B.PAC
Let's Be Better

Expert Roundtable Discussion on

My Bengaluru, My Manifesto

Water & Sanitation

ELECTION HABBA 2023
Electoral Awareness Campaign by B.PAC


MY BENGALURU
MY MANIFESTO
SWALPA ADJUST MADBEDI

Discussion topics

- Current Water & Sanitation Scenario in Bengaluru
- Analysis - Manifestos and Budgets by ruling political parties
- Recommendations to improve the mobility sector in Bengaluru

Outcome:

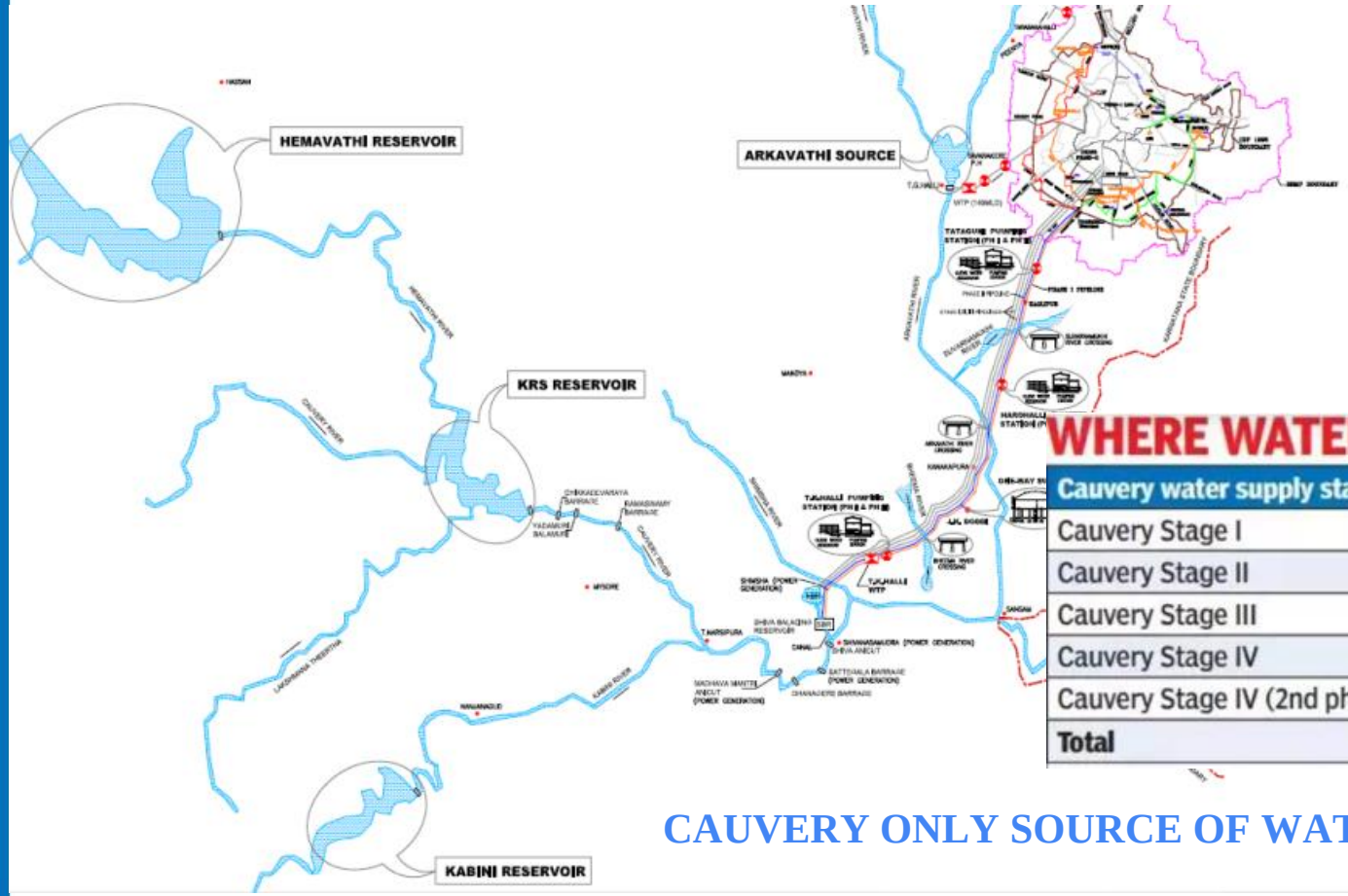
- Recommendations
- Short term and long term strategy to achieve recommendations
- Manifesto will be shared with political parties
- Continuous advocacy efforts

Current Scenario in Bengaluru

BENGALURU'S GROWTH

	1990s	2000s	2012	2023	
	40 Lakhs	62 Lakhs	96 Lakhs	130 Lakhs	⬆325%
	280 km²	532 km²	851 km²	1306 km²	⬆466%

Water Sources for Bengaluru



WHERE WATER COMES FROM

Cauvery water supply stage	Quantity
Cauvery Stage I	135 MLD
Cauvery Stage II	140 MLD
Cauvery Stage III	325 MLD
Cauvery Stage IV	300 MLD
Cauvery Stage IV (2nd phase)	550 MLD
Total	**1,450 MLD**

CAUVERY ONLY SOURCE OF WATER SUPPLY

Projected Water Demand and Shortfall in Bengaluru

Year	Population (Million)	Water Demand (MLD)	Water Demand (TMC)	Present Supply		Shortfall in Demand	
				MLD	TMC	MLD	TMC
2011	8.499	1400	18.05	950	12.25	450	5.80
2019	12.90	2090	26.97	1450	19.00	640	8.25
2021	13.00	2100	27.10	1450	19.00	650	8.35
2023	13.20	2140	29.16	2395***	30.90	-255	-3.30
2031	14.296	2900	37.39	2395	30.90	675	6.49
2041	17.085	3400	43.84	2395	30.90	1175	12.94
2051	20.561	4100	52.86	2395	30.90	1875	21.96

Total population considered for 800 sq.km. of BBMP area

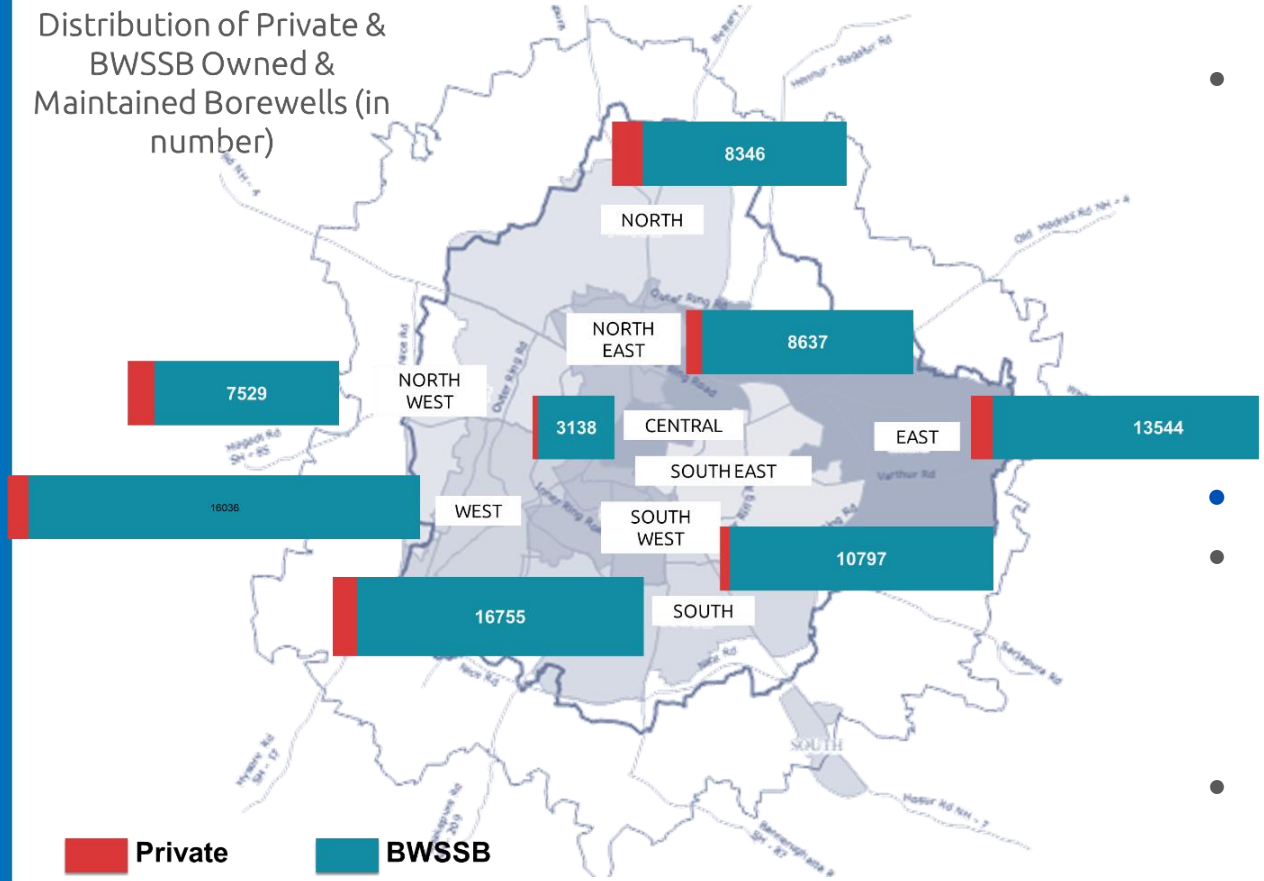
**During 2023 from Yettinaholle source through T.G.Halli, 110 MLD treated water will be augmented

*** During 2023 from Cauvery source through T.K.Halli 775 MLD water will be augmented

Water Supply Systems in Bengaluru

Present Supply from Cauvery source	1450 MLD
Present population including 110 villages	13 Millions
Area of water supply served Population served	570 sq. kms 11 million
House service connections	10.55 lakhs
Total length of water supply pipelines	8,746 kms
Pipe diameters' range	100 to 1800 mm
Number of Ground Level Reservoirs	57 (885 ML)
Number of Over Head Tanks	36 (33 ML)
Booster pumping stations	62 nos
Public taps providing free water	7,477 nos
Water tanker lorries	62 nos
Quantity of water supplied/month	42,200 ML
Average per capita consumption	108 L/day
Average cost of water	41 Rs/kL

Current Water Scenario in Bengaluru



- Secondary research states that BWSSB draws water from nearly **7,932 active bore** wells to supply 35 – 70[4.5] MLD through 22 water tankers[2]. This figure is low compared to other cities such as Chennai corporation which draws 100 MLD (from its 6 wells)[6] and Delhi which has 11% dependence on groundwater reserves 7
- **Approximately 4 lakh Private borewells**
- However, excessive demand has not only resulted in the rapid increase of the number of bore wells throughout Bengaluru, but also overexploitation of groundwater.
- Overexploitation and poor management have contributed to groundwater depletion and quality problems

Current Water Scenario in Bengaluru

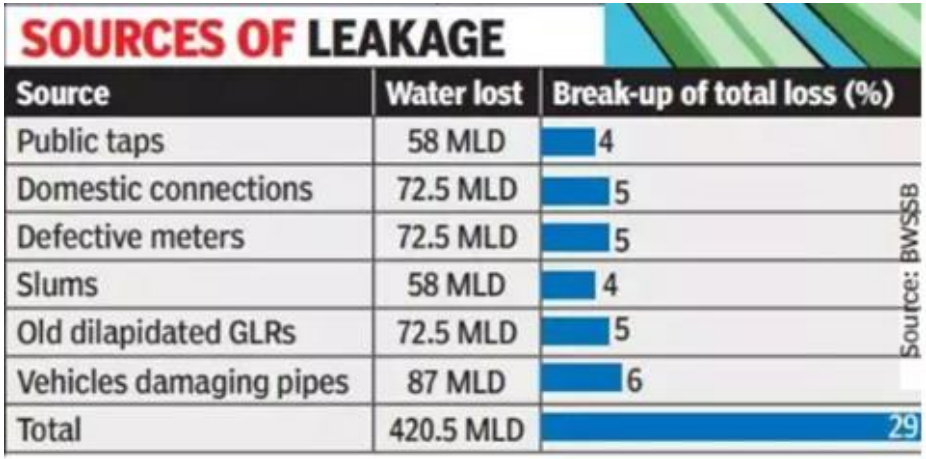
Non Revenue Water is accounted for about 35% of the total water produced into the system ~ 1450 MLD of water which is either wasted in leakages or not charged.

Leakage loss: 29%

Bengaluru loses 29% water supply daily.

The city used to lose 45% of the water earlier, which was reduced to 38% two years ago. Now, we've brought it down to 29%.

Bangalore Water Supply and Sewerage Board (BWSSB) supplies to the city every day, more than 420 MLD or 29% is lost to leakage. The maximum loss - 87MLD - is attributed to increased vehicular density that results in damage to pipes.



SOURCES OF LEAKAGE

Source	Water lost	Break-up of total loss (%)
Public taps	58 MLD	4
Domestic connections	72.5 MLD	5
Defective meters	72.5 MLD	5
Slums	58 MLD	4
Old dilapidated GLRs	72.5 MLD	5
Vehicles damaging pipes	87 MLD	6
Total	420.5 MLD	29

Source: BWSSB

Bengaluru needs better water management

Current Water Scenario in Bengaluru

SEWERAGE SYSTEM

1. Total length of sewer system - 8387 Kms
2. Number of manholes - 2.69 lakhs
3. Sanitary house service connections - 9.80 lakhs
4. Number of sewer cleaning combination of Jetting & Sucking machines for cleaning & maintaining of sewer system - 180 nos
5. Total no. of High Pressure Super Sucker cum Jetting Machine - 6 nos.
6. Recycling type sewer cleaning machine -1 no
7. Sewerage network ✓ Laterals (< 300 mm dia) – 6905 Kms ✓ Trunk Sewers (>300 mm dia) – 1481 Kms ✓ Number of STPs – 36 8. Sewage generation – 1440 MLD 9. Sewage treatment capacity – 1525.5 MLD 10. Average treatment – 1300 MLD

Current Water Scenario in Bengaluru

Sewage Treatment Plants

There are **36 STP's** with the total waste water purifying units overall **capacity of 1525.5 MLD/day.**

Supply Of Treated Water

- 10 MLD to various Government complexes, Golf courses, BIAL etc.,
- 80 MLD has been committed to industrial areas
- 15 MLD for Karnataka Power Corporation plants at Yelahanka.
- 700 MLD of secondary treated water is committed for filling up of the tanks in the rain deficient districts of Kolar, Chikkaballapur and parts of Bangalore urban - 440MLD filling the lakes in Kolar - 3yrs, 200MLD chickballapur

Karnataka State Pollution Control Board (KSPCB) has made sewage treatment plants (STPs) mandatory for all individual residential complexes with 50 or more dwellings, or those generating more than 50 cubic metres of sewage daily

Around **3000 Decentralized private STPs in Bengaluru**

Current Water Scenario in Bengaluru

Rain Water Harvesting

1,958.6 mm, Bengaluru received record rainfall last year but its dependence on Cauvery water has not reduced a bit at least, according to BWSSB figures

An estimated 10% of the 9.53 lakh consumers with water connections have rain water harvesting (RWH) systems.

BWSSB estimates RWH can meet 40% of the water needs of Bengaluru

Introduced in 2009, section 72A of the Bengaluru Water Supply and Sewage Act, 1964, provides for rain water harvesting structures in existing buildings with a floor area of 2,400 sq. ft. or more, and in new buildings with a floor area of 1,200 sq. ft. or more

Current Water Scenario in Bengaluru

- **The BWSSB (Amendment) Act, 2009, 72A** has made RWH mandatory for
  - All existing buildings of 2400 sq.ft
  - All new buildings of 1200 sq.ft and above

Missing Aspects of the Act

- *No mention of specifications or any standards for the design or qualifications for a designer.*
- *No clarity on the aspect of quality assurance.*
- *No clarity on the percentage of built up area to be harvested.*
- *No clarity about inactive RWH system.*
- *No mention of builder's obligation.*
- *Missing aspect of shared housing in the act*
- *No mention of quality of water used to recharge through borewells*
- *Lack of clarity in the usage of the word 'Appropriate' in the act*
- *Penal action is more reactive than proactive – It places more responsibility on the BWSSB to build RWH systems than on the owners. Penalties should be levied until such systems are installed by the citizens themselves.*

Current Water Scenario in Bengaluru

Focus Area	Performance Indicator	2013	2018	2023	2035	2050
Water Supply Sources	Supply of water per person per day - Fresh water (lpcd)	80	110	100	100	100
	Supply of recycled water per person per day (lpcd)	<7	~12	25	35	35
Water Treatment	Water samples meeting or exceeding specified water quality guidelines	95%	100%	100%	100%	100%
Water Transmission & Distribution	Households with direct water supply connection	60%	75%	100%	100%	100%
	Non-revenue water (technical and commercial losses)	49%	37%	30%	25%	15%
Wastewater Collection System	Households with direct connection to the wastewater collection network	65%	80%	100%	100%	100%
Wastewater Treatment	Wastewater treated to secondary level	65%	80%	100%	100%	100%
Recycled Water	Wastewater received at water reclamation plant that is recycled or reused	5%	10%	15%	20%	25%
Financial sustainability	Ratio of annual operating revenue to operating costs	0.95	>1	>1	>1	>1

Current Water Scenario in Bengaluru

Koramangala Tank

Challagatta Tank

Dharmabudhi Tank

- According to Karnataka State Pollution Control Board records, there were 262 major water bodies in Bengaluru until 1960. Today figures have declined to about 81 bodies of which 34 are recognized as live lakes
- These figures denote a reduction of as high as 35.09% in water bodies and a decrease of 8.66% in water spread area
- In 1986, the then government set up the Lakshman Rau Committee to look specifically into preservation and restoration of lakes in the Bengaluru metropolitan area
- All recommendations of the Lakshman Rau Committee have been violated:
  - **The BDA itself has built layouts on no less than 27 lakebeds!**
  - Sewage and industrial waste is being pumped directly into many lakes, such as Bellandur Lake, Varthur Lake, and Agara Lake.

Current Water Scenario in Bengaluru

Lake Name	Status Now[1]	Lake Name	Status Now[1]
Shoolay lake	Football stadium	Siddikatte Lake	K.R. Market
Akkithimmanhalli lake*	Hockey stadium	Karanji Tank	Gandhi Bazaar area
Nagashettihalli lake	Space department	Kempambudhi Kere	Sewerage collection tank
Kadugondanahalli lake	Ambedkar Medical College	Chenamma Tank	Banashankari 2nd Stage burial ground
Domlur lake	BDA layout	Puttennahalli Tank	J.P. Nagar 6th Phase
Miller's lake*	Residential layout	Jakkarayana Kere	Sports ground
Subhashnagar lake*	Residential layout	Kamakshipalya Lake	Sports ground
Kurubarahalli lake*	Residential layout	Dasarahalli Tank	B.R. Ambedkar Stadium
Kodihalli lake*	Residential layout	Marenahalli lake	Residential layout
Sinivaigalu lake*	Residential layout	Shivanahalli lake	Playground, Bus stand

*Tanks breached under the Malaria Eradication progamme[2]

How did we get here??

- Eutrophication of lakes due to nutrient input
- Discharge of untreated sewage into lakes
- Solid waste dumping in the periphery of lakes2
- Sedimentation and Shrinkage of water body
- Reduced storm water flow due to interception in catchment area and deforestation
- Unplanned growth and Need for land ➔ real estate boom ➔ encroachment of lake and urbanization in catchment area3
- Basic human greed: real-estate mafia, water-tanker mafia
- Complicity of all stakeholders, including ordinary people
- Multiple owners of lakes: BBMP, BDA, BWSSB, Forest Dept., LDA, Revenue Dept., Village Panchayat.
- Loss of status as 'lakes as a source of water'
- Destruction of raja kaluves (natural storm water drains)
- 'Tragedy of Commons'
- Tampering with land and survey records
- Shoreline erosion and Climactic changes

Current Water Scenario in Bengaluru

The Way Forward for Restoration of Lakes?

Ecosystem mapping

- Condition of the lake
- Extent of encroachment
- Level of pollution of the lake
- Extent of deterioration and damage
- Condition of inlet and outlet streams
- Existence and health of aquatic flora and fauna

Transparency in current policies

- Lakes of less than 26 acres are leased to unemployed youth for fish-rearing after collecting a nominal sum
- Sankey Tank given on annual lease of less than `5,000/-

Integrated lake management

- Development
- Restoration
- Maintenance
- Promotion

Involve communities and residents

- They have the most stake
- They should be able to demand specific portion of their local taxes to be earmarked for the management of the lake
- Structure them into formal collective organizations such as lake improvement trusts

Ongoing Water Related Projects in Bengaluru

- **TG Halli Project**: It plans to provide 110 Million Litres Per Day (MLD) of drinking water to the city. The Rs 291.57-crore project, which was expected to be in place by March 2022, will now take another year to be ready because of the delay caused by a shortage of manpower due to the pandemic.

- **Mekedatu Project**: The Rs. 9,000 crore project aims to store and supply water for drinking purposes for the Bengaluru city. Around 400 megawatts (MW) of power is also proposed to be generated through the project. Rs. 1000 cr was allocated towards it in the year 2022

- **Cauvery Water Supply Scheme (Phase V):** The project aims to supply drinking water to around 50 lakh residents in the peripheral areas of Bengaluru. It has been put on fastrack and on completion of the Cauvery Water Supply Scheme Stage 5, the project will supply 775 million litres of water per day

- **The Koramangala Valley Rajakaluve Development and Maintenance (K-100) project:** an important project envisaged to prevent sewage water from flowing into storm water drains, and rejuvenating and developing Rajakaluve into recreation sports for citizens in Bengaluru city. the storm water drain of Koramangala Valley would be converted into a fresh water canal and developed as a tourist spot Bengaluru's first waterway project at Koramangala is almost 70 percent complete.

Current Water Scenario in Bengaluru

Political, Social, and Community Challenges

- Meeting demand
- Affordability
- Equitable access
- Water quality
- Coordination, priority alignment, and integrative planning, centralized decision making
- Education, expertise, and community engagement
- Building and construction industry priorities
- Developing appropriate incentive structures and reflecting true cost
- Policy implementation
- Will - political, commercial, industry, consumer.

Manifestos v/s Budgets by ruling Political Parties (2019-2023)

BJP Bengaluru Manifesto 2018	State Budget 2020-21	State Budget 2021-22	State Budget 2022-23	State Budget 2023-24
Separate ministry to plan and implement projects to ensure clean drinking water using river and surface water for every household in the state. Mukhyamantri Jaladhare Yojane – 24/7 drinking water supply to all wards	Lakes are getting polluted with sewage water making its way into them. In order to prevent this and also for comprehensive development of lakes, an action plan of Rs.100 crore has been approved under “Shubhra Bengaluru”. Rs.317 crore has been specifically earmarked for the development of lakes under the already approved “Mukhyamanthrigala Navanagaroththana” scheme chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://idd.karnataka.gov.in/storage/pdf-files/22.Prefea_lake_cons.pdf	Providing permanent drinking water and underground drainage system to cities and towns is the priority of our Government. In this regard, new projects of drinking water and underground drainage system worth Rs.900 crore will be implemented by Karnataka Urban Water Supply and Drainage Board.	In order to prevent water pollution, 20 old Sewerage Treatment plants at various places in Bengaluru city will be rejuvenated and modernisation works will be taken up by Bengaluru Water Supply and Sewerage Board at a cost of Rs.1,500 crore https://www.thehindu.com/news/cities/bangalore/upgradation-of-20-old-stps-will-be-taken-up-this-year-bwssb/article65201401.ece	

Manifestos v/s Budgets by ruling Political Parties (2019-2023)

BJP Bengaluru Manifesto 2018	State Budget 2020-21	State Budget 2021-22	State Budget 2022-23	State Budget 2023-24
Create a “Water Supply Grid” to ensure equitable distribution of water to all regions of the state. Ensuring Water Security for Namma Bengaluru through comprehensive framework of policies and laws including rejuvenating Rivers and Lakes, Rain Water Harvesting and Water Conservation	In addition to rejuvenation of water sources from the T.G.Halli project, it is possible to utilize 1.7 TMC water for Bengaluru city drinking water supply. This project will be completed by the end of September 2021 BWSSB had set a September 2021 target to spruce up the highly polluted TG Halli reservoir while it launched the project in March 2019. The target was changed to March 2022 and then further to September 2022 which has been revised for the third time. https://timesofindia.indiatimes.com/city/bengaluru/bengaluru-tg-halli-project-will-miss-3rd-deadline-may-be-ready-by-2023/articleshow/93648800.cms	Action will be taken to provide drinking water to Bengaluru city and to generate electricity by constructing Mekedatu Balancing Reservoir across River Kaveri near the confluence of Arkavathi and Kaveri rivers. For this, a project report with an estimate of Rs.9,000 crore is already submitted to the Central Water Commission and would be implemented after obtaining the necessary approval expeditiously	Mekedatu Balancing Reservoir and Bengaluru Drinking Water Project will be implemented by getting required clearances from the appropriate authority of Central Government. For implementation of this project, a grant of Rs.1,000 crore will be provided in the current year	Rs.200 crore financial assistance will be given to Bengaluru Water Supply and Sewerage Board from the state government for implementing the second phase of providing potable water to 110 villages coming under the purview of BBMP.

Manifestos v/s Budgets by ruling Political Parties (2019-2023)

BJP Bengaluru Manifesto 2018	State Budget 2020-21	State Budget 2021-22	State Budget 2022-23	State Budget 2023-24
Create a “Water Supply Grid” to ensure equitable distribution of water to all regions of the state Recycling of 100% of sewage generated in the city (only 45% of bengaluru's sewage is treated) https://www.devdiscourse.com/article/business/1948678-new-scheme-to-encourage-public-and-private-institutions-to-adopt-cows-at-goshalas-in-karnataka.	In addition to rejuvenation of water sources from the T.G.Halli project, it is possible to utilize 1.7 TMC water for Bengaluru city drinking water supply. This project will be completed by the end of September 2021 BWSSB had set a September 2021 target to spruce up the highly polluted TG Halli reservoir while it launched the project in March 2019. The target was changed to March 2022 and then further to September 2022 which has been revised for the third time. https://timesofindia.indiatimes.com/city/bengaluru/bengaluru-tg-halli-project-will-miss-3rd-deadline-may-be-ready-by-2023/articleshow/93648800.cms	Action will be taken to provide drinking water to Bengaluru city and to generate electricity by constructing Mekedatu Balancing Reservoir across River Kaveri near the confluence of Arkavathi and Kaveri rivers. For this, a project report with an estimate of Rs.9,000 crore is already submitted to the Central Water Commission and would be implemented after obtaining the necessary approval expeditiously	Mekedatu Balancing Reservoir and Bengaluru Drinking Water Project will be implemented by getting required clearances from the appropriate authority of Central Government. For implementation of this project, a grant of Rs.1,000 crore will be provided in the current year	Rs.200 crore financial assistance will be given to Bengaluru Water Supply and Sewerage Board from the state government for implementing the second phase of providing potable water to 110 villages coming under the purview of BBMP.

Manifestos v/s Budgets by ruling Political Parties (2019-2023)

BJP Bengaluru Manifesto 2018	State Budget 2020-21	State Budget 2021-22	State Budget 2022-23	State Budget 2023-24
Special focus on tackling the problem of fluoride and other chemical contaminants in drinking water across the state. A new Bengaluru Lake Conservation and Development Authority (BLCDA) will be a single regulatory body for protecting lakes and network of Rajakaluves/Storm Water Drains (SWDs) as part of the largest Water Security for Bengaluru. The government will create a Rs 2500 Crore fund to revive the complete eco system and network of lakes includingcatchment area and Flood Proofing in all flood prone areas of Bengaluru.		The Koramangala Valley Rajakaluve Development and Maintenance (K-100) project would be implemented at an expenditure of Rs.169 crore. Under K-100 project, the storm water drain of Koramangala Valley would be converted into a fresh water canal and developed as a tourist spot Bengaluru's first waterway project at Koramangala is almost 70 percent complete https://bangaloremirror.indiatimes.com/bangalore/others/koramangala-waterway-is-70-per-cent-complete/articleshow/91133335.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst BBMP's waterway project exposes BWSSB's shortcomings Read more at: https://www.deccanherald.com/city/top-bengaluru-stories/bbmps-waterway-project-exposes-bwssb-s-shortcomings-1190120.html	K-100 Citizens' Water Way is an important project envisaged to prevent sewage water from flowing into storm water drains, and rejuvenating and developing Rajakaluve into recreation sports for citizens in Bengaluru city	

Current Water Scenario in Bengaluru

Challenges → Opportunities

- Realign priorities - from Cauvery dependency to NPW for retrofits and new infrastructure
- Collaboration between different departments and integrative land-use and resource planning
- Consolidating water planning under one authority.
- Performance contracting
- Decentralized planning and increasing responsibilities at the ward committee level
- Technology and smart metering
- Education and public awareness
- Appropriate policies and incentives
    - For builders and owners
    - Reflective of true cost
    - Public-private partnerships

Recommendations to My Bengaluru My Manifesto 2023-27

Institutional reforms & Governance

- A single authority to be instituted with the responsibility for planning and coordination between the various agencies responsible for water; ground water recharging and extraction in the BMR region; and monitor usage efficiency and quality.
- This authority to have a board comprising of experts, elected representatives and members from civic authorities.
- To institute a regulatory authority to monitor the functioning of the above body and review long term planning needs, pricing etc
- Declare Bengaluru is a water sensitive city and encourage citizens to use water judiciously
- Unauthorized and/or unregistered bore wells need to be identified and closed with appropriate penalties charged

Supply

- Equitable water distribution to all citizens. Provide 90 LPCD at affordable prices to all citizens. Free water should be supplied only to BPL card holders. Prices for all others should be similar
- Sourcing to leverage local sources such as rain water, lakes and recycled water.
- Storm water management should be given highest priority for alternate source
- Make it mandatory that BDA/BBMP parks and all institutional green spaces will use only recycled water for gardening/landscaping

Recommendations to My Bengaluru My Manifesto 2023-27

Distribution losses

- As per BWSSB reports present non-revenue water (NRW) is 30%. Bangalore city cannot afford this huge water loss. This percentage of NRW should be brought down to between 10% to 20%, in order to extend water supply to new areas. The losses are approximately 290 Million liters of water every day, which is not only getting at free cost but also to that extent revenue is realized to BWSSB.

- Introducing highly efficient plumbing fixtures in all the households and commercial buildings could help to conserve more than 15% to 20% and encouraging gadgets of low water usage will go a long way and even BWSSB can provide incentives for using such efficient plumbing fixtures.

- Using JIS, entire distribution of water supply to the city should be automated using all digitization of the assets.

- Reduce water losses in transmission and distribution from 29% to 5% by 2030

- BWSSB needs to publish the percentage of Unaccounted Water (UAW) each month. The Board needs to develop detailed timetable for reducing its UFW percentages with annual and decadal targets

Recommendations to My Bengaluru My Manifesto 2023-27

Water conservation

- Provide water efficient taps and cisterns etc to citizens at subsidized costs to encourage water conservation.
- Bring regulatory norms for selling of water efficient fixtures
- Enforce 100% implementation of Rain water harvesting in Govt offices, commercial establishments, residential buildings across Bengaluru city

Wastewater treatment (sewage)

- Sewage to be viewed as resource
- Outreach programs for citizens to educate on use of greywater
- Segregate pricing of supply water and sewage water
- Incentivise sewage treatment by net metering
- Set up underground sewage treatment plants in parks and playgrounds
- Dual pipeline supply system for Potable and Non-Potable consumption needs to be compulsory in all new housing layouts.
- Identify where there is a great demand for industrial, commercial, non- potable water demand and establish a treatment plant based on the demand through sewer mining . Thus burden on fresh water will be reduced
- Mandate to use treated water for construction purpose

Recommendations to My Bengaluru My Manifesto 2023-27

Rain Water Harvesting

- RWH to be made mandatory for all new buildings irrespective of the size of roof top area
- All new connections need to be provided only after installation of RWH systems
- Use On-line platforms to obtain approval of building plans
- Use GIS platforms to identify households with inactive RWH systems
- Establish a clear framework outlining the builder's obligation, standards on the quality of water used to recharge borewells
- Overall, RWH needs to gain further momentum owing to a policy drive, active awareness and media campaign
- Right now, the storm water management is taken care by BBMP. The BBMP has no plans to recover the storm water and utilize it for portable and non-portable purpose of Bangalore city. Secondly, the city gets an average of 950 mm of rainfall and huge quantity of storm water is drained out from the city to the neighboring state. This requires be harnessing and utilizing for meeting water demand of the growing city.

Recommendations to My Bengaluru My Manifesto 2023-27

Water Scarcity in Bengaluru - A case for RWH as a Potential Solution

Food for thought !!

- ***Bangalore has an annual average rainfall of about 1,000 mm. It has been estimated that 2,23,000 litres of water can be collected annually from the rooftop of a 40'x60' house with 1000 mm rainfall.***
- ***Assuming that, on an average, a Bangalorean spends 135 litres of water per day, a family of four would need about 2 lakh litres of water annually. So, entire water needed by an average family living in a 40'x60' house could be collected from the rainwater falling on the rooftop [1].***

- The estimated harvestable rain water potential from Greater Bengaluru works out to 1296 MLD which is nearly equivalent to the water drawn from the River Cauvery [2].
- Water demand in 2031 is expected at 2900 MLD. Assuming no further augmentation from Cauvery and only 2395 MLD is supplied to Bengaluru, the city is expected to suffer a water deficit of 675 MLD in the next eight years.
- ***Hence, if the potential of 1296 MLD from RWH is effectively utilized, the water deficit can be sufficiently compensated !!***

Water Scarcity in Bengaluru - A Potential Solution

The concept of One water.

All forms of water such as surface water, ground water, waste water, storm water has to be integrated in order to make water supply a sustainable source for Bangalore city.

Manifesto Demand

Current Scenario

- Water supply and quality assured to ~50% population by BWSSB
- 100% wastewater treatment capacity (Of which 72% is actually treated)
- 29% leakage loss
- Est. 64,000+ buildings don't harvest rainwater (Bangalore Mirror, 2019)
- Overall, heavy dependency on imported fresh water

Manifesto Demand

- 100% population must receive clean and reliable municipal water supply
- Achieve 100% wastewater connections and treatment to acceptable standards
- <5% leakage loss
- Achieve 100% rooftop RWH 90% non rooftop water to be recharged or treated before entering water bodies
- Meet 50% of total city water demand through in-situ water: i.e., rainwater and treated sewage and stormwater

NAMMA BENGALURU NAMMA MANIFESTO

2023

What should we Demand from our leaders to improve the Mobility condition in the city?

Open for Expert Discussion