

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
ORIGINAL APPLICATION NO. 694/2023**

**IN THE MATTER OF:**

In re: News item appearing in Hindustan Times dated 26.10.2023 titled  
“UN predicts groundwater level in India will reduce to ‘low’ by 2025”

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**Filed By**



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**Date: 03.04.2024**

**Place: New Delhi**

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**REPORT ON BEHALF OF STATE OF KARNATAKA  
(RESPONDENT NO. 11)**

**MOST RESPECTFULLY SHOWETH:**

1. That the instant report is being filed by the Minor Irrigation and Groundwater Development Department, Government of Karnataka to indicate the steps taken towards maintaining groundwater levels in the State.
2. It is submitted that the State of Karnataka can be considered as having three major hydrogeological provinces. They are the Hard-Rock province, Deccan Trap province and metamorphosed sedimentary province.
3. It is submitted that Archaean crystalline hard rocks, comprising of gneisses, schists, granites and khondalites, which occupy up to 79% of the area of the State. Groundwater exists in these provinces under unconfined to semi-confined conditions and under confined conditions at greater depths. The rock units of these provinces do not have the primary porosity; therefore, the occurrence and movement of groundwater is through secondary porosity developed through weathering, fracturing and tectonic formation undergone by the rocks.



4. It is submitted that due to this complex geological formation of the State, the groundwater recharge process is slow as compared to extraction. The main source for groundwater recharge to the aquifers is by precipitation and also by applied irrigation.
5. Various districts like Tumakuru, Bengaluru Rural, Bengaluru Urban, Chikkaballapura, Kolara, Ramangaram in the Southern region of the State do not have perennial rivers. Hence, the agricultural, domestic and industrial water requirements are mainly fulfilled by groundwater itself.
6. The State of Karnataka has, under various schemes undertaken construction of recharge structures to arrest the available runoff and to fill the tanks under tank filling schemes. The answering Department is functioning in all 30 Districts towards this goal, headed by Deputy Director/Senior Geologists with Head Office at Bengaluru headed by Director.
7. The activities of the answering Respondent include monthly water level monitoring, collection of groundwater samples for water quality analysis during pre-monsoon and post-monsoon periods, Geophysical and Geohydrological survey for selecting suitable sites for bore well drilling and constructing groundwater recharge structures. The answering Department is also carrying out the Karnataka Groundwater Authority works.
8. The details of groundwater levels are as follows:



**GROUNDWATER LEVELS:**

9. **Pre Monsoon (May 2022):** The ground water level data for May 2022 indicates that out of the total 1771 wells, 1554 wells have been analysed, and 125 (8.04%) wells are showing water level less than 2 m bgl (metres below ground level), 343 (22.07%) wells are showing water level in the depth range of 2-5 m bgl, 475 (30.57 %) wells are showing water level in the depth range of 5-10 m bgl, 395 (25.42%) wells are showing water level in the depth range of 10-20 m bgl, 157 (10.10%) wells are showing water level in the depth range of 20-40 m bgl and the remaining 59 (3.8 %) wells are showing water level more than 40 m bgl.
10. **Post Monsoon (November 2022):** The ground water level data for November 2022 indicates that out of the total 1765 wells, 1601 wells have been analysed, 307 (19.18%) wells are showing water level less than 2 m bgl (metres below ground level), 514 (32.10%) wells are showing water level in the depth range of 2-5 m bgl, 443 (27.67 %) wells are showing water level in the depth range of 5-10 m bgl, 240 (14.99%) wells are showing water level in the depth range of 10-20 m bgl, 74 (4.62%) wells are showing water level in the depth range of 20-40 m bgl and the remaining 23 (1.4 %) wells are showing water level more than 40 m bgl.

**Dynamic Groundwater Resources in Karnataka**

11. The answering Respondent in collaboration with the Central Groundwater Board ('CGWB') is carrying out estimation of groundwater resources of the State using GEC 2015 methodology.



The Groundwater resources as on 2022 and 2023 is presented in the below table:

Assessment	Total recharge worthy area of the State	Area under Over exploited	Area under Critical	Area under Semi critical	Stage of Groundwater extraction
2022	170647.10	39352.66	6580.96	26593.23	69.93%
2023	170463.35	34281.35	10443.17	22695.74	66.26%

(Area in Sq. KM)

12. It is submitted that the above data reflects reduction in Stage of Groundwater extraction in 2023.

### **Strategies for Sustainable Groundwater Management**

13. It is submitted that groundwater in the State is mainly used for Irrigation, Industries, drinking and for domestic purposes. The steps undertaken by the answering Respondent State are as follows:
14. Awareness programs are being organized regularly by the answering Department for different stakeholders on judicious use of groundwater.
15. Regular meetings have been conducted for industries under the chairmanship of Deputy Directors/Senior Geologists and discussions have been held on taking measures on judicious use of groundwater, rainwater harvesting, groundwater recharge and improving the groundwater table. They were encouraged to take up rejuvenation of tanks in their area under CSR activity.

16. Orientation programs were conducted for farmers on efficient water use practices and were encouraged to adapt micro-irrigation practices.
17. Awareness programmes were conducted at Schools and Colleges and students were educated on conservation and judicious use of ground water.
18. Awareness programs were conducted on groundwater conservation and efficient water use practices in 1199 Gram Panchayats spread across 41 blocks of 14 districts where Atal Bhujal Yojana is being implemented.

**Implementation of Karnataka Groundwater (Regulation and Control of Development and Management) Act 2011 and Rules 2012 through Karnataka Groundwater Authority (KGWA)**

19. Based on the Groundwater Resource Estimation ('*GWRE*'), the taluks will be notified under Karnataka Groundwater Authority (KGWA) for groundwater regulation and management.
20. The Karnataka State Government has enacted Karnataka Groundwater (Regulation and Control of Development and Management) Act 2011 and Rules 2012 with the objective to regulate and control the development and management of ground water. Under the provision of this Act and Rules State level and District level committees are formed. The Government has delegated powers to these committees to regulate illegal extraction of groundwater in notified areas.
21. The Government has constituted District Groundwater Committee headed by Deputy Commissioner in each district and Engineer in



Chief of Bangalore Water Supply and Sewerage ('**BWSSB**') in Bruhat Bengaluru Mahanagara Palike ('**BBMP**') limits to implement the Karnataka Groundwater (Regulation and Control of Development and Management) Act 2011 and Rules 2012 in the state.

**Strategies for Aquifer Rejuvenation:**

22. Following initiatives have been taken by the Answering State to remedy the decline in groundwater status:
- Tank filling schemes by Minor and Major Irrigation departments.
  - Construction of Barrages/Check dams.
  - Atal Bhujal Yojana - participatory Ground water Management.
  - Paschimavahini Project in Coastal & Western Ghat Region
23. However, the Department of Agriculture, Watershed Development Department, Rural Development Panchayat Raj Department (RDPR) and various other Departments are constructing site specific recharge structures such as Check Dams, Recharge Shafts, Percolation Ponds, Sub Surface Dikes, Nala Bands, Trenches etc., for recharging groundwater.
24. It is hence submitted that the State of Karnataka has initiated various steps to ensure that groundwater levels do not decline in the State. It is hence prayed that the above information be taken on record and the answering Respondent shall be duty bound to comply with any directions passed by this Hon'ble Tribunal in the instant Original Application.

  
**Secretary  
Minor Irrigation and  
Groundwater Development Department  
Karnataka**

**Date: 02.04.2024**

**G.E. Yathishchandran, K.E.S**  
Secretary to Government  
Minor Irrigation &  
Groud Water Development Department

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**AFFIDAVIT**

I, GE Yathish Chandran, working as Secretary, Minor Irrigation and Groundwater Development Department, Government of Karnataka do hereby solemnly affirm and state as under:

1. That I have been working as the Secretary, Minor Irrigation and Groundwater Development Department, Government of Karnataka and such and in that capacity I am conversant with the facts and circumstances of the case and also competent to swear this affidavit.

2. That I have gone through the accompanying Report, which have been drafted on my instructions I say that the contents thereof are true and correct to the best of my knowledge. Annexures are the true copies of their respective originals.

*G.E. Yathishchandran, K.E.S*  
Secretary to Government  
**DEPONENT**  
Minor Irrigation &  
Groud Water Development Department

**VERIFICATION**

I, the above named deponent, do hereby verify that the contents of my above Affidavit are true and correct to the best of my knowledge and belief, no part of which is false and that nothing material has been concealed therefrom.

Verified at Bengaluru on this the 3<sup>rd</sup> day of April, 2024.



**SWORN TO BEFORE ME**

*Sakina Bano*  
*03/04/2024*  
**SAKINA BANO, B.A., LL.B.**  
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GOVT. OF INDIA  
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*G.E. Yathishchandran, K.E.S*  
**DEPONENT**

*G.E. Yathishchandran, K.E.S*  
Secretary to Government  
Minor Irrigation &  
Groud Water Development Department

NOTARY REGISTRATION No. 20060

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Date 03/04/2024 Sl. No. 758

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