next financial year of that date.

Millennium Post- 10- August-2023

INFLUENCE OF ENSO HAS SURGED IN RECENT DECADES

El Nino, La Nina impact on monsoon strongest in north, least in central India

OUR CORRESPONDENT

NEW DELHI: The impact of ENSO on monsoon rain over north India has become "exceptionally strong" in recent decades while it has weakened for the central region, where agriculture and livelihoods are heavily dependent on seasonal precipitation, a new study says.

ENSO, or El Nino-Southern Oscillation, is a climate pattern in the tropical Pacific Ocean that can swing between two main phases -- El Nino and La Nina.

El Nino, the warming of waters in the Pacific Ocean near South America, is generally associated with weakening monsoon winds and dry weather in India. La Nina, the opposite of El Nino, typically brings good rainfall during the monsoon season.

Led by Roxy Mathew Koll,



a climate scientist at the Indian Institute of Tropical Meteorology in Pune, the study found that the relationship between ENSO and the monsoon has evolved over time. While the connection grew stronger from 1901 to 1940 and remained stable from 1941 to 1980, it has weakened since 1981.

These changes in the ENSO-monsoon interaction,

however, are not consistent across the country.

The influence of ENSO over north India has surged in recent decades while the connection has waned for central India, historically known as the "core monsoon zone", Koll said.

Over south India, there is no considerable variation in the ENSO-monsoon relationship.

This means La Nina and El

Nino now impact rainfall over north India the most and central India the least.

The monsoon trough - a band of low-pressure areas and depression-related variability has emerged as the primary cause of rainfall variability over central India, surpassing the dominance of El Nino and La Nina, the study says.

The role of the monsoon trough and depressions in north India's rainfall is declining. This could be due to the weakening monsoon strength because of the Indian Ocean warming, along with a reduced penetration of monsoon depressions into the northern Indian region in recent years, it says. Historically, at least half of the El Nino years caused droughts during monsoon, with the all-India rainfall being lower than 90 per cent of the long-period average.

Innovative rejuvenation

Nexus of Good



ANIL SWARUP

Through GIS-based decision-making, the Chhattisgarh government has been reviving rivulets in the forest areas to facilitate micro-irrigation facilities and forest regeneration

Chhattisgarh has 80 per cent of households dependent on agriculture, out of which 76 per cent are small and marginal farmers. It has only 43 per cent arable land under cultivation, of which 55 per cent land has less water retention capacity. The Net Irrigated Area (NIA) in Chhattisgarh is 31 per cent, of which 65 per cent is rainfed. Remaining irrigation is through a limited number of canals, ponds, dug wells and tube wells. At present, only 33.15 per cent of gross sown area is under a secured irrigation facility.

The region is characterised by non-perennial streams, which actually are rain-fed rivers. During the dry season, either they cease to flow entirely, or there is hardly any water in most of the drainage channels. Although the presence of a dense network of rivulets and streams provides scope for in-situ conservation and harvesting of water, it is estimated that about 75 per cent of the gross sown area of the state can be irrigated with proper use and management of available water resources.

It was felt that there was a tremendous scope for management and conservation of soil and water resources through various established, technically and scientifically viable and innovative measures, resulting in protection, conservation and restoration of forest ecosystems, wilderness landscapes and its agricultural surrounds, and other associated sectors on which the local communities are dependent for their livelihood. This can also boost the production of non-wood forest products supporting the rural economy.

The Government of Chhattisgarh launched the ambitious Narwa Programme (soil and water conservation for stream rejuvenation) under flagship initiatives of Narwa, Garuwa, Ghurwa and Baadi (NGGB) to rejuvenate about 33,000 Narwas (rivulet) of the state. The Forest and Climate Change Department has been identified as a key actor to revive, revitalise and rejuvenate Narwa (rivulet) in the forest areas.

In Narwa or rivulet man-



Construction of pond with the help of the local forest dwellers

agement, the government is focusing on enhancing the groundwater percolation, forest regeneration, water retention and storage capacity of nala/stream, so that availability of water for agriculture, forested ecosystems, wild animals and domestic livestock is ensured over longer period of the year, and that water is optimally available even in the pinch period. In the long run, this initiative is also expected to increase the adaptive capacity of households to cope up from climate change extremes like dry spell, drought and flood situations. This particular initiative is an innovation in itself in addressing issues related to climate change adaptation on the lines of the UNFCCC. Adaptation commonly focuses on reducing vulnerability to the immediate and predicted impacts of climate change, and increasing the capacity of countries, states and communities to be more resilient and to cope better, which means everything from better skills to more access to suitable finance to newer technology.

To implement this Narwa project, site-specific Catchment Area Treatment Plans (CAT Plans) were prepared, followed by site-specific Detailed Project Reports (DPRs) to construct a series of watershed drainage line treatment structures (like brushwood check dam, loose boulder check dam, percola-

tion pond, 30-40 model, contour bund, contour trench, Gabion structure, check dam, anicuts, underground dykes, earthen dam, plantations etc.) to reduce run off, prevent soil erosion and enhance the groundwater level.

It was found essential to sensitise the stakeholders, primarily the village communities, about the benefits of the project. Accordingly, the Forest and Climate Change Department conducted several meetings and training programmes at various levels to implement the Narwa Project based on the principle of 'watershed management' (i.e., ridge to valley approach of treatment).

Revival and rejuvenation of Narwa (rivulet) networks was considered essential for protection of fertile productive topsoil of land and maintaining the ground water level by ensuring that the streams remain perennial and do not dry off, and thus catering to the essential needs of the ecosystems and the communities round the year.

Using the concept of landscape approach (ridge to valley) which covers a stream with all the orders (primary, secondary, tertiary units), rivulets for treatment were identified and prioritised on the basis of soil erosion. Catchment/ Watershed Area Prioritisation was determined using the Universal Soil Loss Equation (RUSLE equation). Soil erosion modelling has been done in the GIS

domain, and based on the Annual Soil Loss in Tonnes / Ha/ Year, the catchments were prioritised into three priority classes, namely: (i) High Priority, (ii) Moderate Priority, and (iii) Low Priority. A technical team comprising NRM engineers, GIS experts, senior forest officers and field staff, was constituted for preparing a technical DPR. Village communities, Joint Forest Management Committee members, and people's representatives were involved in the planning process, survey and selection of rivulet / stream for treatment. Geographical information system (GIS)-based data is being used for decision-making. This includes several GIS layers / thematic maps for selection of site as well as drainage line treatment structures. Various training modules were conducted for the forest front-line staff, including mobile applications, GPS- and GIS-based survey, regular monitoring by Natural Resource Management (NRM) engineers, ground validation on the basis of watershed principles, baseline survey to assess current status of forest / river ecosystem, soil erosion, soil moisture, ground water level, and technically sound Detailed Project Report (DPR) preparation with the help of well-trained technical team. A protocol for regular coordination and tracking during operational and post-operational stages using mobile apps, and

a sound monitoring and evaluation protocol are some of the unique characteristics of this project.

Approach

- Stage 1: Identification of suitable Nalas (rivulets) to be treated;
- Stage 2: Baseline survey and data collection;
- Stage 3: Identifying the catchment area of the Nala based on watershed principles;
- Stage 4: GIS-based planning for Detailed Project Report (DPR);
- Stage 5: Field verification/ ground truthing of proposed water-harvesting structures (Right Structure at the Right Place);
- Stage 6: Detailed design- ing, drawing & estimation (Excel-based tools);
- Stage 7: Finalisation of work & compilation of DPR;
- Stage 8: Implementation, monitoring and evaluation.

Outcomes of the project

A total of 135.84 lakh soil and water conservation structures have been constructed from 2019 to 2023. This is still a work in progress. The initiative has resulted in treatment of 22.93 lakhs forest catchment area of Mahanadi, Godavari, Ganga and Brahmani River basins. It is also one of the major initiatives that takes care of the micro-irrigation facilities of the forest dwellers. This project has resulted in an increase in forest regeneration, enhancement of ground water, and reduction in human-wildlife conflict in Chhattisgarh. Farmers in remote forest areas are benefited due to sustained supply of water for agriculture. There is also a tremendous increase in green cover in the state.

This wonderful initiative under the inspired leadership of Sreenivas Rao, Principal Chief Conservator of Forests, Chhattisgarh, is sustainable and replicable in the true spirit of Nexus of Good. It can be easily adopted by the local communities, forest dwellers, joint forest management communities, farmers as well as by various institutions involved in natural resource management.

Views expressed are personal

A total of 135.84 lakh soil and water conservation structures had been constructed between 2019 and 2023

Hindustan- 10- August-2023

यमुना प्रदूषण पर हरियाणा, दिल्ली रिपोर्ट दें : अदालत

नई दिल्ली, विशेष संवाददाता। सुप्रीम कोर्ट ने हरियाणा और दिल्ली को यमुना प्रदूषण पर स्थिति रिपोर्ट दायर करने का निर्देश दिया है। कोर्ट मामले में तीन अक्टूबर को सुनवाई करेगा। शीर्ष अदालत ने स्वतः संज्ञान लेते हुए मामले पर सुनवाई की।

कोर्ट ने कहा कि उसे बताया गया है कि यमुना और तटीय क्षेत्रों के प्रदूषण व उपचारात्मक उपायों से जुड़े मामले उसके समक्ष हैं। न्यायमूर्ति ए. एस. बोपन्ना और न्यायमूर्ति प्रशांत कुमार मिश्रा की पीठ ने कहा कि बताया गया

है कि इन मुद्दों को विभाजित कर सुनवाई करना उचित होगा, ताकि उपचारात्मक उपायों का प्रभावी कार्यान्वयन हो सके।

कोर्ट ने कहा कि हमें लगता है कि यमुना प्रदूषण संबंधित मुद्दों पर पहले सुनवाई उचित है। इस संबंध में हरियाणा और दिल्ली को अलग-अलग रिपोर्ट देनी चाहिए। तटीय क्षेत्रों से संबंधित मामलों पर विचार की तारीख भी तय होगी। हालांकि, इस बीच पक्षों के वकील से प्रतियों के आदान-प्रदान पर अलग से स्थिति रिपोर्ट दाखिल की जाएगी।