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

Sl. No	Category	GWRA-2017		GWRA-2020		GWRA-2022		GWRA-2023	
		Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs	Number of AUs	% of AUs
1	Safe	11	100	11	100	11	100	52	100
2	Semi-critical								
3	Critical								
4	Over-exploited								
5	Saline								
Total number of AUs		11		11		11		52	

Recommendations: -

The State is covered by rocks ranging in age from Pre-Cretaceous to Recent. The rock sequences comprise the geo-synclinals facies, represented by Disang Group, Barail Group, Surma Group, Tipam Group, Namsang formation and Dihing Group. While the Disang and Surma Group of rocks are mainly argillaceous, the Barail and Tipam groups are Arenacious. The Girujan clay formation overlying the Tipam sandstones is characterized by typical blue, mottled clay and argillaceous sandstone beds. Older rocks occupy southern parts of the State, whereas younger rocks are exposed in the northern parts. The unconsolidated alluvial plains, comprising clay, sand pebble, cobble and boulder assemblages, occupy the narrow, intermountain and open valleys in the northern part of the state bordering upper reaches of Brahmaputra flood plains of Assam. The consolidated formations are confined to the south eastern part of the State along the Burma (Myanmar) border.

The total Annual Ground Water Recharge of the State has been assessed as 0.6 bcm and Annual Extractable Ground Water Resource as 0.54 bcm. Annual Ground Water Extraction is 0.02 bcm and Stage of Ground Water Development is 3.76%. All the 52 districts 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 (http://cgwb.gov.in/AQM/AQM-Reports.html) 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. (http://cgwb.gov.in/Ground-Water/GW%20YEAR%20BOOK%202019-0%20ALL%20INDIA%20FINAL%20752021%20(1).pdf).

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.

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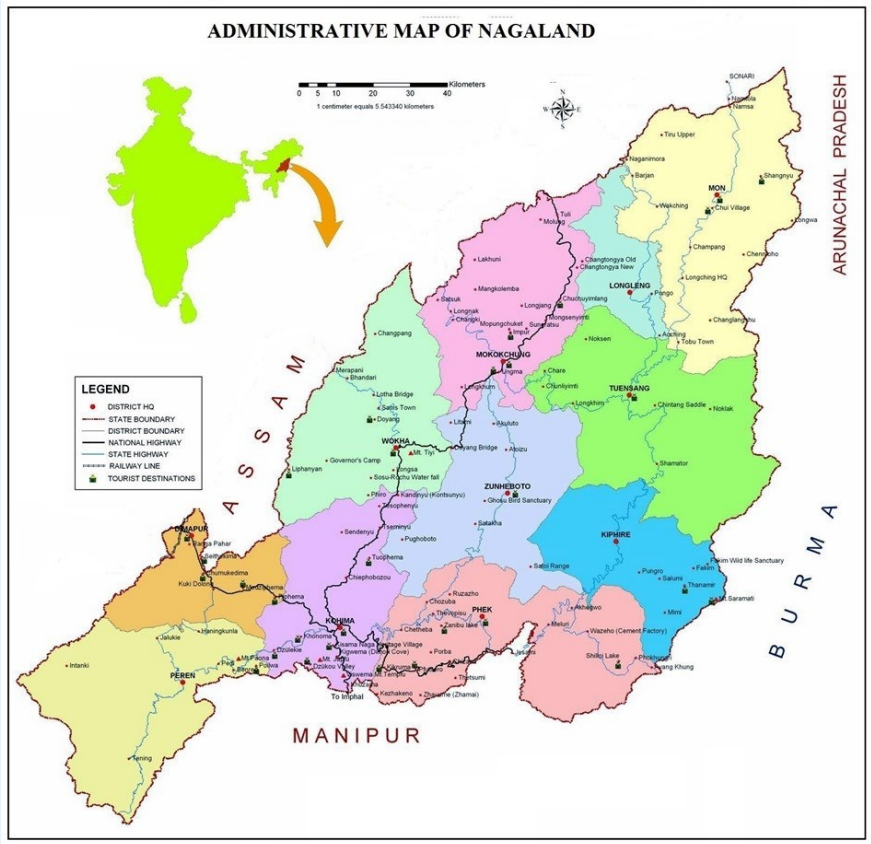
Central Ground Water Board

Department of Water Resources, RD & GR

Ministry of Jal Shakti, Government of India



Dynamic Ground Water Resources, 2023
Nagaland

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	1153.1 mm
2	Hydrogeology	The unconsolidated alluvial plains, comprising clay, sand pebble, cobble and boulder assemblages, occupy the narrow, intermountain and open valleys in the northern part of the state bordering upper reaches of Brahmaputra flood plains of Assam.
3	Recharge Worthy Area of the State	3.85 Thousand Sq. Km
4	Assessment Unit (AU) Type / Number	Block / 52 Numbers
5	Average area of Assessment Unit	74 Sq. Km

Findings

	Attribute	GWRA-2017	GWRA-2020	GWRA-2022	GWRA-2023
1	Total Annual Ground Water Recharge (in bcm)	2.20	2.17	0.79	0.6
2	Annual Extractable Ground Water Resources (in bcm)	1.98	1.95	0.71	0.54
3	Annual Ground Water Extraction (in bcm)	0.02	0.02	0.02	0.02
4	Stage of Ground Water Extraction (in %)	0.99	1.04	2.89	3.76

bcm: Biliion Cubic Meters