		GWRA-2017		GWRA-2020		GWRA-2022		GWRA-2023	
SI. No	Category	Number of AUs	% of AUs						
1	Safe	45	15	37	13	38	13	38	12.58
2	Semi-critical	29	10	29	10	20	7	22	7.28
3	Critical	33	11	23	8	22	7	23	7.63
4	Over- exploited	185	63	203	69	219	73	216	71.52
5	Saline	3	1	3	1	3	1	3	0.99
Total number of AUs		295		295		302		302	

#### Recommendations: -

The State of Rajasthan has diversified geology, ranging from Archean metamorphic to recent alluvial sediments. The state of Rajasthan can be divided into three broad hydrogeological units. (i) Unconsolidated formation (ii) Semi-consolidated formation (iii) Consolidated (Fissured formation). Large part of the State is underlain by Quaternary sediments (Thar Desert) consisting of clay, silt, sand and gravel of various grades.

Total Annual Ground Water Recharge of the State has been assessed as 12.54bcm and Annual Extractable Ground Water Resource as 11.25bcm. The Annual Ground Water Extraction is 16.74bcm and the Stage of ground water extraction in the state is 148.77 %. Out of the 302 assessment units (blocks), 216 units (71.52 %) have been categorized as 'Over Exploited', 23 units (7.63 %) as 'Critical', 22 units (7.28 %) as 'Semi-Critical', 38 units (12.58 %) blocks as 'Safe' and 3 units (0.99 %) as 'Saline'.

Exploring the possibilities of enhancing surface water source through diverting surplus water of Indus basin.

Rooftop rain water harvesting and traditional methods of harvesting for domestic needs.

Increase in irrigation efficiency through adopting micro irrigation techniques in more areas i.e. sprinkler, drip irrigation, feeder separation, pipeline irrigation, crop pattern change, crop rotation.

Participatory Management at village level.

- Creating awareness (Mass Awareness Campaign for public and farmers, slideshows, display boards on water conservation, Water Management Training Programme for personnel related with water sector, painting/essay competition for school students etc.) regarding water conservation etc may be organized at appropriate level.
- National Aquifer Mapping & Management Programme (NAQUIM) Reports prepared by CGWB (<u>http://cgwb.gov.in/AQM/AQM-Reports.html</u>) which are also 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. (<u>http://cgwb.gov.in/Ground-Water/GW%20YEAR%20BOOK%202019-0%20ALL%20INDIA%20FINAL%20752021%20(1).pdf</u>).
- State may review their free/subsidized electricity policy to farmers (if applicable), bring suitable water pricing policy and may work further towards crop rotation/diversification/other initiatives to reduce overdependence on groundwater.
- 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.

For Further Information, Contact to :

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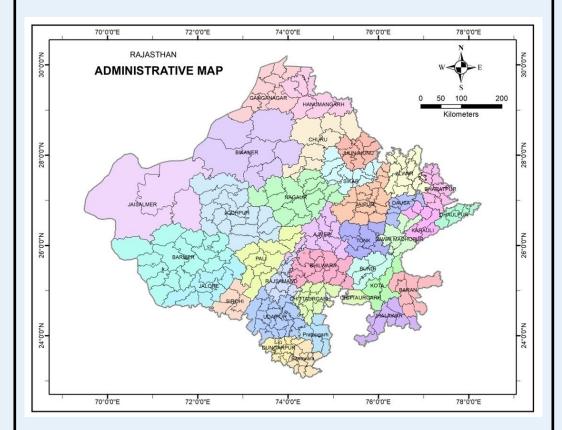
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## **Central Ground Water Board** Department of Water Resources, RD & GR Ministry of Jal Shakti, Government of India



# Dynamic Ground Water Resources, 2023 Rajasthan

January, 2024

### Background

- 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 (<= 70 %), Semi-Critical (>70 % and <=90 %), Critical (>90 % and <=100%) and Over-Exploited (>100 %).
- GWRA-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	Average Annual Rainfall	587 mm
2	Hydrogeology	Diversified geology ranging from Archean metamorphic to recent alluvial sediments. Large part of the State is underlain by Quater- nary sediments (Thar desert).
	Recharge Worthy Area of the	317.01 Thousand Sq. Km
3		
3	State	
3	<b>u</b>	Block / 302 Numbers

## Findings

	Attribute	GWRA- 2017	GWRA- 2020	GWRA- 2022	GWRA- 2023		
1	Total Annual Ground Water Re- charge (in bcm)	13.21	12.24	12.13	12.45		
2	Annual Extractable Ground Wa- ter Resources (in bcm)	11.99	11.07	10.96	11.25		
3	Annual Ground Water Extraction (in bcm)	16.77	16.63	16.56	16.74		
4	Stage of Ground Water Extrac- tion (in %)	139.88	150.22	151.07	148.77		
	bcm: Biliion Cubic Meter						

