



New Zealand v England in WC In England

NZ won 1	PLAYED 5 MATCHES	England Won 4
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Overall 90	43	41
In England 31	12	17
World Cups 9	4	4

Record in ODIs at Lord's

NEW ZEALAND	ENGLAND
PLAYED 4	PLAYED 54
WON 3	WON 24
LOST 1	LOST 27

LIVE Star Sports network (3 PM) **PAGE 14**

ICC WORLD CUP 2019
Follow DH's complete coverage of the ICC World Cup 2019 with match previews, live ball-by-ball updates and post-match insights of every minute of the action on and off the pitch.



A farmers' collective has taken the lead to desilt the Tungabhadra reservoir to boost its depleted capacity. Piped water supply is in dire straits in all towns fed by the dam. DH PHOTOS/B H SHIVAKUMAR

Relief for govt as Nagaraj to take back resignation

But rebel to consult Sudhakar

BENGALURU, DHNS: The Congress-JD(S) coalition celebrated late on Saturday night after rebel legislator M T B Nagaraj said he was ready to withdraw his resignation. This came after a 15-hour effort to convince him.



MTB Nagaraj with CM H D Kumaraswamy and Siddaramaiah in Bengaluru on Saturday. SPECIAL ARRANGEMENT

But Nagaraj also said his withdrawal depended on what another rebel K Sudhakar decides to do. Both Nagaraj and Sudhakar had tendered their resignation together. And now, Sudhakar has gone incommunicado amid speculation that he may be off to Mumbai to join 10 rebels holed up there.

The H D Kumaraswamy-led coalition, which is bracing for a trust vote to prove its majority, is making full use of the time it has and is pinning hopes on five to six other rebel MLAs whose return will help tide over the crisis. And hectic efforts are being made to reach out to them.

During the floor test, Chief Minister Kumaraswamy will have to go from 101 to 108 to surpass the BJP, whose tally currently stands at 107.

Congress' troubleshooter D K Shivakumar reached Nagaraj's Hoodi house at around 5 am, camping there for nearly five hours pacifying him. Shivakumar was joined by Deputy Chief Minister G Para-

meshwara and other leaders. Nagaraj was then taken to Congress Legislature Party (CLP) leader Siddaramaiah, who spent another couple of hours trying to talk him out of his decision to quit. The effort culminated with the arrival of Kumaraswamy to Siddaramaiah's residence where he held talks with Nagaraj.

"I will remain with the party," Nagaraj told reporters.

Nagaraj, the Housing Minister, did not relent for the most part. He had tendered his resignation citing the "interference" of Kumaraswamy's brother, Public Works Minister H D Revanna in governance affairs, among other issues. **> MTB, Page 7**

Water crisis: Towns, cities stare at Day Zero

While unregulated development has played havoc with urban water sources, the failure to desilt lakes has punctured their ability to sustain themselves

Rasheed Kappan

Perched on the edge of an unprecedented drinking water crisis, Bengaluru and its urban sisters across the State are in deep despair. Delayed, inconsistent and inadequate, the South-west monsoon has offered little comfort thus far, as urban Karnataka's near-total reliance on rains lies thoroughly exposed. Hitting global headlines, the prospect of Bengaluru running out of water in the near future has triggered a frantic search for alternatives. But did that urgency dawn too late? It appears so, as the dangerously low levels of reservoirs feeding the city threaten to cut-off supplies by September.

This grim picture of over-dependence on surface water repeats disturbingly in Tier-2 cities and small towns of Karnataka. Dried up, silt-filled lakes; discarded borewells that could not find water even at depths of 1,000ft; tanker supplies once

unheard of... in town after town, these scenes are now the norm.

In Hosapete, a town of over 2 lakh people in Ballari district, the close proximity of the Tungabhadra dam always gave comfort.

But in the height of this summer, water got so scarce that piped supply was limited to once in four days, only marginally better than the weekly distribution to Ballari town.

Swathes of silt
Descending into the dam's backwaters, vast swathes of silt greet you to tell a story of poor management and foresight. "This dam was designed to hold 130 thousand million cubic feet (TMCft) of water. But today, 30 TMCft is filled with silt, effectively reducing the reservoir's capacity to 100 TMCft," notes Janardhan Huligi, chief coordinator of a

Koppal-based farmers collective.

In 2017, determined to upgrade the reservoir capacity, the collective took the lead to raise funds locally and launched a massive desilting exercise. "Deploying earth movers, 1.5 lakh cubic metres of silt was removed. The water that you see there today is due to that effort," Huligi says pointing at a big pool on the otherwise dry bed.

This year, the election code of conduct had delayed the process. "But we restarted it on June 4, and have removed 40,000 cubic metres of silt so far. The funds were raised locally and without any support from the government. The removed silt, rich in manure, is taken away for free by local farmers," Huligi told DH.

Collective and individual efforts offer a ray of hope in an otherwise dismal

landscape. Not far away from the dam, a Karnataka State Reserve Police (KSRP) battalion with over 600 personnel and their families has to rely on borewells fast running out of water.

Thanks to a KSRP inspector's untiring efforts, a 210x80x10 metre tank is now being built inside the battalion's campus by Karnataka Neeravari Nigam Limited.

Fed by rainwater and inflow from the Tungabhadra dam, the tank could soon hold 9-crore litres of drinking water. Can this be a model for the water-starved towns of Koppal, Ballari and Raichur?

No such tanks are anywhere in sight, as one enters Basapur, on the outskirts of Koppal town. Awaiting intermittent water supply from a panchayat tap, Gudadappa laments: "Although we sink a lot of borewells, there is absolutely no water. In the last four months alone, we have drilled seven wells in vain."

> Water crisis, Page 4



107 Oppn MLAs will join BJP: Mukul Roy

Soumya Das

KOLKATA, DHNS: West Bengal BJP leader Mukul Roy on Saturday created a flutter when he claimed that more than 100 legislators from the opposition — Trinamool Congress (TMC), CPM and the Congress — were in touch with the BJP and will soon join the party.

"In total, 107 MLAs from the TMC, the Congress and the CPM will join the BJP in near future," said Roy.

Roy, a former TMC general secretary, also said that a list of such MLAs had been prepared by the BJP leadership and the MLAs were in regular touch with them.

Defections from the TMC to the saffron party started days ahead of the Lok Sabha elections, with several leaders switching sides. A majority of the defections took place as legislators were unhappy over not getting the party ticket.

> Mukul Roy, Page 2



"I had lots of nerves, my stomach wasn't very well. I have never played a better match"

—Simona Halep

Halep stuns Serena

Romania's Simona Halep is a picture of delight as she holds aloft the Wimbledon title after defeating Serena Williams 6-2, 6-2 in the final on Saturday. On Sunday, World No 1 Novak Djokovic and World No 3 Roger Federer will lock horns in a blockbuster men's final. REUTERS

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Five more rebel MLAs move apex court over resignations

NEW DELHI, DHNS: Five more rebel MLAs from Karnataka on Saturday approached the Supreme Court, joining 10 disgruntled legislators from the ruling JD(S)-Congress government to seek a direction to Assembly Speaker K R Ramesh Kumar to decide on their resignations.

MLAs — K Sudhakar, Roshan Baig, M T B Nagaraj, Munirathna and Anand Singh — have filed an impleadment application in the joint writ petition filed by Pratap Gouda Patil and others. They submitted that they were identically placed with 10 other MLAs in whose case, the top court had ordered status quo on Friday and put it for further consideration on Tuesday, July 16.

The rebel MLAs claimed that the actions of Speaker in not accepting their resignation were in violation of their fundamental right.

They said an elaborate inquiry was not contemplated in the present scenario as they submitted their resignation much earlier and voluntarily.

They also maintained that the disqualification proceedings were being used to threaten and intimidate the MLAs.

After Chief Minister H D Kumaraswamy's announcement for the floor test, and despite having resigned, they were being threatened to support the government or they will be disqualified, their plea stated.

"The applicants apprehend that they will be disqualified while their resignations are kept pending," they alleged.

When the MLAs themselves stated their resignation is voluntary and when he submits it under his signature, there was no further scope for inquiry under Article 190 of the Constitution and Rule 202 of the Rule of the Procedure and Conduct of Business of the Karnataka Legislative Assembly, they said.

> Rebel MLAs, Page 7



'SC order protects rebels from whip'

Former Attorney General Mukul Rohatgi on Saturday said the Supreme Court's July 12 order for maintaining status quo on 10 rebel MLAs would protect them from a 'whip' issued on July 11. Rohatgi, who argued for the MLAs, said he has pointed out the issue of whip before the court. This was also annexed in the SC record. Citing the SC's order, he said, subsequent to it, no matter of disqualification can be decided by the Speaker. "The order of the Supreme Court restraining the Speaker from deciding any disqualification covers the whip issued on July 11," he said.

JD(S) rules out leadership change

The JD(S) leadership has rejected the Congress offer to replace Chief Minister Kumaraswamy with a Congress leader as a solution to the crisis. JD(S) supremo H D Deve Gowda is said to have rejected the plan, saying the Congress should first focus on saving the current dispensation from collapsing, instead of thinking of alternative arrangements

Extraction exceeds recharge

Water crisis, From Page 1

Piped water supply is painfully slow. "It takes over half an hour to fill just one pot. Even the panchayat water tankers come only once in five days," he says.

This can get much worse in the rural hinterland. In water-starved Nibbagur, a small hamlet in Davanagere district, villagers leave at 3 am with pushcarts to seven borewells inside a dried up lake two kilometres away. "Over 20 such pushcarts wait in queue as water drops in spurts from the borewell. After filling 4-5 pots, we have to wait 30 minutes for the next spurt," says Parvathamma, a resident.

To quench the thirst of two lakh Koppal residents, water from the Tungbhadra reservoir is lifted to tanks and piped to the households. "But industrial pollutants from sugar factories have severely contaminated the groundwater. There is high arsenic and fluoride content," MS Patil from the local Agricultural Extension Education Office told DH.

But as groundwater levels have dipped below 500ft in Koppal, equitable surface water distribution has not extended beyond the town's core. In Bahaddurbandi on the periphery, supply from public taps lasts just an hour daily. "For many years, this has been the scene. But this year, it's been extreme," says Irfan Malipatel, a resident.

The pathetic state of this suburban pocket hundreds of kilometres away from the State capital finds an arresting echo in Bengaluru's periphery. If normal rainfall bypasses the city even in July, big trouble looms. But for years, this acute shortage has been the norm in the 110 villages added to the city in 2007.

Fast-depleting groundwater

The Bangalore Water Supply and Sewerage Board (BWSSB) supplies 1,450 million litres per day (MLD) every day in 575 sq km where its network exists. An estimated 400-500 MLD is sourced through thousands of borewells dug on the outskirts. But with fast-depleting groundwater, this is unsustainable.

Dependent on private tankers for years, residents on the periphery have an assurance from BWSSB Chairman Tushar Girinath: "Over the next five years, an additional supply of 775 MLD under the fifth stage of the Cauvery water supply scheme will reduce groundwater usage." But can the city afford to wait? "Nobody knows the quantum of groundwater, and hence nobody can predict how long it will last. Yes, the rate of extraction is faster than the rate of recharge. Nobody can tell when it will get to zero," says Girinath.

This uncertainty should have spurred BWSSB to arrest the huge quantum of Unaccounted For Water (UFW) that once stood at an astounding 50% of the supply. "Today, we have reduced this to 36%. Distribution losses account for 22% and 12-14% is due to unauthorised connections, classified as pilferage," informs the Board's Engineer-in-Chief Kemparamaiah.

Despite these small gains, the city's fall into a waterless abyss appears disturbingly certain. But a rescue attempt can still be made with a robust lake rejuvenation effort. Articulating this is Dr TV Ramachandra from the Indian

BENGALURU

- Bengaluru City's daily requirement in 575 sq km currently served by BWSSB: 1,450 MLD
- Estimated volumes of groundwater sourced through borewells: 400-500 MLD
- Additional water supply from Cauvery in next 5 years: 775 MLD
- Estimated Rainwater Harvesting installations in BWSSB area: 1.23 lakh
- Unaccounted For Water in areas served by BWSSB: 36% (Distribution losses: 22%, Water Pilferage: 12-14%)

HUBBALLI-DHARWAD

- In 1962, Hubballi-Dharwad had 101 water bodies connected with 152 canals. Today, there are only 19 major water bodies.
- None of the water bodies in Hubballi are fit for consumption.
- In normal rainfall year, Hubballi-Dharwad receives over 700 mm. Last seven years, due to below average rainfall, maximum has not exceeded 640 mm.

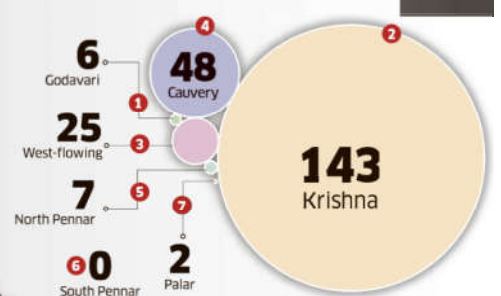
MANGALURU

- To tide over the water crisis, Mangaluru City Corporation (MCC) drilled 11 new public borewells (increasing the total to 141 borewells in MCC limits) and cleaned 48 open wells.
- The ground water level in Mangaluru has gone down from 12.01 m in June 2018 to 22.37 m in June 2019.

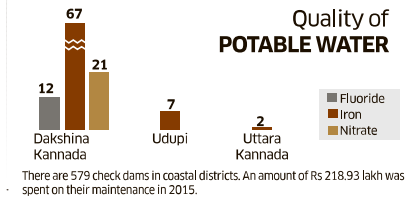
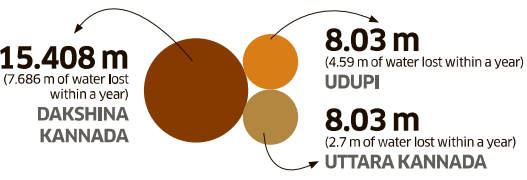


TOWNS COVERED under different river basins

231 Total



AVERAGE STATIC WATER LEVEL JUNE 2019 (in metres)



Water: coast in the red

Children from Koraga colony in Malali, near Export Promotion Investment Park in Ganjimutt on Mangaluru's outskirts, have been forced to drop out of school in order to fetch water. A teacher serving in government first grade college in Mangaluru had to apply leave and remain at home to ensure that the water tanker did not skip her house in her absence.

On July 11, taps in and around Mangaluru ran dry, even as the India Meteorological Department (IMD) recorded the district's average rainfall on that day as 50.6 mm. This paradox reflects the situation in coastal districts. This monsoon, the supply of water to Mangaluru was disrupted for the second time flooding residents with memories of the parched summer they had suffered a few weeks ago.

Mangaluru City Corporation (MCC) had tried to tide over the water crisis by sinking 11 new public borewells (increasing the total to 141 borewells in MCC limits) and cleaning 48 public open wells. It is the mismanagement of water which has worsened the crisis, according to experts.

Decades ago, structures such as earthen bund, tanks, salt water exclusion dams not only met the water needs but also sustained groundwater resources. The 1973 SK District Gazetteer mentions that there were 2,400 tanks owned by government and 30,870 privately owned irrigation tanks in the district.

Experts had recommended a slew of interventions to achieve "a long-term stability for sustainable use of water" and also guidelines for proper use of water resources available in coastal districts at a seminar on water management for coastal districts organised in Mangalore University in March 1994.

Salinity ingress
The recommendations gathered dust and the dependence on rivers for drinking water increased over the years resulting in the wastage, diversion, encroachment of surface water. The salinity ingress of coastal aquifers and inland salinity problem also precipitated the water crisis. Thus the underground water table this year (see box) witnessed a drastic fall in Dakshina Kannada (which receives annually around 3789.9 mm rainfall) in Udupi (4000 mm rainfall) and Uttara Kannada (2750 mm rainfall). P Janaki, senior geologist at Groundwater Department, Dakshina Kannada and Udupi, informs that groundwater level in Mangaluru had gone down from 12.01 m in June 2018 to 22.37 m in June 2019. In Puttur, the groundwater table had dipped drastically from 3.43 m in 2018 to 13.46 m in 2019.

The average drop from 2.7 m onwards and the recoup of groundwater level be-



A dried up tank in Chitradurga; a tank work in progress inside the KSRP batallion in Hosapete. DH PHOTOS/BH SHIVAKUMAR



Institute of Science himself, the man who predicted the city will run out of water by 2020. His contention is this: Bengaluru city's annual requirement is 18 TMCft. By desilting and rejuvenating the existing lakes, raising the groundwater table and ensuring a robust rainwater harvesting system, the city can potentially generate 15 TMCft.

If unregulated development has played havoc with the city's lakes, the failure to desilt lakes at regular intervals has punctured the ability of small towns to sustain themselves.

If lakes are not desilted, the exposed clay solidifies due to heat, preventing

infiltration of rainwater. "Around Nagashetty Lake, people used to get water at depths of 100-150ft. But once the land was allotted to Antariksh Bhavan, the groundwater table dipped to 700ft in five years. Today, there is no water even at 1,600 ft," he said.

But could a one-size-fits-all approach work across the State? Not at all, as illustrated best by the peculiar soil profile of Chitradurga town and its rural hinterland with poor water-holding capacity. "Wind is the enemy here," notes Dr N J Devaraja Reddy, hydrologist and rainwater harvesting specialist.

The soil is barely a few feet deep. "Chi-

tradurga holds the second highest wind record in the entire country after Kanakumari. The soil gets blown away fast, and this erosion is historical. Through June, July and August, the wind sweeps the area at speeds of 5 metres/second," he told DH.

At such high speeds, the wind blows away moisture-holding soil at an alarming rate. "An estimated 600 mm of moisture is lost every year this way. If you analyse 100-year rainfall data, Chitradurga has recorded drought for 60 years."

DH News Service

"Today, Unaccounted For Water in Bengaluru is 36%. Distribution losses account for 22% and 12-14% is due to unauthorised connections, classified as pilferage"

Kemparamaiah
Engineer-in-Chief, BWSSB

Sewage, encroachment choke water sources

Pavan Kumar H

When the twin-cities Hubballi and Dharwad were upgraded to municipal corporation in 1962, there existed 101 water bodies connected with 152 canals supplying water for both domestic use and agriculture purposes. But today, it has only 19 major water bodies and water in any of these sources is not potable.

Such is the situation in the twin cities that now people are demanding the government to draw water from rivers like the Mahadayi and the Kali. Experts believe that such proposals are not only ecologically detrimental but financially not feasible as well.

Experts and research studies put the blame of water scarcity in twin cities directly on the mismanagement of water bodies, unplanned development, rampant pollution and encroachment of water bodies.



Hubballi lake in Hubballi covered by a carpet of water hyacinth. SOURCE: TV NEWS 123

