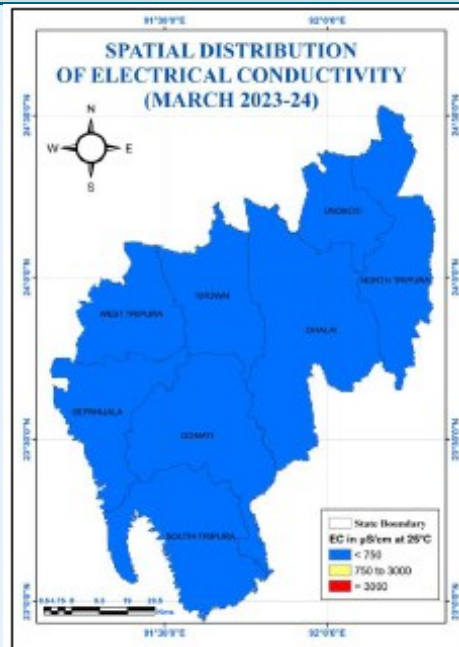
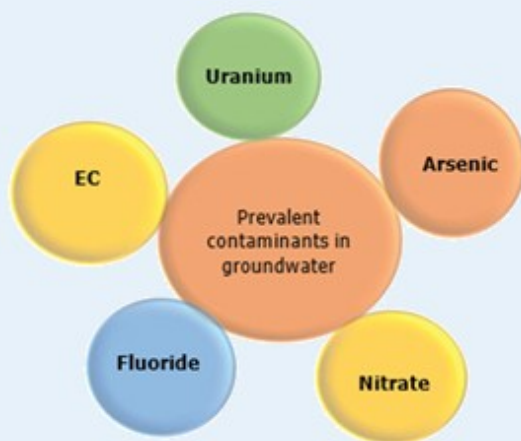


## Groundwater Quality Scenario in Tripura

Parameters	No of samples	Permissible limit	No. of Samples above permissible limit	% Samples above permissible Limit
EC	81	3000 $\mu\text{S}/\text{cm}$	0	0
Fluoride	81	1.5 mg/L	0	0
Nitrate	81	45 mg/L	0	0
Arsenic	81	10 ppb	0	0
Uranium	81	30 ppb	0	0



### Districts with anomalous values at sporadic locations

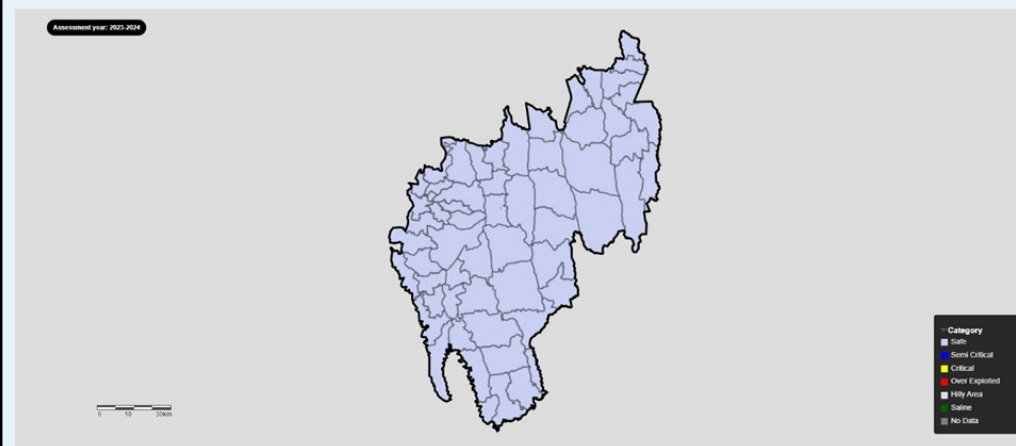
EC (3000 $\mu\text{S}/\text{cm}$ )	Not Any
Fluoride ( $F > 1.5$ mg/L)	Not Any
Nitrate (Nitrate $> 45$ mg/L)	Not Any
Arsenic ( $As > 10$ ppb)	Not Any
Uranium ( $U > 30$ ppb)	Not Any

For Further Information, Contact to :  
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Central Ground Water Board  
Department of Water Resources, RD & GR  
Ministry of Jal Shakti, Government of India



Dynamic Ground Water Resources &  
Ground Water Quality of Tripura, 2024

December, 2024

## Groundwater Resource Scenario in Tripura

- ◆ Ground Water Resources Assessment (GWRA)- jointly carried out by Central Ground Water Board and State Nodal/Ground Water Department periodically as per the Ground Water Resource Estimation Committee (GEC) methodology.
- ◆ Carried out under the guidance of the respective State/UT Level Committees (SLCs) and overall supervision of Central Level Expert Group (CLEG).
- ◆ As part of the assessment, 'Annual Extractable Ground Water Resource' as well as 'Annual Ground Water Extraction are assessed for each assessment unit (Block).
- ◆ The 'Stage of Ground Water Extraction' is computed as the ratio of 'Annual Ground Water Extraction' with respect to 'Annual Extractable Ground Water Resource' and is usually expressed in percentage. Based on the stage of extraction, the assessment units are categorized as Safe ( $\leq 70\%$ ), Semi-Critical ( $>70\%$  and  $\leq 90\%$ ), Critical ( $>90\%$  and  $\leq 100\%$ ) and Over-Exploited ( $>100\%$ ).
- ◆ GWRA-2024, 2023, 2022 and 2020 has been carried out through a software/web-based application "INDIA-GROUNDWATER RESOURCE ESTIMATION SYSTEM (IN-GRES)" developed by CGWB through IIT-Hyderabad.

### Salient Features

1	Rainfall	2,275.52 mm
2	Hydrogeology	The State of Tripura is occupied by the rocks ranging in age from Upper Tertiary to Quaternary. Most of the longitudinal synclinal valleys of the state are the basins of deposition of recent formation. Recent alluvium occurs along the streams and the flood plains of major rivers.
3	Recharge Worthy Area of the State	6.20 Thousand Sq. Km
4	Assessment Unit (AU) Type / Number	Block / 59 Numbers
5	Average area of Assessment Unit	105.05 Sq. Km

### Findings

	Attribute	GWRA-2017	GWRA-2020	GWRA-2022	GWRA-2023	GWRA-2024
1	Total Annual Ground Water Recharge (in bcm)	1.53	1.47	1.31	1.36	1.45
2	Annual Extractable Ground Water Resources (in bcm)	1.24	1.24	1.06	1.09	1.18
3	Annual Ground Water Extraction (in bcm)	0.1	0.1	0.1	0.11	0.11
4	Stage of Ground Water Extraction (in %)	7.88	7.94	9.7	9.92	9.48

bcm: Billion Cubic Meters

### Categorization of Assessment Units based on the 'Stage of Ground Water Extraction

Sl. No	Category	GWRA-2017		GWRA-2020		GWRA-2022		GWRA-2023		GWRA-2024	
		Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs
1	Safe	59	100	59	100	59	100	59	100	59	100
2	Semi-critical										
3	Critical										
4	Over-exploited										
5	Saline										
Total number of AUs		59		59		59		59		59	

### Recommendations

- \* The State of Tripura is occupied by the rocks ranging in age from Upper Tertiary to Quaternary. Mobile trough geosynclinal deposition of Barail group followed by flysch type of Surma & Tipam sediments, overlain by Dupitila formation, is noticed in the State. Most of the longitudinal synclinal valleys of the state are the basins of deposition of recent formation. Recent alluvium occurs along the streams and the flood plains of major rivers. Ground water occurs under unconfined condition in Dupitila, Recent & Tipam formations. Besides, it also occurs under confined to semi-confined conditions in Tipam formation at considerable depth.
- \* Ground water resources have been assessed block-wise for recharge worthy area. Total Annual Ground Water Recharge of the State has been assessed as 1.45 bcm and Annual Extractable Ground Water Resource as 1.18 bcm. The Annual Ground Water Extraction is 0.11 bcm and Stage of Ground Water Extraction is 9.48 %. All the 59 assessment units have been categorized as 'Safe'.
- \* All the assessment units are in safe category as well as future allocation of ground water is also sufficient, State Government can judiciously develop the ground water resource mainly for agricultural use, however, at no point of time the extraction level should exceed 70%.
- \* National Aquifer Mapping & Management Programme (NAQUIM) Reports prepared by CGWB (<https://cgwb.gov.in/cgwbpm/>) which are being shared with State/District Authorities and Ground Water Year Book published by CGWB having water level & water quality data may be used in Ground water management. (<https://cgwb.gov.in/cgwbpm/>).
- \* Development of Springs and their catchment in hilly areas for their sustainability.
- \* Regulation & control of Ground water Extraction: Ministry of Jal Shakti has issued the guidelines for control and regulations of ground water extraction vide notification dated 24.09.2020 which has further been amended in March 2023. Concerned departments may ensure implementations of the guidelines.