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	35	97	35	97	35	97	9	100
2	Semi-critical								
3	Critical								
4	Over-exploited								
5	Saline	1	3	1	3	1	3		
Total number of AUs		36		36		36		9	

Recommendations: -

Andaman & Nicobar Islands comprise an arc-shaped chain of islands in the Bay of Bengal and are characterized by rugged topography, steep slope, low infiltration capacity and close proximity of hills to the sea. Marine sedimentary group of rocks comprising shale, sandstone, grit and conglomerate; extrusive and intrusive igneous rocks (volcanics and ultramafics) and limestone occupy the entire geographical area. Amongst these, the Sedimentary Group is most pervasive and occupy nearly 70% of the entire area of the islands while the igneous group covers nearly 15% while the rest of 15% goes to the coralline and limestone formations. All these rock formations have been subjected to many tectonic activities, evident from the occurrence of shallow and deep focus earthquakes in the islands. Marine sedimentary rocks are developed only through dug wells having meager yield of 0.1 to 0.5 lps. The igneous Ophiolite suite of rocks in the area although restricted in occurrence, are observed to yield moderate to high both in shallow and deeper locales and they are developed by dug wells and bore wells with yield ranging from 1 to 10 lps. Area covered by Coralline Limestone contains appreciable quantity of groundwater with yield ranging from 5 to25 lps.

Island Hydrogeological set up demands judicious and measured (regulated) use of fresh water lenses seasonally (though falls under Safe category).

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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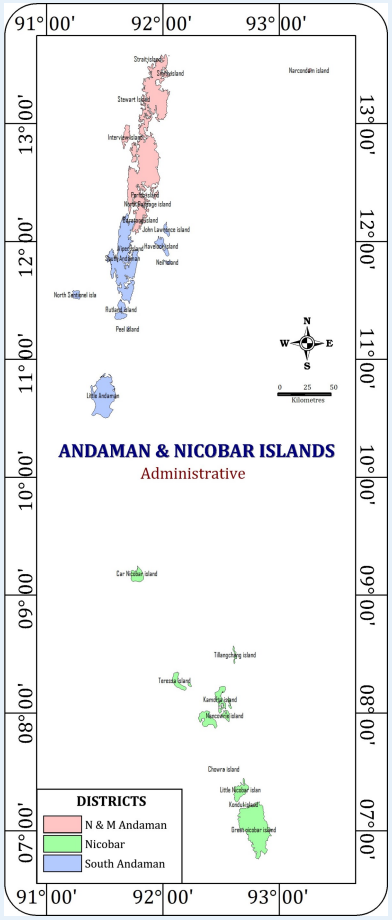
Central Ground Water Board

Department of Water Resources, RD & GR

Ministry of Jal Shakti, Government of India



Dynamic Ground Water Resources, 2023
Andaman and Nicobar Islands

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	3493.4 mm
2	Hydrogeology	Sedimentary Group occupies nearly 70% of the entire area of the islands while the igneous group covers nearly 15% while the rest of 15% goes to the coralline and limestone formations.
3	Recharge Worthy Area of the State	2.12 Thousand Sq. Km
4	Assessment Unit (AU) Type / Number	Block / 9 Numbers
5	Average area of Assessment Unit	236 Sq. Km

Findings

	Attribute	GWRA-2017	GWRA-2020	GWRA-2022	GWRA-2023
1	Total Annual Ground Water Recharge (in bcm)	0.37	0.32	0.62	0.62
2	Annual Extractable Ground Water Resources (in bcm)	0.33	0.28	0.56	0.56
3	Annual Ground Water Extraction (in bcm)	0.01	0.01	0.01	0.01
4	Stage of Ground Water Extraction (in %)	2.74	2.60	1.35	1.37

bcm: Biliion Cubic Meters

HYDROGEOLOGICAL MAP OF ANDAMAN AND NICOBAR ISLANDS