Telangana Today- 18- January-2022

Cabinet okays irrigation projects worth Rs 2,251 cr

STATE BUREAU
Hyderabad

The State Cabinet held a lengthy discussion on various projects proposed by the Irrigation Department and approved allocation of Rs 2,251.12 crore for their completion. Among these newly approved projects, the Cabinet allocated Rs 388.20 crore for construction of a link canal from Mallannasagar reservoir to Tapaspalli reservoir in Siddipet district which will ensure irrigation water supply to 1.29 lakh acres under Tapaspalli reservoir.

The Cabinet also revised the estimated cost of the Chanaka Korata Barrage which is being constructed on the Painganga River in Adilabad district to Rs 795.94 crore. The construction of the barrage has already been completed on the project, while the construction of the pump house is on progress. The project will irrigate 50,000 acres in Bhimpur, Jainath, Bhela and Adilabad mandals in Adilabad district. The Cabinet also approved a revised estimate of Rs 669 crore for the proposed Gattu Lift Irrigation Scheme in Jogulamba Gadwal district and to call for tenders for the project works.

The proposed Ghanpur branch canal as part of the Mahatma Gandhi Kalwakurthy Lift Irrigation Scheme, has been allocated with Rs 144.43 crore to irrigate 25,000 acres in Ghanpur and Addakula mandals. The State Cabinet approved works worth a total of Rs 104.92 crore towards construction of a pump house and canal from Gandi Ramaram tank to Kannaram tank to provide irrigation water as part of Devadula scheme, for pipeline works from Gundla Sagar to Laukya Tanda and also construction of a pump house at Naskal Reservoir.

Modernisation works

The modernisation works of Ghanpur Dam canal system, built during the Nizam's period in Medak district, were taken up in the past. However, the Cabinet gave administrative sanction of Rs 50.32 crore to undertake some of the remaining works. Under this project, about 25,000 acres will be irrigated in Medak district.

About Rs 44.71 crore was sanctioned for the restoration of Pedda Cheruvu tank at Buddharam village in Gopalpeta mandal in Wanaparthy district. The administrative sanction was given for the construction of 11 check dams in Wanaparthy and Jogulamba Gadwal districts at a cost of Rs 27.36 crore. The Cabinet allotted Rs 10.01 crore for the restoration and beautification of the Gopala Samudram tank at Veltoor village in Peddamandadi mandal in Wanaparthy district. Works worth Rs 16.23 crore for construction of Mukthyala branch canal near Vellaturu in Chintalapalem mandal and Janpahad branch canal near Gundeboyina Gudem village in Palked mandal - both in Suryapet district, also were approved.

Raising funds

The Cabinet also approved the setting up of Manjira Lift Irrigation Corporation Limited under the Companies Act, 2013 to raise funds for the Sangameshwara and Basaveshwara Lift Irrigation Schemes in Sangareddy district. The Corporation will be chaired by the Special Chief Secretary or the Principal Secretary of the Irrigation department, while the Engineer-in-Chief (General), the Engineer-in-Chief (Gajwel), Joint Secretaries for Finance and Irrigation departments and also the Chief Engineer of Sangareddy district will be the directors.

STREAMLINING WORKS

- Link canal from Mallannasagar to Tapaspalli reservoir in Siddipet
  Rs 388.20 cr
- Estimated cost of Chanaka Korata Barrage revised
  Rs 795.94 cr
- Revised estimate for Gattu LI Scheme in Jogulamba Gadwal
  Rs 669 cr
- Ghanpur branch canal
  Rs 144.43 cr
- Restoration of Pedda Cheruvu tank in Wanaparthy
  Rs 44.71 cr
- 11 check dams in Wanaparthy, Jogulamba Gadwal
  Rs 27.36 cr

Hindustan Times- 18- January-2022

{ GROUNDWATER DEPLETION }

Parts of land surface in Delhi-NCR may be sinking right under our feet: Satellite data

Paras Singh
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NEW DELHI: The alarming rate of ground water depletion in the Capital may be leading to a different kind of slow evolving crisis -- parts of the ground surface in the city sinking, a phenomenon known as land subsidence.

Now, using satellite data, researchers have found an area of around 100 sq kilometres in Delhi-NCR region under high risk of ground displacement, with the largest of these, around 12.5 sq kilometres, located in South West Delhi's Kapashera, barely 800m away from Delhi's international airport.

In a study titled "Tracking hidden crisis in India's capital from space: implications of unsustainable groundwater use", published in Nature, researchers from IIT Bombay, German Research Centre for Geosciences, Cambridge and the Southern Methodist University, US said that the rate of "sinking of land" in the neighbourhood near the airport is accelerating and the subsidence feature is rapidly expanding towards the airport, potentially threatening it.

"During the years 2014–2016, the subsidence velocity was found to be approximately 11 cm/year which rose significantly by almost 50% over the next two years to around 17 cm/year. The trend remained almost same during 2018–2019," the study added.

The study found another deformation in Mahipalpur, just 500m away from the airport where deformation of 15mm/year were observed in 2014-16, 30mm/year in 2016–2018 and 50mm per year in 2018–2019.

A widespread global problem, land subsidence occurs when large amounts of groundwater are withdrawn from some types of rocks and underground soil. With a projected demand of 1236 MGD (million gallons per day), water-stressed Delhi has a 300MGD demand-supply gap. According to the draft MPD 2041 (Master Plan for Delhi), this demand is further likely to increase to 1746MGD by 2031. A large part of unmet demands are met through groundwater extraction.

The study has found that an area of approximately 100 sq km in NCR is under "high risk of ground displacement". →P5

Hindustan Times- 18- January-2022

Groundwater extraction causing parts of city surface to sink: Study

Paras Singh
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NEW DELHI: The alarming rate of ground water depletion in the Capital may be leading to a different kind of slow evolving crisis– parts of the ground surface in the city sinking, a phenomenon known as land subsidence.

Now, using satellite data, researchers have found an area of around 100 square kilometres in Delhi-NCR under high risk of ground displacement, with the largest of these, around 12.5 sqkm, in South-West Delhi's Kapashera, barely 800m from the airport.

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"During the years 2014–2016, the subsidence velocity was found to be approximately 11 cm/year which rose significantly by almost 50% over the next two years to around 17 cm/year. The trend remained almost same during 2018–2019," the study added.

Shagun Garg, a doctoral researcher from the University of Cambridge, part of the team which studied these land deformations, said that of all the areas under threat, Kapashera (near the Indira Gandhi International Airport) was the most vulnerable because the subsidence rate is extremely high.

"Airport requires stable ground because of the risk of major disruption if there's significant ground movement. Kuala Lumpur airport is an example to understand the implications of land subsidence where cracks on taxiways, and waterlogging emerged due to soil settlement. Continuous monitoring of the airport and its connecting roads is crucial," he added.

The study found another deformation in Mahipalpur, just 500m away from the airport. The area saw deformation of 15mm/year in 2014-16, 30mm/year in 2016–2018 and 50mm per year in 2018–2019.

A widespread global problem, land subsidence occurs when large amounts of groundwater are withdrawn from some types of rocks and underground soil. When large amounts of underground water are extracted from aquifers, the clay between pockets of water collapse gradually leading to deflation of land beneath. It isn't like a sinkhole or a cave-in whose impacts are sudden, but occurs over a very large area gradually.

With a projected demand of 1,236 MGD (million gallons per day), water-stressed Delhi has a 300MGD demand-supply gap.

According to the draft MPD 2041 (Master Plan for Delhi), this demand is further likely to increase to 1,746MGD by 2031. A large part of unmet demands are met through groundwater extraction. At certain locations in southwest Delhi, the groundwater table is available at a depth of 80m below ground and this continues to deplete at the rate of 3-4 m/year.

According to the US Geological Survey (USGS), more than 80% of land subsidence across the world is caused due to excessive groundwater extraction

The areas at high risk that need immediate attention include Bijwasan, Samalkha, Kapashera, Sadh Nagar, Bindapur, and Mahavir enclave in Delhi; Dundahera, Sector 22A, and Block C in Gurgaon; and pockets A, B, C of Sanjay Gandhi Memorial Nagar in Faridabad. Despite its slow pace, land subsidence is known to cause losses worth billions of dollars all over world due to damage to infrastructure, roads, pavements, and underground utilities such as drainage system. The sinking also leads to aggravated flood risk and more frequent waterlogging.

The researchers also suspect that land subsidence may be responsible for poor condition of the 7.5 km- stretch of Delhi-Gurgaon road which has "subsided" by more than 70 cm in the past five years. "Civic authorities can look into the possibility of subsidence-induced gradient change of the sewer pipe resulting in leakage of sewage, breaking open the pavement, and deterioration of the road condition. However, further investigation is required."

A Delhi airport official said all precautions were taken before constructing the airport. "Studies have been done before carrying out construction work in and around the airport premises, with no impact of any land subsidence noted. All due checks are carried out before any construction work and at the airport in particular, no impact of the groundwater table possibly reducing, has been seen." the official said.

An official with the Central Ground Water Board said the agency is studying the impact of land subsidence. "We have been looking at the land subsidence aspect and have also initiated a project on land subsidence with IIRS Dehradun. Once the findings are clearer, we can comment on the ground reality."

Prof Shashank Shekhar, a water expert and professor of geology at Delhi University said the matter needs to be further investigated. "The research correlates minor land subsidence with water level decline. It may be that water level decline triggered minor adjustments in the surface topography. If so, it should be visible in other similar localities. However, in geology there is continuous landscape evolution mostly linked to tectonic activity. As the areas mentioned are on flanks of Delhi ridge, which is also a fault zone, it will be good to factor in the neo-tectonic activity to account for the minor adjustments in the land surface."

Professor Vikram Soni, a conservationist and emeritus professor at JNU working on issues related to water in Delhi said land sinking is possible due to excessive groundwater extraction. "Imagine the cross-section of land to be a tumbler filled with sand. We can fill it with water up to certain level, and water occupies the space between the sand particles. If this water is withdrawn, the particles will also shrink by 15-20%. It is not surprising that the land is sinking."

The study also highlights an "uplift trend" in Dwarka, attributed to a rise in the groundwater table and the consequent reduction of effective stress in the soil. "The region was undergoing subsidence with an approximate rate of 3.5 cm/year in 2014-16 which changed to uplift of 0.5cm/year in 2016-18 and 1.2cm/year in 2018-20. The main reason for this change... can be associated with swelling behaviour of soil. Delhi government introduced several strict policies to improve groundwater condition in the area."

Can subsidence be reversed?

"Central Ground Water Board (CGWB), Geological Survey of India (GSI), and Ministry of Urban Affairs need to look into investigate whether these trends are reversible. We suggest the government and policymakers should have a detailed understanding of the geophysical properties of the areas undergoing subsidence and incentivise rainwater harvesting while ensuring strict implementation of laws against illegal mining of groundwater. The building conditions in hazard zones should be evaluated and proper measures should be taken," said Garg.

(With inputs from Jasjeev Gandhiok)

Surface sinking beneath our feet?

Around 100 sq km of area in NCR has high risk of ground displacement, with the largest of these, of around 12.5 sq km, in S-W Delhi's Kapashera

What is land subsidence?

Subsidence is a general term for the downward vertical movement of the Earth's surface, which can be caused by both natural processes and human activity

What are the causes of land subsidence?

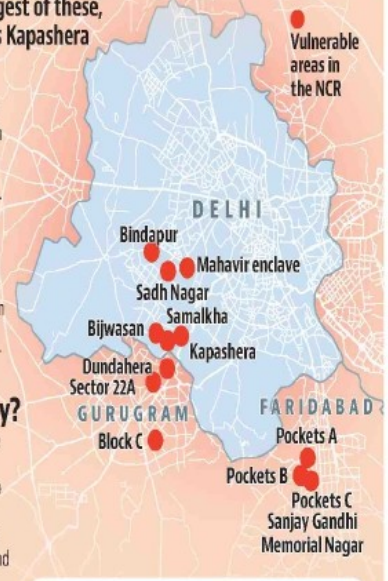
Subsidence is most often caused by removal of water, oil, natural gas, or mineral resources from the ground by pumping, fracking, or mining

What role does excessive groundwater extraction play?

When large amounts of underground water are extracted from aquifers, the clay between pockets of water gradually collapses, leading to the deflation of land underneath much like a collapsing mattress. According to United States Geological Survey (USGS), more than 80% of land subsidence across the world is caused due to excessive groundwater extraction.

Why are these changes not immediately apparent?

Unlike sinkholes and cave-in sites land subsidence takes over a very large area slowly and gradually



Concerns are raised by study on land subsidence in Delhi-NCR

Satellite data shows that an area of approximately 100 square kilometre is at high risk of ground displacement. Most of these are urban areas with a high population density and high subsidence gradient.

Times of India- 18- January-2022

Domestic sewage to blame for 80% of river pollution

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New Delhi: Domestically generated sewage is the main reason for the Yamuna's pollution and contributes to more than 80% of the total effluents being discharged into the river, the Delhi Pollution Control Committee (DPCC) has said in reply to an RTI query.

The RTI revealed that DPCC is currently monitoring the Yamuna's quality in nine locations as well as 24 drains, including two coming from UP, that discharge effluents into the river on a monthly basis. It also pointed out the Delhi Jal Board's low sewage treatment capacity, and said over 200 million gallons of sewage reaches the river daily without being treated.

"Delhi's estimated sewage generation is 720 million gallons per day (MGD). The responsibility of proper treatment and disposal of sewage lies with DJB. There are 34 operational sewage treatment plants and about 515 MGD is being treated through these," the RTI reply said.

It added that interceptor sewers have been laid to trap the sewage being discharged through sub-drains, namely Najafgarh drain, the supplementary drain and Shahdara drain.

TOI had earlier reported how untreated sewage is being discharged into the Yamuna which, while entering the city, has dissolved oxygen, biochemical oxygen demand and faecal bacteria levels within the permissible limit. However, by the time the river water exits the capital, it is highly polluted, with faecal coliform (bacteria from excreta) almost 560 times higher than the permissible limit and 2,800 times higher than the desirable limit.

"The question is, after so many years, why has the agency responsible for the Yamuna not even fixed its sewage treatment capacity? Despite sufficient funds, the government has failed to clean the river. We know that the river water is much cleaner when it enters the city and more polluted at exit," said Amit Gupta, a Noida-based RTI activist.

DPCC also said in the RTI that there are 13 common effluent treatment (CET) plants catering to 28 industrial areas and 24 redevelopment areas.

"DPCC regularly monitors the STPs of Delhi Jal Board and the 13 CET plants on a monthly basis. It takes action against industries or units found operating without consent under the Water Act or those which don't meet the prescribed standards for effluent discharge," the RTI reply added.

Of the Yamuna's 48km stretch through NCR, 22km is in the national capital. The river enters at Palla near Wazirpur and exits around Jaitpur. As per DPCC's latest assessment, while it still has dissolved oxygen and less faecal coliform at entry point, it is in a much worse condition at exit.

DIRTY PICTURE

Times View

It's hardly surprising that domestic sewage is a major polluter of Yamuna. Besides finding out ways and means to reduce it at the source, there's an urgent need to invest in enhancing the capacity of sewage treatment plants. Only then the situation will change for the better.

The Hindu- 18- January-2022

NIIST develops hybrid process to treat well water

Plant purifies water contaminated with perchlorate, generates 2,000 litres of potable water daily

SPECIAL CORRESPONDENT
THIRUVANANTHAPURAM

The CSIR-National Institute for Interdisciplinary Science and Technology (NIIST) here has come up with a hybrid process for treating well water contaminated with perchlorate. Perchlorate contamination poses health risks, as it can affect the thyroid gland leading to hypothyroidism and associated physiological disorders.

The NIIST has established a demonstration plant at Keezhmad panchayat in Aluva, which is capable of treating contaminated well water and generating 2,000 litres of potable water a day. The treatment process was developed by a team led by Krishnakumar B., Senior Principal Scientist with the NIIST's Environmental Technology Division.

A strong oxidising agent, perchlorate salts find wide use in many industries, including the strategic sector and space research and development units. The NIIST developed the hybrid process (bio-physical) as conventional treatment methods scarcely work. The project was funded by the Jal Jeevan Mission, Ministry of Jal Shakti.

How it works

The contaminated water is initially treated in a bioreactor with a specially developed bacterial system. It then passes through a combination of custom-designed ultrafiltration (UF) and reverse osmosis (RO) units for removing residual contaminants. It's also a zero-discharge process as the UF and RO rejects too get treated in the bioreactor.

According to the NIIST, studies carried out by it during 2009-2015 had revealed high levels of perchlorate in well water samples around the Ammonium Perchlorate Experimental Plant, Aluva. Contamination was observed in the Keezhmad and Edathala panchayats. In the community wells at Kulakkad in Keezhmad panchayat, perchlorate levels up to 45,000 micrograms per litre had been observed.

Later studies by the Health department also showed elevated TSH levels (indicating hypothyroidism) among Keezhmad residents who use the contaminated well water.

The capital cost of the 2,000 litre-a-day plant is ₹3 lakh.

The Hindu- 18- January-2022

Revisit Water Disputes Act, Bommai tells Centre

It is creating more disputes, says CM

SPECIAL CORRESPONDENT
BENGALURU

Karanataka Chief Minister Basavaraj Bommai on Monday said irrigation projects in Karnataka are bogged down by inter-State river water disputes, and asked the Centre to "revisit the Inter-State River Water Disputes Act since the law is creating more disputes than resolving them."

"There are some legal interventions that are necessary. Our irrigation projects are delayed, bogged down by the Inter-State River Water Disputes Act. In fact, it creates more disputes than resolve them. Time has come to revisit this," said Mr. Bommai during a virtual event related to the inauguration of 'PM Gati Shakti' South Zone Conference, chaired by Union Transport Minister Nitin Gadkari.

The Chief Minister's comments assume significance as Karnataka has been pushing for environment and other clearances for the Mekedatu project that Tamil Nadu is opposing. The execution of many irrigation projects have been delayed due to inter-State river water disputes with neighbouring Tamil Nadu, Maharashtra, Goa, and Andhra Pradesh. The Chief Minister wants the Centre to revisit the Act to expedite the execution of irrigation projects in different States on win-win formula on the basis of merit utilising technology.

Rajasthan Patrika- 18- January-2022

मुख्यमंत्री भूपेन्द्र पटेल के शासन के 121 दिन पूरे

सितंबर तक हर घर 'नल-जल'

छह और जिलों में जनवरी के अंत तक हो जाएगी यह सुविधा

सात जिलों में पहले से सौ फीसदी व्यवस्था

मुख्यमंत्री का 'सुशासन के 121 दिन' आत्मनिर्भर गुजरात से आत्मनिर्भर भारत' पुस्तिका का लोकार्पण

पत्रिका न्यूज नेटवर्क
patrika.com

गांधीनगर. गुजरात में इस वर्ष सितम्बर तक गुजरात के हर जल को नल से जल मिलेगा। मुख्यमंत्री भूपेन्द्र पटेल ने सोमवार को अपने 121 दिन पूरे होने के अवसर पर स्वर्णिम संकुल में आयोजित एक कार्यक्रम में 'सुशासन के 121 दिवस' पुस्तिका को लॉन्च करते हुए यह बात कही।

मुख्यमंत्री ने कहा कि आागामी 31 जनवरी तक छह और जिलों में नल से जल सुविधा मुहैया कराई जाएगी। इनमें डांग, मोरबी, गिर सोमनाथ, जूनागढ़, जामनगर और कच्छ जिले शामिल हैं। इससे पहले सात जिले-आणंद, बोटाद, गांधीनगर, मेहसाणा, पोरबंदर व वडोदरा- पहले ही इस सुविधा से युक्त हो चुके हैं। इस तरह राज्य के राज्य के 13 जिलों में इस महीने के अंत तक 'नल से जल' सुविधा मुहैया कराई जाएगी।

गांधीनगर में 'सुशासन के 121 दिन' पुस्तिका का विमोचन करते मुख्यमंत्री भूपेन्द्र पटेल। साथ में हैं मंत्री राजेन्द्र त्रिवेदी व जीतू वाघाणी।

चौतरफा विकास का संकल्प

उन्होंने कहा कि प्रधानमंत्री नरेन्द्र मोदी और गृहमंत्री अमित शाह ने गुड गवर्नेन्स- सुशासन की जो राह दिखाई है उसी राह पर उनकी नई टीम गुजरात में सभी को साथ रखकर, सभी के लिए चौतरफा विकास करने के संकल्प को साकार करने की दिशा में कदम बढ़ा रही है। पटेल के मुताबिक सौराष्ट्र में बेमौसमी बारिश से किसानों को नुकसान के एवज में दो चरणों में एक हजार करोड़ से ज्यादा सहायता राशि का पैकेज दिया गया। इससें 1530 गांवों के 5.06 लाख किसानों को सहायता मुहैया कराई गई। वहीं मछुआरों के लिए 265 करोड़ रुपए की सहायता पैकेज दिया गया। इस अवसर पर राजस्व मंत्री राजेंद्र त्रिवेदी, शिक्षा मंत्री जीतू वाघाणी, मुख्यमंत्री के मुख्य प्रधान सचिव के. कैलाशनाथन, मुख्य सचिव पंकज कुमार और कई वरिष्ठ सचिव उपस्थित थे।

प्राकृतिक को आवंटित किए जाएंगे 100 करोड़

मुख्यमंत्री के मुताबिक उन्होंने कहा कि गुजरात में प्राकृतिक खेती को और बढ़ावा देने के उपायों और कार्यों के लिए आगामी समय में 100 करोड़ रुपए आवंटित किए जाएंगे। राज्य में दो लाख किसान प्राकृतिक खेती अपना रहे हैं। वनबंधु डांग जिला सम्पूर्ण प्राकृतिक खेती वाला जिला बन गया है। आगामी दिनों में ग्रामीण स्तर पर किसान प्रशिक्षण कार्यक्रम, कृषि शिविर, गुणवत्ता जांच लेबोरेटरी, मास्टर ट्रेनर की सुविधा विकसित की जाएगी।