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DownToEarth
FORTNIGHTLY ON POLITICS OF DEVELOPMENT,
ENVIRONMENT AND HEALTH

**Science
Reporter**



MK Yadav Sir

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G20 push: 30+ big cities on list to tap muni bonds

Surat, Vizag may issue bonds soon as Centre renews urban infra focus

ARUP ROYCHOUDHURY
New Delhi, 26 March

The Centre has identified more than 30 cities with good ratings in the municipal (muni) bond market. Surat and Visakhapatnam (Vizag) are likely to issue muni bonds soon, and Chennai could be the first of the megacities to do so this calendar year, *Business Standard* has learnt.

This comes at a time when there is a renewed push for deepening the muni bond market in the 2023 Union Budget, and India as President of Group of Twenty (G20) is making urban infrastructure financing one of the key agenda items for the grouping.

Surat and Vizag's issuances are for specific ring-fenced projects and preparations are said to be at an advanced stage.

The Indore Municipal Corporation has already taken the lead. In February, its green bonds were issued on the National Stock Exchange. It became the first Indian city to issue green bonds.

"We have been conducting regular workshops with states and municipal authorities on the sidelines of the G20 infrastructure working group meetings, where we are discussing



ILLUSTRATION: AJAY MOHANTY

WORK IN PROGRESS

▶ In 2023 Union Budget, FM announced steps for cities to issue muni bonds

▶ Centre holding workshops with states on sidelines of G20 infra group meetings

▶ The selected cities are rationalising property tax rates, cleaning up their books, and planning revenue-generating projects

▶ Surat, Vizag to tap markets to finance wastewater treatment expansion

▶ Chennai could be first of megacities to do so this calendar year

innovative ways of financing urban infrastructure. As part of that initiative, many cities are now getting ready to tap into bond markets," a senior government official told *Business Standard*. The official said that based on meetings and reviews already held with municipal authorities, the Centre has identified more than 30 cities best placed to tap into bond markets.

"Surat is getting ₹144 crore annually from selling treated wastewater to industries. That is an assured revenue stream. It wants to double capacity, for which it is expected to issue bonds soon," said the official.

From a similar wastewater treatment project, Vizag is getting ₹35 crore in revenue annually, and wants to expand its capacity as well, the

official added.

The 30-plus cities rated 'A' are the ones that have done the most work, or planning to do the most work, in rationalising property tax rates, cleaning up their books, planning revenue-generating projects, etc.

Deepening the Indian muni bond markets has been one of the major themes in the Union Budget 2023. "The annual muni bond market size in the US is \$386 billion. India's bond market is a fraction of that; we are not even \$1 billion," the official said.

"Through property tax governance reforms and ring-fencing user charges on urban infrastructure, cities will be incentivised to improve their creditworthiness for muni bonds," Finance Minister Nirmala Sitharaman said in her Budget speech on February 1.

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MUNICIPAL BONDS (Syllabus: GS Paper 3 - Economy)

Context: The Centre has identified more than 30 cities with good ratings in the municipal (muni) bond market.

- This comes at a time when there is a renewed push for deepening the muni bond market in the **2023 Union Budget**, and India as President of Group of Twenty (G20) is making urban infrastructure financing one of the key agenda items for the grouping.

Municipal Bonds

- **About:** A municipal bond, also known as a muni bond, is **issued by a local government or an allied agency** in order to finance public projects such as roads, airports, schools, etc.
- **Regulatory Body:** In India, guidelines for Municipal Bonds are issued by SEBI.
- **Types of Municipal Bonds**
 - General obligation bond (GO) is issued by government agencies and not exalt backed by revenue from a particular project. There are some GO bonds which are supported by dedicated property taxes and some by payable general funds.
 - Revenue municipal bonds secure principal and interest payments through sales, fuel, hotel occupancy, and other taxes. When a municipality is a conduit issuer of bonds, a third party covers interest and principal payments.
- **Characteristics:**
 - **Taxability:** What makes municipal bonds different from other bonds is that they are **able to provide income that is exempted from tax**.
 - **High Interest Rates:** Municipal bonds have much **higher interest rates** compared to other financial instruments like savings accounts, money market accounts, and others.
 - **Liquidity:** Historically, municipal bonds have been one of the **least liquid assets** on the market. While stocks can be bought and sold within seconds on exchange platforms, given the current absence of widespread secondary market platforms for the exchange of stocks, municipal bonds are much harder to manoeuvre.
- **Key development:** **India's first-ever municipal bond** for investment from retail investors started in Feb 2023.
 - **Indore Municipal Corporation's (IMC)** municipal bond issue became the first to issue this bond.
 - In February 2023, NSE launched India's first **Municipal Bond Index** which will track the performance of bonds issued by municipal corporations.

Paytm needs govt nod on FDI for aggregator licence

Curbs On Onboarding Online Merchants Remain

TIMES NEWS NETWORK

Mumbai: Paytm Payments Services (PPSL) will need the government's approval for investments from its parent One97 Communications to get a payment aggregator licence from the RBI.

In November 2022, while granting licences to payment aggregators, the RBI asked Paytm to resubmit its application within 120 days after taking the necessary steps. The central bank had also barred it from onboarding new online merchants.

Antfin (Netherlands) Holdings, an affiliate of China's Alibaba Group, holds close to a 25% stake in the Paytm parent. Last month, Alibaba exited its

direct holding in the company by selling a 3.3% stake. Paytm has informed exchanges that the RBI has extended the timeline for submitting the application.

"The letter from RBI says that PPSL can continue with the online payment aggrega-

RBI EXTENDS DEADLINE

tion business, while it awaits approval from the government for past investment from One97 Communications into PPSL under FDI guideline," Paytm said.

According to the RBI's letter, on receipt of approval from the government, PPSL will have 15 days to submit the application seeking aut-

horisation for PPSL to operate as an online payment aggregator. However, if any adverse decision is taken by the government, then the same shall be informed to the RBI immediately. During this process, PPSL can continue with its online payment aggregation business for existing partners without onboarding any new merchants.

The filing also said that the RBI restrictions are applicable only to the onboarding of new online merchants, and we can continue to provide payment services to our existing online merchants. Furthermore, for offline business, One97 Communications can continue to onboard new merchants and offer them payment services.

Context: Paytm Payments Services (PPSL) will need the government's approval for investments from its parent One97 Communications to get a payment aggregator licence from the RBI.

Payment Aggregator/Merchant Aggregator

- **About:** A payment aggregator (also known as a merchant aggregator) is a **third-party service provider** that allows merchants to accept payment from customers by integrating it into their websites or apps.
- **Laws and regulations:** A payment aggregator in India is incorporated under the **Companies Act, 1956 / 2013**. Now, it can be a bank or a non-bank entity.
 - Since a **PA handles funds**, it requires a license from the Reserve Bank of India.
 - However, **only non-bank payment aggregators** require unique authorization from RBI.
 - This is because '**handling funds**' is considered a part of the normal banking relationships for bank PAs.
- **Eligibility:** According to **RBI rules**, a company applying for aggregator authorization must have:
 - A **minimum net worth of Rs 15 crore** in the first year of application, and
 - At least **Rs 25 crore** by the second year.
 - It also must fulfill the "**fit and proper**" criteria, and be compliant with global payment security standards.

SWISS AUCTION

**SBI Sells Loan
of Atibir
Industries
to CFM ARC**

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Mumbai: State Bank of India has sold ₹341 crore of principal loan outstanding from bankrupt Atibir Industries to CFM Asset Reconstruction Company for ₹250 crore through a Swiss challenge auction held on Friday, two people close to the development said.

The all-cash sale indicates a recovery of 73 paise on a rupee of the principal amount outstanding for SBI.



CFM ARC paid ₹250 cr for the ₹341 cr exposure, which amounts to a recovery of 73 paise to a rupee of the principal amount

The bank had informed interested bidders that it would auction the loan under the Swiss challenge method based on an anchor bid.

CFM ARC made the anchor bid and there were no counter bids, both people said.

“SBI had deferred the auction once,” said one of the people. “It was earlier scheduled to be held on March 6 but was finally held on March 24, but no bidder showed interest.”

Context: State Bank of India has sold ₹341 crore of principal loan outstanding from bankrupt Atibir Industries to CFM Asset Reconstruction Company for ₹250 crore through a Swiss challenge auction.

Asset Reconstruction Company (ARC)

- **About:** Asset Reconstruction Company (ARC) is a **specialized financial institution that buys the Non-Performing Assets (NPAs)** from banks and financial institutions. It helps banks in cleaning up their balance sheets.
 - Thus, it **helps banks to concentrate on normal banking activities**. Banks, Instead of going after the defaulters, can focus on selling their bad assets to the ARCs at a mutually agreed value.
- **Legal Basis:** SARFAESI (Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest) Act, 2002 provides the legal basis for the setting up of ARCs in India.
 - ARCs function under the supervision and control of the **Reserve Bank of India (RBI)**.
- **Capital Requirements for an ARC:**
 - As per the SARFAESI Act, ARCs should have a **minimum net owned funds of Rs. 100Cr.**
 - The ARCs also have to maintain a capital adequacy ratio of **15% of its risk-weighted assets**.
 - The amount of **Risk-weighted assets** helps to determine the minimum capital that a bank must hold to reduce the risk of insolvency.
- **Resolution strategies:** As per the SARFAESI Act, an ARC can:
 - **Restructure** or reschedule the loan
 - Enter into **settlements**,
 - **Sell or lease** the borrower's business,
 - **Takeover** or change the management, and
 - Engage in **security interest enforcement** (sell, take possession, or lease the owned asset). But enforcement or security interest can only be conducted when at least 75% of secured creditors and the ARC are in agreement.
- **Sources of funds for ARCs:** An ARC can **issue bonds, debentures, and security receipts** to meet its funding requirements.

Sarus crane turns albatross around U.P. man's neck

Forest department issues summons to Amethi resident Arif Khan who rescued the injured bird

Mayank Kumar
LUCKNOW

Arif Khan, a resident of Uttar Pradesh's Amethi district who had rescued a sarus crane and took care of it for a year, has received a notice from the State Forest Department.

According to the notice sent on Saturday by Gauriganj's Assistant Forest Officer, Mr. Khan has been asked to appear before Sub-Divisional Forest Officer Ranvir Mishra at 11 a.m on April 4. He has also been booked under the Wildlife Protection Act, 1972.

On March 21, the Forest Department officials had visited Mr. Khan to relocate the bird from his home in Mandka village to Raehareli's Samaspur Bird



Winged companion: Samajwadi Party president Akhilesh Yadav with Arif Khan and the rescued sarus crane in Amethi's Mandka village. ANI

Sanctuary to "allow it to live in its natural environment". The officials said they took the bird away with Mr. Khan's consent and added that the avian species falls under the vulnerable category and cannot be "kept in captivity".

According to Mr. Khan, he had found the bird

lying injured in his field last year. "After treatment, I thought it would fly away. But it refused to leave us." In February, a video of the crane accompanying Mr. Khan to the fields took social media by storm.

'Dictatorial attitude'
Reacting to the notice, Samajwadi Party (SP) chief

Akhilesh Yadav, who had earlier visited Mr. Khan's house to witness the bonding, criticised the BJP-led State government's "dictatorial attitude".

"Arif did a very good job by helping an injured sarus crane and treating it and saving its life. After this, the bird became his friend. Instead of honouring Arif, they [the government] are scaring him. After I went to meet Arif and the crane, those in power grew nervous. They want to scare Arif. It shows their dictatorial attitude," the SP chief said.

Mr. Yadav also recalled that after he had tweeted a picture of an elephant walking unattended on the Agra-Lucknow expressway last year, the State police sent the mahout to jail.

Threats

- Sarus cranes are threatened mainly by **loss of habitat, due to drainage** of wetlands, agricultural expansion and human development.
- The use of pesticides, as well as collisions with wires, are important threats.
- Cranes are also commonly targeted by **humans hunting and egg collecting**.

Conservation Status

- They are classified as **vulnerable (VU)** on the IUCN Red list of threatened species.
- Listed in **Schedule IV of the Wildlife (Protection) Act 1972**.
 - The sarus crane, usually found in wetlands, is the **state bird of Uttar Pradesh** and protected under Schedule 3 of the Wildlife Protection Act of 1972.

Context: Arif Khan, the Amethi man who came into the limelight for his friendship with a Sarus crane and for taking care of it for more than a year, has been booked for violating the provisions of the **Wildlife Protection Act, 1972**.

Sarus Crane

- **Scientific Name:** *Grus antigone*
- **Features:** The Sarus crane is the **world's tallest flying bird**. The birds are predominantly gray, with long, pale red legs. Their naked head is red, as is their neck.
 - Juveniles have buff feathers on their head and slightly darker plumage.
- **Habitat:** The Sarus crane is known for its **ability to live in association with humans**, inhabiting open, cultivated, well watered plains, marshlands and jheels. These areas suit them well for foraging, roosting and nesting.
 - **These birds nest on the ground.** A bulky nest is formed from wetland vegetation.
 - They are **found in open wetlands in South Asia**, seasonally flooded Dipterocarpus forests in Southeast Asia, and Eucalyptus -dominated woodlands and grasslands in Australia.
- **Distribution:**
 - **Continents:** Oceania, Asia.
 - **Subcontinents:** Southeast Asia, East Asia, South Asia.
 - **Countries:** Australia, Cambodia, China, India, Laos, Myanmar, Nepal, Pakistan, Viet Nam, Bangladesh.
 - In the Indian subcontinent, it is **found in northern and central India, Terai Nepal and Pakistan**.
 - It was once a common site in the paddy fields of **Uttar Pradesh, Bihar, Rajasthan, West Bengal, Gujarat, Madhya Pradesh and Assam**. Their population is now on the decline in India, a majority of which are in Uttar Pradesh.

DTE

MARCH 27

STATE OF INDIA'S ENVIRONMENT REPORT

(Syllabus: GS Paper 3 - Env & Ec0)

CSE-DTE release 2023 State of India's Environment report

The annual report covers wide gamut of topics like climate change, agriculture and industry to water, plastics, forests and biodiversity



NEXT NEWS >

By DTE Staff

Published: Thursday 23 March 2023



Causes and Effects of Climate Change

Causes

- Rapid industrialization
- Energy use
- Agricultural practices
- Deforestation
- Consumer practices
- Livestock
- Transport
- Resource extraction
- Pollution



Effects

- Rising temperatures
- Rising sea levels
- Unpredictable weather patterns
- Increase in extreme weather events
- Land degradation
- Loss of wildlife and biodiversity

What are the social impacts of climate change?

Displaced people. Poverty. Loss of livelihood. Hunger. Malnutrition.
Increased risk of diseases. Global food and water shortages.

Context: The year 2022-2023 saw two huge trends in terms of the environment: **Reversal of gains for the energy transition** and the overwhelming impact of climate change, which is a real threat staring at us.

- This is among the many facts brought out in the latest report by Down To Earth, the fortnightly magazine by New Delhi-based non-profit **Centre for Science and Environment**.
- **CSE** is a public interest research and advocacy organisation based in New Delhi.
- The report covers an extensive gamut of subject assessments, ranging from **climate change, agriculture and industry to water, plastics, forests and biodiversity**.

Key Findings

- Over **30,000 water bodies** have been **encroached** on in the country and India is generating 150,000 tonnes of municipal solid waste every day - more than half of which is either dumped in landfills or remains unattended.
- Four years and 11 months is the average **duration of life lost to air pollution in India**.
- **Rural India** is losing more years due to air pollution-related health issues than the urban belt. In fact, **rural India needs 35 per cent more community health centres**.
- The edition also reports that **environmental crimes** continue unabated - courts need to decide on 245 cases every day to clear the backlog.
- Between January and October 2022 (304 days), India witnessed extreme weather events on 271 days.
- India's overall global rank in meeting the **United Nations-mandated sustainable development goals (SDGs)** has also slipped by nine places.

MARBURG VIRUS DISEASE

Highly virulent disease spreads to humans from fruit bats and is often fatal. Five people are dead in Tanzania

FIVE OUT of a total eight individuals infected with the Marburg virus, a highly infectious Ebola-like disease, have died in Tanzania's north-west Kagera region, authorities said earlier this week.

More than 160 people have been identified through contact tracing as being at risk of infection, and are being monitored, the World Health Organisation (WHO) said. An emergency response team has been deployed in the area and no other cases of the virus have been reported in the country outside Kagera.

"We are working with the (Tanzanian) government to rapidly scale up control measures to halt the spread of the virus and end the outbreak as soon as possible," Dr Matshidiso Moeti, WHO Regional Director for Africa, said in a statement.

The cases in Tanzania have come just over a month after another African country, Equatorial Guinea, reported its first case of the Marburg virus disease. Local authorities have confirmed seven deaths out of nine cases since February 13, The Washington Post reported. Earlier in August 2021, a case had been detected in the Republic of Guinea.

There have been no cases of the disease in any Asian country.

To humans from bats

Marburg virus disease (MVD), earlier known as Marburg hemorrhagic fever, is a severe, often fatal hemorrhagic fever, according to the WHO.

Marburg, like Ebola, is a filovirus, and both diseases are clinically similar.

Rousettus fruit bats are considered the natural hosts for the Marburg virus. However, African green monkeys imported from Uganda were the source of the first human infection, the WHO says. It was first detected in 1967 after simultaneous outbreaks in Marburg and Frankfurt in Germany; and in Belgrade, Serbia.

The disease has an average fatality rate of around 50%. However, it can be as low as 24% or as high as 88%, depending on virus strain and case management, according to the WHO.

Symptoms of Marburg



Infection is confirmed by lab testing of samples, which like the coronavirus and Ebola, are extreme biohazard risks. WHO

MVD can manifest itself in the form of high fever, muscle aches and a severe headache at any time between two and 21 days after infection. Around the third day of symptoms, patients report abdominal pain, vomiting, severe watery diarrhoea, and cramping. In this phase, the WHO says, the appearance of patients has been often described as "ghost-like", with deep-set eyes, expressionless faces, and extreme lethargy.

Between days 5 and 7, patients report bleeding from the nose and gums, and blood starts to appear in their vomit and faeces. Severe and continuing blood loss leads to death, often 8-9 days after the onset of symptoms.

Diagnosis and treatment

It is difficult to clinically distinguish MVD from diseases such as malaria, typhoid fever, and other viral haemorrhagic fevers. However, it is confirmed by lab testing of samples, which like the coronavirus and Ebola are extreme biohazard risks.

There is no approved antiviral treatment or vaccine for MVD as of now. It can be managed with supportive care. According to the WHO, rehydration with oral or intravenous fluids, and treatment of specific symptoms can help prevent death.

EXPRESS NEWS SERVICE

Context: Five people have died and three others are infected with the **Marburg virus** – a highly infectious, Ebola-like disease – in Tanzania's north-west Kagera region.

Marburg Virus

- **About:** Marburg virus disease (MVD), formerly known as **Marburg hemorrhagic fever**, is a severe, often fatal illness in humans.
 - Marburg and Ebola viruses are both members of the **Filoviridae family (filovirus)**. Though caused by different viruses, the two diseases are clinically similar.

- **Transmission:** **Rousettus aegyptiacus**, fruit bats of the Pteropodidae family, are considered to be natural hosts of the Marburg virus.

- The Marburg virus is **transmitted to people from fruit bats** and spreads among humans through **human-to-human**

transmission via direct contact with the blood, organs or other bodily fluids of infected people, and with surfaces and materials contaminated with these fluids.

- **Treatment:** There are **no authorized vaccines or drugs** to treat Marburg, but rehydration treatment to alleviate symptoms can improve the chances of survival.

Marburg virus disease

The rare, often fatal haemorrhagic disease is transmitted from bats



NATURAL HOST

Egyptian fruit bat
(Rousettus aegyptiacus)

VIRUS FAMILY

Filoviridae
(filovirus,
which includes
the Ebola virus)



FIRST DETECTION

1967, in Germany and Serbia,
in cases related to laboratory
work on green monkeys
imported from Uganda

RECENT CASES*

Angola
D.R. Congo
Kenya
South Africa**
Uganda
Guinea (2021)



HUMAN-TO-HUMAN TRANSMISSION

- Direct contact with blood, secretions, bodily fluids
- Via contaminated items (sheets, clothing)

PERIOD OF INCUBATION

→ from **2 to 21** days

SYMPTOMS

- High fever
- Headaches
- Diarrhea, vomiting
- Extreme lethargy
- Severe bleeding

FATALITY RATE

Depending on the viral strain and medical care

→ from **24 to 88%**

TREATMENT

- No vaccine or approved antiviral treatment
- Supportive care (rehydration)



Sources: WHO, CDC *outside of laboratories, travellers

**local transmission from a traveller



PM congratulates NSIL, IN-SPACe and ISRO on the successful launch of LVM3

Context: The Prime Minister has congratulated NSIL, IN-SPACe and ISRO on successful launch of LVM3.

LVM3 Rocket Design

- LVM3 is a **three-stage vehicle**.
- It has **two S200 solid motors** as the first stage, **L110 twin liquid engines** as the second stage and a final **C25 cryogenic upper stage**.
- This 43.5 m tall vehicle has a **lift-off mass** of 643 tonnes.
- Its **cryogenic stage** is uniquely designed to orient and re-orient in **orthogonal direction** to meet the customer requirements of injecting satellites precisely and with a gap to avoid a collision.

HEAVYLIFTERS



LVM3

INDIA'S HEAVIEST,
WILL ALSO BE USED
FOR GAGANYAAN

Liftoff Mass: 640

Payload Capacity:

LEO: 8

GTO: 4



PSLV

INDIA'S MOST
PROLIFIC

Liftoff Mass: 320*

Payload Capacity:

LEO: 1.75

GTO: 1.4



GSLV MK-II

MEANT FOR
HEAVIER
COMMUNICATION
SATELLITES

Liftoff Mass: 415

Payload Capacity:

LEO: 6

GTO: 2.25

NALCO-BARC Releases India's 1st Bauxite CRM

Context: National Aluminium Company Limited (NALCO), the Navratna CPSE, under Ministry of Mines, Govt. of India and country's leading manufacturer and exporter of alumina and aluminium, has successfully developed a **Bauxite Certified Reference Material (CRM)** naming as BARC B1201 in joint collaboration with Bhabha Atomic Research Centre (BARC).

- This is the **first of its kind CRM in India and 5th in the World**.
- This new product will **act as an import substitution** for use by Industries, Research Laboratories and Academic Institutions as a calibration standard in evaluating analytical methods, performance of Instruments, and data quality control in routine analysis of bauxite.

Bauxite

- Bauxite is an **important ore that is used for making aluminium**. It is an oxide of aluminium. It is not a specific mineral but a rock consisting mainly of hydrated aluminium oxides.
- The deposits of Bauxite are mainly associated with **laterites and occur as capping on hills and plateaus**, except in coastal areas of Gujarat and Goa.
- This industry is **divided into 2 segments**.
 - The plants for obtaining **alumina from bauxite ore**, such plants are located near bauxite mines and plants for **reduction of Alumina into Aluminium**, such plants are located near the cheap source of electricity.
- Bauxite is primarily used to produce alumina through the **Bayer process**.
- Like many metals, world demand for aluminium, and therefore bauxite, has grown substantially over the past 10 years in response to economic growth in emerging Asian economies.

Deposits of Bauxite in India

- There are **abundant bauxite reserves in the country**. However since they are located in heavily forested areas, inhabited by indigenous people; mining has been unable to start in these regions.
- By States, **Odisha alone accounts for 53% of country's resources of bauxite**. The ranking of states in terms of bauxite resources is as following
 - Odisha (53%)
 - Andhra Pradesh (16%)
 - Gujarat (8%)
 - Jharkhand (5%)
 - Madhya Pradesh, Maharashtra and Chhattisgarh (4% each).

Four more states found to be water-stressed amid groundwater crisis

Puja Das

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Four more states have recently been found to be water-stressed to add to the seven already on a Central list amid a growing crisis over groundwater extraction, primarily for irrigation.

Widespread use of groundwater for agricultural production in a setting of economic growth has resulted in India becoming the largest groundwater extractor in the world.

Punjab, Tamil Nadu, Telangana and Andhra Pradesh are set to be brought on board the Atal Bhujal Yojana (Atal Jal)

that aims to restore depleting groundwater levels across India, two government officers aware of the matter said.

All of these states have more than 3% of their 'assessment areas' falling in the over-exploited category.

The scheme aims to demonstrate community-led sustainable groundwater management and ensure long-term sustainability of ground water resources.

"The Atal Jal project is still in the piloting stage. If it turns out well, we are looking into extending the scheme to Punjab, Tamil Nadu, Telangana and Andhra Pradesh," one of



The Atal Jal scheme is being implemented by the Jal Shakti ministry since April 2020 in 8,220 water stressed panchayats.

the officials said.

It is being implemented as a Central sector scheme by the Jal Shakti ministry since April 2020 in 8,220 water stressed

village Panchayats in 80 districts of Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.

The scheme also aims to bring about behavioural change at the community level through awareness programmes and capacity building for groundwater management.

It is planned to be implemented in the seven states over a five-year period (2020-25) with an outlay of ₹6,000 crore, of which ₹3,000 crore will come from the World Bank.

"Adding four more states under Atal Jal has been proposed, and we haven't received an approval yet. Once the approval is given, we will be piloting this project to the

new states by next year with an additional fund of ₹5,000 crore," the second official said.

Groundwater plays an important role in increasing food and agricultural production, providing safe drinking water and facilitating industrial development in India. It contributes fresh water to meet the requirements of nearly 65% of irrigated area, which caters to nearly 85% of rural drinking water and 50% of urban drinking water needs.

Experts say poor land use policies in India has resulted in loss of smaller wetlands and degradation of most wetlands

that ultimately pushed groundwater levels very low. Most of the wetlands are treated as wasteland by local administrations and encroached for other land-use purposes that need to be immediately stopped.

The latest Dynamic Ground Water Resources Assessment by the Central Ground Water Board (CGWB) shows that the groundwater extracted in 1,186 blocks, mandals and taluks is more than what is replenished annually through rainfall and other sources.

Queries sent to the Jal Shakti ministry remained unanswered till press time.

Context: Four more states have recently been found to be **water-stressed** to add to the seven already on a Central list amid a growing crisis over groundwater extraction, primarily for irrigation.

- **Punjab, Tamil Nadu, Telangana and Andhra Pradesh** are set to be brought on board the Atal Bhujal Yojana (Atal Jal) that aims to restore depleting groundwater levels across India.

Water Management in India

- India extracts **most groundwater in the world**, more than the **2nd and 3rd largest extractors** (China and the United States) together. However,
- Only 8% of the extracted groundwater in India is used for **drinking**.
- 80% goes to **irrigation**
- Remaining **12% goes to industrial uses**.
- The **Composite Water Management Index by NITI Aayog** has sounded a note of caution about the water crisis in India, with more than 600 million people facing acute water shortages.
- It is also projected the country's water demand to be twice the available supply by 2030.
- **Water (Prevention and Control of Pollution) Act, 1974** establishes an institutional structure for preventing and abating water pollution while maintaining standards for water quality.
- **Central Pollution Control Board (CPCB)** is a statutory organisation which was constituted in September, 1974 under the Water (Prevention and Control of Pollution) Act, 1974.

Environmental stewards: Sacred Hopi site in Arizona awarded ICOMOS Water and Heritage Shield

The Hopi consider the Sípàapu on the Little Colorado river to be the place from where their ancestors emerged from another world into this one



NEXT NEWS >

By Rajat Ghai

Published: Sunday 26 March 2023



- **Origin:** It was founded in 1965 in Warsaw (Poland) as a result of the Venice Charter of 1964.
 - It is headquartered in Paris, France.
 - Its mission is to promote the conservation, protection, use, and enhancement of monuments, building complexes, and sites.
- **Partner Organization:** ICOMOS is a partner and founding member of the Blue Shield, which works to protect the world's cultural heritage threatened by wars and natural disasters.

Context: A site located in Arizona, United States and sacred to the Hopi Native American Nation has been awarded a 'Water and Heritage Shield' by the International Committee On Monuments and Sites International Science Committee.

Key Points

- The purpose of the Shield is to help the public become **aware of the significance of water and indigenous sacred sites** all over the world and the right to cultural and historical memory.
- The **Sípàapu** is a rocky dome made of limestone as well as a spring located on the Little Colorado river, a tributary of the Colorado. The Little Colorado joins the main stem of the river within the Grand Canyon, a UNESCO World Heritage Site.
- The ancestors of the Hopi dwelled throughout the **Grand Canyon** before 1250 Common Era.
- They left for reasons of drought and other external pressures, relocating to mesas (highlands found in the area) to the northeast of the canyon.
- The **Little Colorado**, especially the confluence, is sacred not only to the Hopi, but also to other Native American groups such as the Navajo and Zuni.
- The Hopi long ago chose to live in a **high desert environment** where nature was delicate so that they would be forced to attune their perceptions in a way that would lead to their spiritual growth.
- The Hopi consider the **Sípàapu** to be the place from where their ancestors emerged from another world into this one.

ICOMOS

- **About:** ICOMOS is **global monument conservation body** (non-government organisation) dedicated to promoting the application of theory, methodology and scientific techniques for conservation of architectural and archaeological heritage across the world.
 - It is also **advisory body to UNESCO** for cultural heritage, in particular for implementation of World Heritage Convention.

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