

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO. 694 OF 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” addressed to State of Chhattisgarh through the Secretary, Department of Water Resources.

**REPLY ON BEHALF OF RESPONDENT NO. 6 (STATE OF
CHHATTISGARH) IN COMPLIANCE OF THE ORDER DATED
26.07.2024 ALONG WITH AFFIDAVIT**

ADVOCATE FOR RESPONDENT NO. 6

**VINAYAK SHARMA
STANDING COUNSEL
STATE OF CHHATTISGARH**

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MOST RESPECTFULLY SHOWETH:

1. That the present reply is filed on behalf of Respondent no. 6 (State of Chhattisgarh) before this Hon'ble Tribunal in compliance of the Order dated 26.07.2024 in the instant matter.
2. That this Hon'ble Tribunal was pleased to take suo moto cognizance of a News item published in the Hindustan Times dated 26-10- 2023, titled as, "*UN Predicts groundwater level in India will reduce to low by 2025*".
3. That this Hon'ble Tribunal vide Order dated 24.11.2023 observed that the news item raises a very serious concern relating to the depletion of ground water level. Accordingly, this Hon'ble Tribunal impleaded the States across the country and issued notice to States for filing their response or

action taken report qua the issue of depletion of groundwater level.

4. It is most humbly submitted that the State of Chhattisgarh is a newly created developing state. The wide variety and complexity in nature and composition of geological formations, geological structures and variety in geomorphological features and hydrogeological conditions have given rise to the widely varying occurrence of groundwater in different parts of the State. That as per the administrative set-up as of March 2023, there are three (3) Revenue Divisions in the State *viz.*, 33 Districts comprising 146 Development Blocks with 20306 numbers of villages and 168 towns. That the State of Chhattisgarh has fairly developed irrigation facilities. The net irrigated area is just 33% of the net sown area. Among the districts, Raipur has the highest net irrigated area (77%) out of the net-sown area.
5. That it is most respectfully submitted that in the State of Chhattisgarh, out of 106078.71 Sq. Km. rechargeable worthy area of the State, 3797.89 Sq. Km. is '*Critical*' and 14832.17 Sq. Km is '*Semi-Critical*'.

6. **PHYSIOGRAPHY OF THE STATE OF CHHATTISGARH:**

Physiographically, the State of Chhattisgarh can be divided into three (3) distinct zones *viz.*,

- a) Bastar Plateau;
- b) Chhattisgarh Plains; *and*
- c) Northern Hill Region.

The Bastar Plateau covers the southern most districts of Kanker, Kondagaon, Narayanpur, Sukma, Bastar and Dantewada and is mostly covered by thick forests.

The average elevation is between 700 and 800 m. amsl. The Chhattisgarh Plains are spread over the central part of the state with an average elevation of 400 m amsl, covering Raipur, Bemetara, Balod, Baloda Bazar, Durg, Dhamtari, Mahasamund, Rajnandgaon, Kabirdham and parts of Bilaspur districts.

The western fringe area is distinguished by the high mounds of an average elevation of 700 m. amsl and forms the part of Maikal Hill Ranges. The Northern Hill Region covers parts of Surguja, Koriya, Bilaspur, Korba, Jashpur and Raigarh districts. It forms part of Sonpar hill ranges and Ramgarh hills of Central India.

7. DRAINAGE IN THE STATE OF CHHATTISGARH:

That the State of Chhattisgarh is drained by rivers of five (5) basins *viz.*,

- i) Mahanadi;
- ii) Lower Ganges;
- iii) Godavari;
- iv) Narmada; and
- v) Brahmani

It is submitted that Mahanadi basin covers maximum (nearly 56% area) and Narmada basin covers minimum area in the State of Chhattisgarh. That main river basins of the State of Chhattisgarh are given in tabular representation:

<i>Tabular Representation of Major River Basins</i>					
S. No.	Basin	Place of origin of main river	Catchment area in sq. km		Major tributaries
			Total	In Chhattisgarh	
1.	Ganga	Gangotri Uttar Kashi District (Uttaranchal)	1086000	18407	Rihand & Banas
2.	Godavari	Nasik district (Maharashtra)	312812	38694	Sabri & Indravati
3.	Mahanadi	Sihawa hills, Dhamtari District (Chhattisgarh)	141589	75858	Seonath, Hasdeo, Tel, Mand & Kelo
4.	Brahmani	Chhotanagpur plateau (Jharkhand)	37020	1394	Sankh
5.	Narmada	Amarkantak hills ranges, Shahdol (Madhya Pradesh)	98796	744	Banjar
TOTAL				135097	

8. CLIMATE AND RAINFALL IN STATE OF CHHATTISGARH:

- a) That the region is endowed with a sub-tropical monsoon climate with three distinct seasons *i.e.*, summer, monsoon and winter.
- b) The South-West Monsoon starts from June and continues until the middle of September. Winter Season spreads from October to February. Summer Season extends from March to the middle of June. Rainfall is the major source of groundwater recharge in the area and receives maximum (90%) rainfall during the south-west monsoon season. The winter rainfall is meager (10%).
- c) It is submitted that The Indian Meteorological Department (IMD), various State Government Departments, Agricultural Universities, etc., are maintaining numerous '*Rain Gauge Stations*' which comes to a total of more than 200 in the State of Chhattisgarh.
- d) The *average annual rainfall* for the region has been estimated as 1399 mm. The rainfall decreases as one moves from South-East to North-West. The annual rainfall varies with the highest 2685 mm in Bijapur District and 2044 mm in Bastar District to the lowest 790 mm in the Surguja District.

9. GEOLOGICAL FORMATION OF CHHATTISGARH:

- a) That State of Chhattisgarh is part of the Indian shield consisting of rocks ranging in age from Archaean to Recent.
- b) That the southern Bastar province constituted of Archaean-Proterozoic Supracrustal and sediments of Meso-Neo Proterozoic whereas the northern

Satpura province consists of Archean-Proterozoic rocks, Gondwana rocks, Lametas and Deccan traps. Laterite and Alluvium of Recent age developed over both these provinces sporadically.

- c) That nearly 58 % of the State area is covered by Crystalline and Metamorphic rocks, 27 % by rocks of Chhattisgarh Group of Basins, nearly 15 % by semi-consolidated Gondwana sediments and the remaining 2 % by Deccan trap, Lameta, Laterite and Alluvium.

10. HYDROGEOLOGICAL CONDITION OF CHHATTISGARH:

- a) About 29.4 % of the State area is covered by the basement crystalline rocks of Archaean to Paleo Proterozoic age, belonging to the Bastar gneiss and Chhota Nagpur gneissic complex.
- b) About 0.94% area of state is represented by the Charnockite and Khondalite rocks, 6.59% area by Plutonic, Volcanic belonging to Dongargarh Super Group, Nandgaon Group, Khairagarh Group and Abujhmar Group, 15.91 % area of the State is covered by Meta Sedimentary and Meta igneous rocks of Paleo Proterozoic age.
- c) That rest of the area (27%) is covered by the sedimentary rocks of Chhattisgarh Super Group and Indravati group (Meso-Neo Proterozoic Age), semi- consolidated sediments of Gondwana Super Group and Lametas (15.34%) belonging to Carboniferous to Cretaceous age, Deccan Traps of Cretaceous to Paleocene age (0.65%), Alluvium and Laterites (1%) of Quaternary to Recent age. By and large the occurrence of ground water depends upon the Geological setting, nature of rock, climate, rainfall, drainage pattern, topography and

availability of surface water bodies. Based on the hydrogeological properties of different rock formations the state can be divided into nine major aquifer systems.

The *status of the distribution of the aquifer* is produced below in tabular representation:

Ground Water Province	Rock Type	Distribution in state	Yield Range (lps)
Unconsolidated sediments Recent to Sub Recent 2060 sq. kms	Alluvium/Laterite (Around 1.5%)	Isolated patches all over the state along major drainages.	1-15
Sheet Volcanics Cretaceous to Paleocene 874sq. kms	Deccan Traps (Around 0.65%)	Jashpur, Surguja, Kawardha, Bilaspur	0.5-3
Semi Consolidated Sediments Carboniferous to Cretaceous 20720 Sq. kms	Gondwana Super Group, Lameta beds (Around 15.34%)	Raigarh, Surguja, Koriya, Korba	01-15
Plutonic intrusive aquifer Palaeo Proterozoic) 8907Sq.kms	Dongargarh Granites and equivalents, Nandgaon, Abhujmar Group (Around 6.59%)	Bastar, Kanker, Raipur, Mahasamund, Dhamtari, Rajnandgaon, Kawardha, Durg, Bilaspur, Raigarh, Surguja, Dantewada	0.1-10
Precambrian sedimentary rock Shale and Sandstone, Meso to Neo Proterozoic 24333 Sq. kms	Chhattisgarh Super Group, Indravati, Sukma, Khariar and Pakhal Groups (Around 18.01%)	Bastar, Raipur, Bemetara, Mungeli, Durg, Dhamtari, Champa, Mahasamund, Rajnandgaon, Raigarh, Kawardha, Bilaspur, Korba, Dantewada	Dry -25
Precambrian sedimentary rock Limestone and dolomite, Meso to Neo Proterozoic 15740 Sq. kms	Chhattisgarh Super Group, Indravati, Sukma, khariar and Pakhal Groups (Around 11.65%)	Bastar, Raipur, Durg, Bemetara, Mungeli, Dhamtari, Champa, Mahasamund, Rajnandgaon, Raigarh, Kawardha, Bilaspur, Korba, Dantewada	0.1-20

Metamorphic aquifer Meso to Neo Proterozoic 21500 Sq. kms	Granulite, Bengpal, gneisses Bastar , Bilaspur-Raigarh- Surgujabelt, Bailadila(Around 15.91%)	Dantewada, Bastar, Kanker,Raipur,Raigarh, Bilaspur, Mahasamund, Rajnandgaon, Surguja, Jashpur,Kawardha, Champa, Korba, Durg	dry-5
Charnockite and Khondalite Archaean to Palaeo Proterozoic, 1273 Sq. kms	Charnockite and Khondalite High grade metamorphic rocks (Around0.94%)	Bastar, Bijapur, Deobhog	0.8-6
Basement crystalline Archaean to Palaeo Proterozoic 39720 sq. kms	Granulite, Bengpal gneisses of Bastar & Chhota Nagpur and Bilaspur-Raigarh- Surguja belt, Bailadila and Sonakhan Group (Around 29.4 %)	Dantewada, Bastar, Kanker, Raipur, Raigarh, Bilaspur, Mahasamund, Rajnandgaon, Surguja, Jashpur, Kawardha, Champa, Korba, Durg, Koriya	Meagre – 25

- d) The occurrence and movement of groundwater water is related to the existing geology of the area. The State is underlain by various rock types belonging to different geological ages, from Azoic to Quaternary.
- e) The Archaean crystalline rocks comprise of granites and gneisses form the major litho- unit in the area. The groundwater occurs under unconfined to semi-confined conditions. All the districts except Janjgir-Champa are covered by crystalline. The weathered formation and the fractures form the main repository for groundwater in these rocks. The second important litho- unit in the area is the Proterozoic arenaceous–argillaceous–calcareous rocks of Chhattisgarh, Indravati, Khariyar and Sukma Groups. The weathered formation, caverns, fractures and formation contacts form the potential ground water zones. The karstified argillo –

calcareous rocks are much more productive than compact–silicified arenaceous sediments. The gypsum karsts are more intense than calcareous karsts in the Chhattisgarh basin. The overall karstification in Indravati basin is much higher than in the Chhattisgarh basin. Karsts, though few and far in between are the best repository for ground water. These rocks cover the Districts of Bastar, Narayanpur, Kondagaon, Dantewada, Bijapur, Sukma, Kanker, Raipur, Dhamtari, Mahasamund, Durg, Rajnandgaon, Kawardha, Bilaspur, Mungeli, Janjgir- Champa, Korba and Raigarh.

- f) The rocks belonging to Gondwana Supergroup are the third major litho-unit in the area. The sandstone shows primary and occasional secondary porosity. They form thick and extensive unconfined to confined aquifers extending to a depth of 300 m bgl. At some places free flow conditions are existing. The Gondwana formations are covering the districts of Raigarh, Korba, Koriya and Surguja and are exhibiting confined conditions.

11. GROUNDWATER RESOURCES OF THE STATE OF CHHATTISGARH:

- a) That apart from drinking water, groundwater is an important source of irrigation in the State. Presently more than 24 % of the net sown area is irrigated from groundwater. The contribution of groundwater irrigation to achieve record production of food grains since the formation of the state is phenomenal.

- b) **Recent Estimation:** As per the recent estimation of groundwater resources of Chhattisgarh as of March 2023, the total Annual Ground Water Recharge of the State has been assessed as 13.34 bcm (Billion Cubic Meter) and Annual Extractable Ground Water Resource is 12.18 bcm. The Total Current Annual Ground Water Extraction is 5.75 bcm and the Stage of Ground Water Extraction is 47.17 %.
- c) Out of 146 assessment units (blocks), 5 units (3.42 %) as '**Critical**', 22 units (15.06 %) have been categorized as '**Semi-critical**' and 119 units (81.50 %) as '**Safe**' categories of assessment units.
- d) It is pertinent to mention herein that there are no '**Over-exploited**' and '**Saline**' categories of assessment units.
- e) It is further pertinent to mention herein that out of 106078.71 sq. km recharge worthy area of the State, 3119.06 sq. km (**2.94 %**) area is under '**Critical**', 13987.35 sq. km (**13.19 %**) under '**Semi-critical**', 88972.30 sq. km (**83.87 %**) under '**Safe**' categories of assessment units.
- f) Out of total 12183.72 mcm (Million Cubic Meter) annual extractable ground water resources of the State, 466.98 mcm (3.83 %) under '**Critical**', 2288.80 mcm (18.79 %) under '**Semi-critical**' and 9427.94 mcm (77.38 %) are under '**Safe**' categories of assessment units.
- g) That in the State of Chhattisgarh, the groundwater development concentrates in the Central Part of the State (Chhattisgarh basin) more as compared to the other parts of the State. Therefore, most of the '**Semi-critical**' and '**Critical**' blocks are falling in the central part of the State.

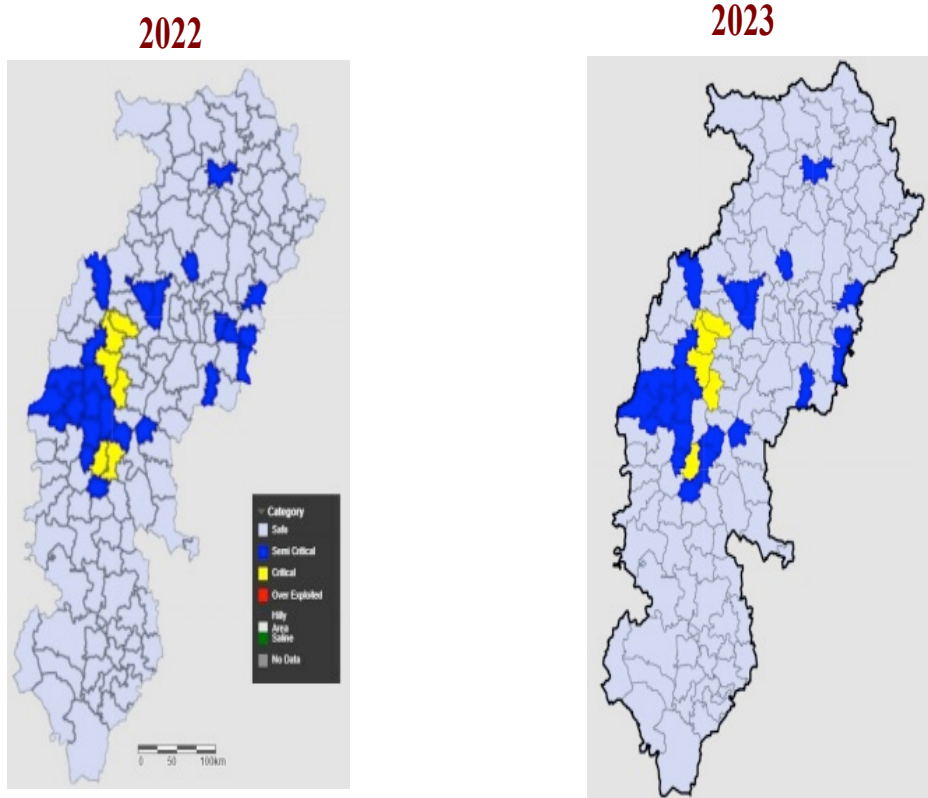
- h) That it is submitted that *as compared to the 2022 assessment, at present Stage of groundwater extraction has changed from 49.58 % to 47.17 %.*
- i) That it is most respectfully submitted that *the increase in surface-water irrigation area along with updated data of ponds and tanks is responsible for increased groundwater recharge.*
- j) **Comparison with the earlier groundwater resources estimate and reasons for significant departure from earlier estimates:**
- i. The ground water resource of all blocks of Chhattisgarh were estimated in 2022 using GEC'2015 methodology and the present ground water resource assessment as on March 2023 is also based on the GEC'2015 methodology. All the 146 administrative blocks of 33 districts have been considered as a unit of assessment for the State.
 - ii. **The extractable groundwater recharge has been increased from 11.02 bcm to 12.18 bcm** resulting from updated data of ponds and tanks from each block and additional increase in area under surface water irrigation which further aided to increased recharge.
 - iii. For the State, the stage of development in the *year of 2022 was 49.50% which has decreased to 47.17% in the year 2023.* As compared to the 2022 assessment, *Critical blocks decreased from 06 to 05, Semi-Critical decreased from 24 to 22 and Safe categorization increased from 116 compared to 119.*

- iv. That in the current 2023 assessment, there is a *decrease in the number of Critical and Semi-Critical units, mainly due to an increase in recharges in the semi-critical and critical blocks.*

Tabular Representation of details of Assessment Units improved from 2022 to 2023 Ground Water Resources Assessment:

S. N.	Name of District	Name of Assessment Unit	Stage of Ground Water Extraction (%) in 2022	Categorization in 2022	Stage of Ground Water Extraction (%) in 2023	Categorization in 2023	Remark
1	DURG	PATAN	73.22	Semi Critical	63.86	Safe	Improved
2	DHAMTARI	DHAMTARI	94.62	Critical	86.02	Semi Critical	Improved
3	SAKTI	DABHARA	78.77	Semi Critical	58.61	Safe	Improved
4	SAKTI	MAL KHARODA	77.07	Semi Critical	48.66	Safe	Improved

Chhattisgarh – Categorization of Assessment Unit



Assessment unit Categorization 2020 Vs 2022 Vs 2023			
Year	Safe	Semi critical	Critical
2022	116	24	06
2023	119	22	05

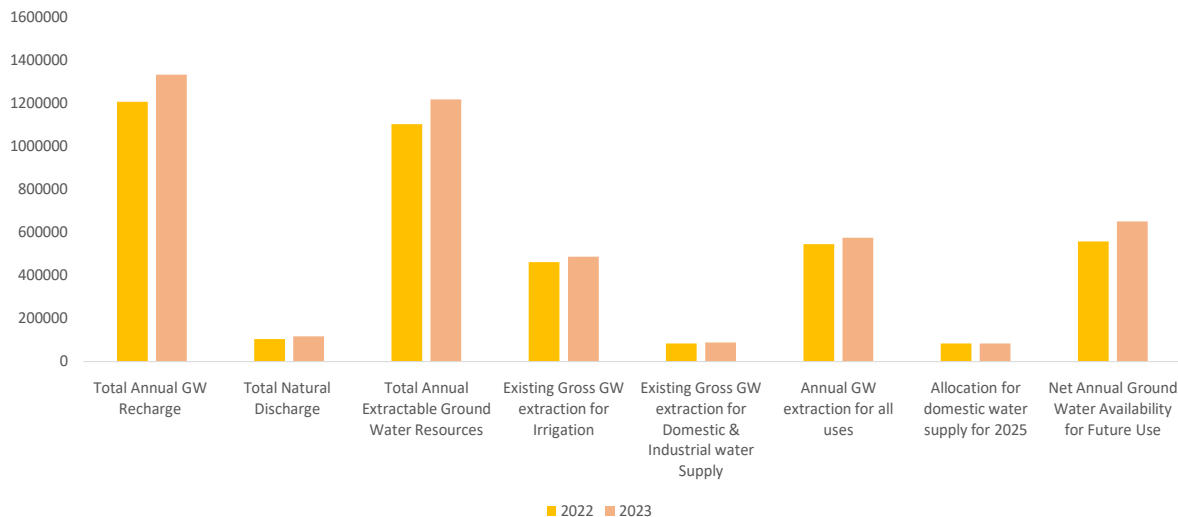


Comparison of Ground Water Assessment Unit categorization Year

2022 vs 2023

Year	(Over-Exploited) above 100%	(Critical) 90% to 100%	Semi-Critical) 70% to 90%	(Safe) below 70%	Total
2022	0	06	24	116	146
2023	0	05	22	119	146

Chhattisgarh – Resource Component (Ham)



COMPARISON OF DYNAMIC GROUND WATER RESOURCES OF THE CHHATTISGARH STATE (As on March 2022 Vs March 2023)

RESOURCE COMPONENT	YEAR 2022	YEAR 2023	UNIT
Total Annual Ground Water Recharge	1207477.18	1334320.23	Ham
Natural Discharge During Non-Monsoon Period	104573.82	115947.88	Ham
Total Annual Extractable Ground Water Resources	1102903.36	1218372.37	Ham
Existing Gross Ground Water Extraction for Irrigation	461783.911	486652.84	Ham
Existing Gross Ground Water Extraction for Domestic & Industrial Supply	84104.13 (73068+11033)	88005.2 (74531.19+13474)	Ham
Annual Ground Water Extraction for all uses	545888	574658.11	Ham
Allocation for Domestic Water Supply for 2025	83134.64	83134.64	Ham

Net Ground Water Availability for future Uses	558143.77	651431.49	Ham
Stage of Ground Water Extraction	49.50	47.17	%

True Copy of Report on Dynamic Ground Water Resources of Chhattisgarh as of year 2023 is annexed herewith as **ANNEXURE R-1**

12. REGULATORY MEASURES UNDERTAKEN BY STATE OF CHHATTISGARH:

a) Chhattisgarh Ground Water (Management & Regulation) Act 2022:

That it is most respectfully submitted that the Chhattisgarh Ground Water (Management & Regulation) Act 2022 has been passed in Chhattisgarh Legislative Assembly and notified vide Gazette Notification No. 643 dated 07th-November-2022 and enacted in the state vide Gazette Notification No. 61 dated 16th-January-2024

True Copy of Chhattisgarh Ground Water (Management and Regulation) Act, 2022 is annexed herewith as **ANNEXURE R-2**

b) Chhattisgarh Ground Water (Management & Regulation) Rule, 2024.

That in terms of orders and directions passed by this Hon'ble in Case Number 392 of 2022 titled as '*Prasun Pant and Other Vs Union of India & Ors.*' Dated 15.11.2022 in this Hon'ble Tribunal ordered that Standard Operating Procedure (SOP) should be formulated for groundwater management and Regulation by States.

Accordingly, General Administration Department, Government of Chhattisgarh had constituted an interdepartmental Committee in the

Chairmanship of Secretary, Water Resource Department vide Order No. F9 - 13/2023/1/5 Nawa Raipur, Atal Nagar on dated 01.05.2024.

True Copy of Order dated 01.05.2023 for Constitution of Committee is annexed herewith as **ANNEXURE R-3**.

That it is pertinent to mention herein that the Committee had finalized the Standard Operating Procedure (SOP) *i.e.*, Chhattisgarh Ground Water (Management & Regulation) Rule 2024.

The Chhattisgarh Ground Water (Management & Regulation) Rule 2024 has been refined/modified/approved by the Law and Legislative Department, Government of Chhattisgarh. At present, this Rule is under consideration at the government level.

True Copy of Chhattisgarh Ground Water (Management & Regulation) Rule 2024 is annexed herewith as **ANNEXURE R-4**.

13. AWARENESS AMONG LOCALS: 'JAL SHAKTI ABHIYAN':

- a) *"Jal Shakti Abhiyan -Catch The Rain"*- Chhattisgarh Water Resources Department acted as the nodal department for implementation of "Jal Shakti Abhiyan -Catch The Rain" throughout the State of Chhattisgarh, under Ministry of Jal Shakti, Govt of India with the aim to conservation of water of various Sources.
- b) Jal Shakti Abhiyan: Catch the Rain – 2024 with the theme *"Nari Shakti se Jal Shakti"* is being implemented from 09.03.2024 till 30.11.2024 emphasizing the pivotal role played by women in the field of water conservation.

c) Five (5) focused interventions, like in the previous years, include:

- (i) water conservation and rainwater harvesting;
- (ii) enumerating, geo-tagging & making inventory of all water bodies;
- (iii) preparation of scientific plans for water conservation based on it;
- (iv) setting up of Jal Shakti Kendras in all districts;
- (v) intensive afforestation; and
- (vi) awareness generation.

d) Tabular Representation portrays the overall intervention wise progress up to 21.08.2024:

Sr. No.	Interventions	Total No of Number of activities
1.	Water Conservation and rainwater harvesting structure <ul style="list-style-type: none"> a. Check dam 2502 b. Pond/Tank 13656 c. Trench 1174 d. Rooftop Water Harvesting Structure 2365 e. Rain water Recharge Structures 634 f. Other Water Conservation Structure 3142 	23473

2.	Renovation of traditional water bodies/tanks	6506
3.	Creation of reuse and recharge structure a. Soak pit 1408 b. Stabilization Pond 61 c. Other Reuse/Recharge structure 2645	4114
4	Watershed development related works a. Gully Plug 448 b. Percolation Tank 940 c. Staggered Trenches 159 d. Other Watershed Construction Activities 13848	15395
5	Intensive Afforestation a. Nurseries (works Completed) 295 b. Seedling Planted 18079 c. Plantation (works Completed) 2689 d. Saplings Planted 559526	580589
6	Training Program	32 (447 participants)
7	Awareness Program/Kisan Melas	254 (122566 participants)

14. Submissions in respect of Para No. 19 of the Order dated 26.07.2024 passed by this Hon'ble Tribunal qua granting permission for groundwater extraction of OCS Block in State of Chhattisgarh:

- a) It is most humbly submitted that at present in the State of Chhattisgarh, NOC (No Objection Certificate) to groundwater users is presently granted by the Regional Director, Central Ground Water Board Raipur/Central Ground Water Authority.
- b) It is submitted that the Authority is regulating groundwater development and management by issuing NOC for groundwater extraction to industries or infrastructure projects or mining projects.
- c) That all new and existing industries and industries seeking expansion, infrastructure projects, and mining projects that are abstracting groundwater require to seek a no-objection certificate.
- d) That entire process of granting the NOC is being conducted online through a web-based application system.
- e) That in over-exploited assessment units, the No Objection Certificate (NOC) for groundwater abstraction is not granted to new industries, except those classified as Micro, Small and Medium Enterprises (MSMEs). Furthermore, the expansion of existing industries which would result in an increased quantum of groundwater abstraction is not permitted in these over-exploited assessment units.

It is further submitted that New Packaged Water Industries are not given NOC in over-exploited areas, regardless of whether they are MSMEs.

- f) That for projects proposing to extract groundwater exceeding 100 cubic meters per day in an over-exploited, critical and semi-critical areas or exceeding 500 cubic meters per day in areas underlain by non-alluvium, it is mandatory to submit an '*Impact Assessment Report*' and '*Ground Modeling Study*'.

That aforementioned report and study is directed to be conducted by accredited consultants and should cover the impact of the proposed groundwater withdrawal on the groundwater regime within a 5 to 10 kilometers radius of the project site.

- g) Furthermore in order to discourage excessive withdrawal in regions where groundwater resources are at risk, industries/mining operations/critical assessment units are required to pay groundwater abstraction charges based on the volume of groundwater extracted. As the sensitivity of the region/area(s) increases from safe to semi-critical, critical and over-exploited, the charges of groundwater abstraction correspondingly increase.

True Copy of Letter of Regional Director, Central Ground Water Board, Raipur, Chhattisgarh dated 20.08.2024 is annexed herewith as ANNEXURE R-5.

15. That it is most respectfully submitted that the State of Chhattisgarh (Respondent No. 6) recognizes the importance of the situation of depletion of groundwater and acknowledges the need for urgent action to mitigate the issue in the State. It is further most humbly submitted that the State of Chhattisgarh is fully committed to cooperating and adhering to directions passed by this Hon'ble Tribunal to address the present issue of groundwater depletion comprehensively.

16. In view of the facts enumerated above, it is, therefore, most respectfully prayed that the instant Reply filed by Respondent No. 6 (State of Chhattisgarh) may kindly be accepted and taken on record in compliance of this Hon'ble Tribunal's Order.

**RESPONDENT NO. 6
(OFFICER-IN-CHARGE)**

THROUGH,

VINAYAK SHARMA
STANDING COUNSEL
GOVT. OF CHHATTISGARH

(ADVOCATE FOR RESPONDENT NO. 6)

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FILED ON: 06.09.2024

PLACE: NEW DELHI



BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 694 OF 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" addressed to State of Chhattisgarh through the Secretary, Department of Water Resources.

AFFIDAVIT


I, Intiaz Ahamad Siddiqui aged about 58 years, working as Superintending Engineer, Water Resources and Ground Water Survey Circle, Sihava Bhavan, Civil Lines, Raipur, Chhattisgarh-492001, do hereby solemnly affirm and state on oath as under:

1. That I am the Superintending Engineer/OIC of the Respondent No. 6 State of Chhattisgarh herein. I am well conversant with the facts and circumstances of the present case and am capable of deposing the same.
2. That the contents of the accompanying reply/response have been drafted under my instructions by my advocate and I have read and understood the contents of the same and I state that the contents therein are true and correct to my personal knowledge and belief and as per the records.
3. That the Annexures are true/typed/translated copies of their respective originals and the contents of this affidavit have been explained to me in the vernacular.




- 6 SEP 2024





DEPONENT
 Superintending Engineer
 Water Resources And
 Ground Water Survey Circle
 Raipur (C.G.)

VERIFICATION:

Verified at Raipur, Chhattisgarh on this 06th day of September, 2024, that the contents of my above affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom.


DEPONENT
 Superintending Engineer
 Water Resources And
 Ground Water Survey Circle
 Raipur (C.G.)

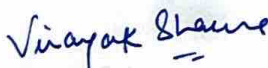
**SOLEMNLY AFFIRMED
 OR SWORN BEFORE ME
 BY THE WITHIN NAMED.**


BHUPENDRA SHARMA
 NOTARY / ADVOCATE,
 RAIPUR. (C.G.)

- 6 SEP 2024

Identifying Witness

Identified Deponent



VINAYAK SHARMA
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भूमि जल संसाधन छत्तीसगढ़

DYNAMIC GROUND WATER RESOURCES OF CHHATTISGARH (As on March 2023)

केंद्रीय भूमि जल बोर्ड,
उत्तर मध्य छत्तीसगढ़ क्षेत्र, रायपुर
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
जल शक्ति मंत्रालय
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भूजल सर्वेक्षण मंडल
जल संसाधन विभाग
छत्तीसगढ़ शासन

रायपुर
2023

25

**A REPORT ON
DYNAMIC GROUND WATER RESOURCES
OF CHHATTISGARH
(As on March 2023)**

By

**Ground Water Survey
Water Resources Department, Raipur
Govt. of Chhattisgarh
&
Central Ground Water Board
North Central Chhattisgarh Region, Raipur
Department of Water Resources,
River Development & Ganga Rejuvenation
Ministry of Jal Shakti
Government of India**

**Raipur
2023**

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I.A.S.

Special Secretary

Government of Chhattisgarh
Water Resources Department

DO.No. 500/F-1-66/31/5-2/GW/2010

DATE : 08/02/2024

Foreword

Groundwater is not only a necessity for the human society but also an important catalyst for the economic and social advancement for the state of Chhattisgarh. In view of its ubiquitous presence, varied distribution and abstraction structures being under the direct control of the users, ground water becomes preferred source for meeting the water demand of various sectors. It also plays a crucial role, however often an overlooked role in sustaining wetlands and other ecosystem. A fundamental step in valuing groundwater is recognizing and quantifying its worth both when extracted from the ground and when left in place- its total economic values.

As per the national water policy development of groundwater resources is to be limited to utilization of the replenishable groundwater resources. Precise assessment of replenishable groundwater resources and its development in terms of area which can be irrigated in the framework of our land availability, cropping pattern etc. is therefore a key to our plans to develop groundwater resources for various uses in this state. In view of the rapidly increasing urban industrial and agriculture water demand, assessment of groundwater resources with best possible accuracy is a fundamental importance for planning the resource use on scientific and economic consideration.

The estimation of groundwater resources for all the 146 blocks of the state have been jointly carried out by the State Groundwater Survey, Govt. of Chhattisgarh and Central Ground Water Board, Govt. of India as per the prevailing methodology and guidelines set by the groundwater estimation committee 'GEC 15' of Govt. of India. In the assessment, administrative block was taken as unit of assessment and command & non-command area in block was taken as sub unit. The overall stage of ground water extraction of the state is 47.17% with 22 blocks falling under Semi-Critical and 5 blocks under Critical category in Chhattisgarh. I put forward a word of accolade for the untiring efforts put by the officers of State Groundwater Survey, Govt. of Chhattisgarh and the Central Ground Water Board, Govt. of India in bringing out this report.

I am sure that this report will be of immense use for the administrators and planners of the state for ensuring appropriate strategy for development and management of groundwater resources in Chhattisgarh.

(Rajesh Sukumar Toppo)

PREFACE

Ground Water has emerged as important source of water to meet the different requirements. However, uncontrolled use has resulted in depletion of water levels, more so in hard rocks, where the resource is limited and indeed prone to vagaries of monsoon. The sustainability of ground water is dependent upon ground water availability and prevailing development status.

The state of Chhattisgarh is in the process of an accelerated development in the fields of irrigation and industrial activities and ground water occupies a key position in the developmental activities of the state. Although, ground water is a replenishable resource, over dependence on ground water, recurrent droughts, varied monsoon pattern etc., are leading to a situation where in several blocks of the state have been categorized as critical to Semi-critical.

In order to precisely quantify the ground water resources available for various uses and judiciously plan the development of water supply programs as well as ensuring food security, there is a need for assessing the ground water resources periodically. Keeping this in view, Central Ground Water Board and State Ground Water Department took up the task of estimating the Dynamic Ground Water Resources of Chhattisgarh based on GEC'15 methodology. Resource computed with the help of IN-GRES Software which is Web-based Application developed by CGWB in collaboration with IIT-Hyderabad.

The report on "Dynamic Ground Water Resources of Chhattisgarh" (As on March 2023) is the outcome of the combined efforts of CGWB and State Ground Water Survey, Water Resources Department, Government of Chhattisgarh and is expected to form the basis for ground water development and planning in the state. This report presents the assessment of ground water resources of Chhattisgarh which have been computed with a logical and scientific approach based on methodology recommended by the "Ground Water Resource Estimation Committee 2015". The report indicates that out of 146 blocks, 5 blocks are Critical, 22 blocks are falling under the "Semi-Critical" category and remaining 119 blocks falls under "safe". The figures arrived at are very realistic, however, there is always a scope for improvement in methodology and up-gradation of information regarding the quantum of ground water resource and resultant ground water available for future use and irrigation potential.

A deep sense of gratitude is expressed to all the state Officers of State Ground Water Survey, Water Resources Department, Government of Chhattisgarh who was associated with this work at one stage or the other. A lot of effort was put in by the Shri Uddeshya Kumar (Scientist 'C' & Nodal Officer) and other team members of Central Ground Water Board for compilation of data, validation and assessment along with preparation of report on 'Dynamic Ground Water Resource of Chhattisgarh (As on March' 2023) in the present form is appreciable.

I hope that, this report will be useful to all the user agencies engaged in planning and development of ground water in the state.

Prabir K. Naik
8/11/2023

(Dr Prabir K. Naik)
Member Secretary (SLC) &
Regional Director CGWB, NCCR,
Raipur

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to Chairman, Central Ground Water Board, Ministry of Jal Shakti, Govt. of India for giving an opportunity to estimate the Ground Water Resource as on March 2023 for the state of Chhattisgarh.

I express my sincere thanks to Member(East) and Member(South), Central Ground Water Board, Ministry of Jal Shakti, Govt. of India for his valuable suggestions at the time of resource estimation.

I am deeply thankful to Dr. Prabir K. Naik, Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, Raipur for his valuable guidance at the time for assessment of Dynamic Ground Water Resources (as on March 2023) of Chhattisgarh state. I would like to express my deepest thanks to Dr. Ratikanta Nayak, Regional Director, CHQ CGWB for the valuable inputs provided during resource assessment.

I am very much thankful to Shri S K Tikam, Suptd. Engineer for his co-operation and suggestions for resource assessment of the state. I would like to express my deepest thanks to Shri A.K. Shukla, Senior Geo-Hydrologist, (Divisional Ground Water Survey, Unit 8, Raipur) and N. Meshram, Senior Geo-Hydrologist (Divisional Ground Water Survey, Unit 9, Bilaspur) and their respective team for their valuable contribution in collection of data and resource assessment.

I would like to express my deepest thanks to Shri B. Abhishek (Scientist-C) for his consistent effort in data validation, analysis and preparation of this report. I also would like to express my thanks to Smt. Anusandhya Pradhan (Scientist-B), Ms Gurpreet Kaur (Scientist-B) and Sh Suman Bharti (Scientist- C) of CGWB NCCR for their sincere effort throughout the assessment. I am also thankful to Shri Rakesh Dewangan (Scientist-C) for the help rendered in quality tagging of assessment units.

I am also thankful to Sh A K Sinha (Sc-D), Smt Priyanka B Sonbarse (Sc-C), Sh Rajnikant Sharma (Sc-C), Smt Prachi Gupta (Sc-C) and Sh Sidhanta K Sahu (Sc-C) for their valuable inputs during assessment. I am also thankful to Technical Section, CGWA, RODC and Chemical Section of CGWB NCCR Raipur along with departments and district offices of Govt. of Chhattisgarh for providing requisite data for assessment of groundwater resource.

We feel immensely thankful to members of State Level Ground Water Resource Re-Estimation Committee for their valuable suggestions and kind co-operation during Ground Water Resource Estimation as on March 2023.

The report processing and publication section for issuance of the report is also duly acknowledged.

32/11/2023

Uddeshya Kumar
(Scientist 'C')
CGWB, NCCR, Raipur

DYNAMIC GROUND WATER RESOURCES OF CHHATTISGARH

AT A GLANCE

(As on March 2023)

1.	Total Annual Ground Water Recharge	13.34 BCM
2.	Annual Extractable Ground Water Resource	12.18 BCM
3.	Total All Uses Annual Extraction	5.75 BCM
4.	Stage of Ground Water Extraction	47.17 %
5.	Categorization of Blocks	
	Total Assessed Blocks	146
	• Safe Blocks	119
	• Semi-Critical Blocks	22
	• Critical Blocks	5
	• Over-Exploited Blocks	0
6.	Poor Quality	Nil
7.	Shallow Water Level Area	Nil

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DYNAMIC GROUND WATER RESOURCES OF CHHATTISGARH (As on 2023)

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Contributors

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Abbreviation

m	meter
cm	centimeter
mm	millimeter
ft	foot
m agl	meter above ground Level
m bgl	meter below ground Level
lps	liter per second
lpm	liter per minute
m/d	meter per day
mdd	meter drawdown
Ha	hectare
Ham	hectare meter
MCM	million cubic meters
BCM	billion cubic meters
mg/l	milligram per liter
ppm	part per million

INTRODUCTION

Groundwater is the backbone of India's agriculture and drinking water security in urban and rural areas. Nearly 90% of rural domestic water use is based on groundwater while 70% of water used in agriculture is pumped from aquifers. Ground water is an important source for meeting the water requirements for development of the state. Ground water is annually replenishable resource, but its availability is non-uniform in space and time. Hence, the sustainable development of ground water resources warrants precise quantitative assessment based on the reasonably valid scientific principles. Technically, the dynamic ground water refers to the quantity of ground water available in the zone of water level fluctuation, which is active recharge zone and replenished annually. In addition to the dynamic ground water resource, there exists a huge ground water reservoir in the deeper zones below the active recharge zone and in the confined aquifers. The demand for ground water irrigation is increased more than 6 times in last decade. The majority of ground water exploitation is confined in the shallow aquifer only. Hence, the development of shallow aquifers plays an important role, therefore correct assessment of dynamic ground water resources becomes significant for a planned agricultural growth.

Chhattisgarh is known as the state of 'Rice bowl', and 'Power hub' of the country, Chhattisgarh state is basically a backward and agrarian state and it is abundantly endowed with natural resources and has a thick forest cover (about 44.8% of the total geographical area). The state extends from 17° 47' to 24° 6' North Latitudes and 80° 15' to 84° 24' East Longitudes in the central part of India. It has an area of about 135191 Sq. Km thus forming the 10th largest state of India with 4.12% of the country's area. Chhattisgarh is bounded by the states of Orissa in the east, Uttar Pradesh in the north, Jharkhand in the north east, Andhra Pradesh in the south, Maharashtra in the south west and Madhya Pradesh in the north western part. The State has been divided into 33 districts and 146 blocks (Figure-1). The population of state as per census 2011 is 25540196 with a population density of 189 persons per sq.km area. Out of total population, 79.9 % is rural.

The present report is an outcome of the concerted efforts made by the Central Ground Water Board, North Central Chhattisgarh Region, Raipur and the State Ground Water Survey, Water Resources Department, Govt of Chhattisgarh to bring out the status of dynamic ground water resources of the State based on the methodology recommended by Ground Water Resources Estimation Committee, 2015 (GEC-2015).

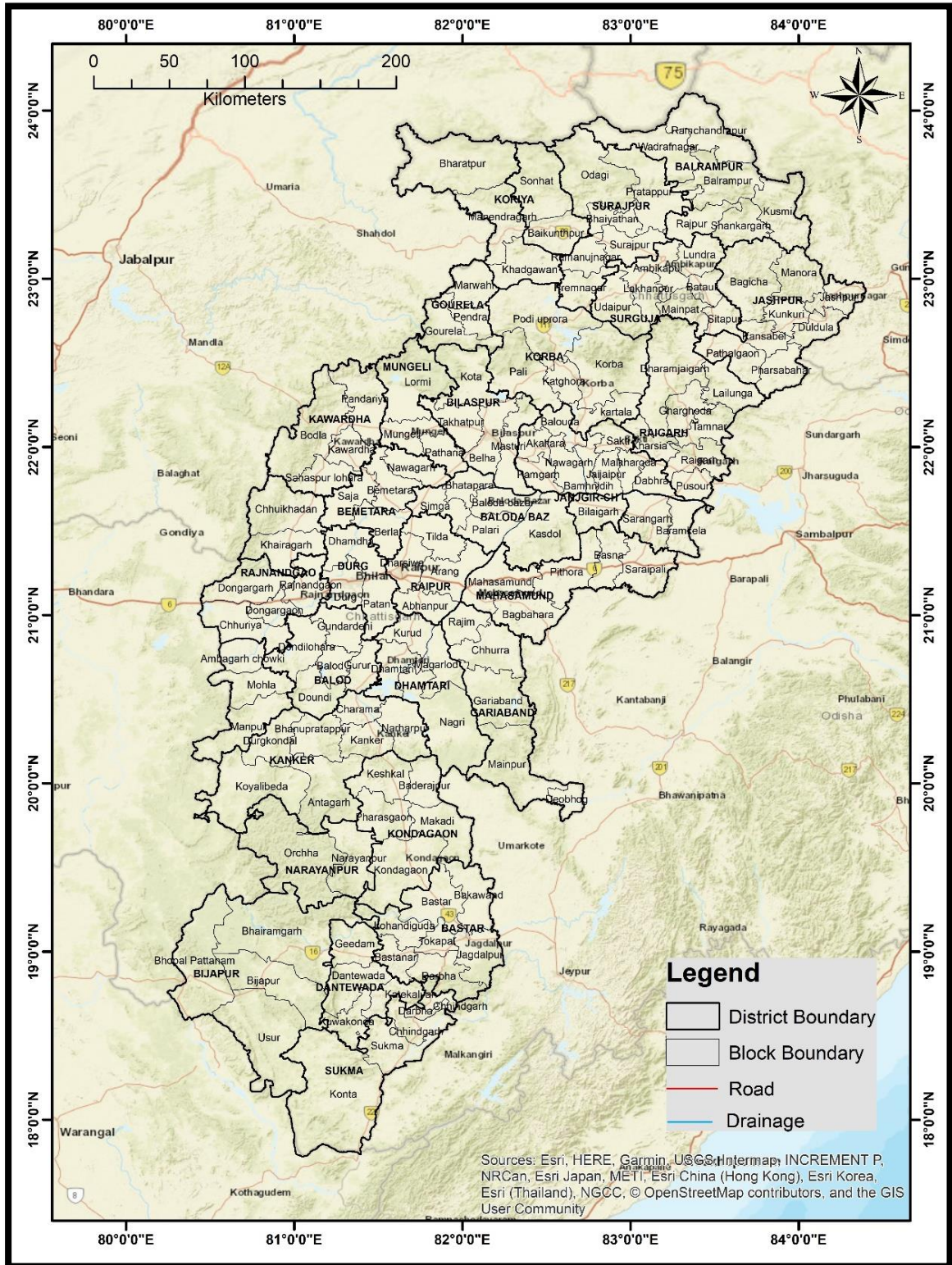


Figure 1- Administrative Divisions of Chhattisgarh

a) Background for re-estimating the ground water resources of the state

First attempt to estimate the ground water resources of the country was made in the year 1979. A Committee known as Ground Water Over-exploitation Committee was constituted by Agriculture Refinance and Development Corporation (ARDC) of Govt. of India. Based on the methodology and norms recommended by the above Committee, ground water resources of the country were assessed. Subsequently, the necessity was felt to refine the methodologies and the “Ground Water Estimation Committee (GEC)” headed by the Chairman, CGWB came into existence. Based on the detailed surveys and studies by the various offices and projects of CGWB, the Committee recommended a revised methodology in 1984 (GEC’84) for estimation of ground water resources. In 1997, the Ground Water Estimation Committee reviewed the previous studies and work done in various states and suggested a modified methodology in 1997 (GEC’97) for computation of ground water resources. Again in 2015, the Ministry of Water Resources, River Development & Ganga Rejuvenation, Government of India, constituted a committee headed by Chairman, CGWB to review and revise the Ground Water Resource Estimation Methodology 1997 (GEC-97) and suggested a modified methodology GEC-2015. Subsequently, a few modifications have been made in the methodology as per the recommendations of the R&D Advisory Committee.

The first ground water resource of Chhattisgarh after it’s carved out of erstwhile Madhya Pradesh, was estimated for the year 2001-02 based on the revised methodology (GEC’97). These estimations were carried out jointly by Central Ground Water Board, NCCR, Raipur and State Ground Water Survey, Raipur. After approval by the State Level Committee and the recommendations of the standing Committee on R&D Advisory Committee, New Delhi, the final report was released during the year 2005. As per the guidelines of the Central Ground Water Board, Faridabad, the ground water resource has been estimated for the base year 2008-09, 2010-11, 2012-13, 2016-17 and 2020-21, 2021-22. This report has been prepared for the base year 2022-23 and resource has been assessed as on March’2023 by Central Ground Water Board in association with State Ground Water Survey, Water Resources Department, Govt. of Chhattisgarh. The report has been prepared as per the format provided by Central Headquarter, Central Ground Water Board, Ministry of Water Resources, Faridabad.

b) Constitution of state-level ground water resources estimation committee

Water Resources Department, Govt of Chhattisgarh has constituted a Permanent State Level Committee vide letter no. F-9-21/2023/1/5 dated 06.07.2023 for Ground Water Resources

Assessment for the state of Chhattisgarh as on March 2023 (Annexure-1) for assessment of annual replenishable ground water resource of Chhattisgarh for the reference year March, 2023 and to estimate status of utilization of the annual replenishable ground water resources as on 31st March 2023 of Chhattisgarh State.

The composition of the committee is as follows:

- | | | |
|---|---|------------------|
| 1. Secretary, Water Resources Department, Govt. of Chhattisgarh | - | Chairman |
| 2. Engineer-in-Chief, Water Resources Department, Govt. of Chhattisgarh | - | Member |
| 3. Engineer-in-Chief, PHE Department, Govt. of Chhattisgarh | - | Member |
| 4. Chief Engineer, Mahanadi Godavari Basin, WRD, Govt. of Chhattisgarh | - | Member |
| 5. Director, Department of Agriculture, Govt. of Chhattisgarh | - | Member |
| 6. Director, Department of Industries, Govt. of Chhattisgarh | - | Member |
| 7. Chief General Manager NABARD, Nava Raipur, Atal Nagar | - | Member |
| 8. Director, Economics & Statistics Department, Nava Raipur, Atal Nagar | - | Member |
| 9. Regional Director, CGWB, NCCR, Raipur | - | Member Secretary |

c) Proceedings of the resource estimation and outcome of various meetings

Ground water resources assessment for reference year 2023 have been carried out jointly by Ground Water Survey, Water Resource Departments, Raipur, Govt. of Chhattisgarh and Central Ground Water Board, North Central Chhattisgarh Region, Raipur under the supervision of State Level Committees in accordance with the GEC.

The first meeting (Annexure II, Minutes of Meeting) of the Permanent State Level Committee (SLC) for Ground Water Resources Assessment (GWRA) 2023 for Chhattisgarh State was held via Video Conferencing dated 19.07.2023 under chairmanship of Shri Anbalagan P, Secretary, Water Resource Department, Govt. of Chhattisgarh. Second meeting of SLC for approval of “Dynamic Ground Water Resources of Chhattisgarh” (As on March 2023) held on dated 18 January 2023 (Annexure III, Minutes of Meeting) under Chairmanship of Sh Rajesh Sukumar Toppo (IAS & Special Secretary WRD, Govt. of Chhattisgarh). All the members of SLC appreciated the work carried out by CGWB and State Ground Water Department and finally committee approved the report.

HYDROGEOLOGICAL CONDITION OF CHHATTISGARH STATE

The state is underlain by various rock types of different geological ages from Pre-Cambrian to Recent age. These include the Archaean Crystalline, Precambrian Sedimentaries, Gondwanas, Deccan Traps and Unconsolidated Sediments (Figure-2). There exists a huge diversity in the distribution of groundwater in the state due to the varied hydrogeological characters of the rock types, which ultimately forms the aquifers. To understand the regional hydrogeological behavior of Chhattisgarh State, the complex hydrogeological setup has been classified into two groups based on their characters viz. Fissured Formations and Porous Formations.

a) DESCRIPTION OF ROCK TYPES**POROUS FORMATION**

Porous formations have been further subdivided into unconsolidated and Semi-consolidated formations.

Unconsolidated formation

Unconsolidated formations of Quaternary age include alluvium, clay, silt, and laterite etc. Quaternary alluvium forms thin unconfined aquifers with maximum thickness up to 40 m bgl. Extent of such formation is very much limited to 338 sq. km. which is 0.44 % area of the state, but they form potential aquifers in localized areas. They occur in several isolated patches mainly along major river courses like Mahanadi, Arpa, Hasdeo, Seonath, Kharun, Mand, Kelo etc. These aquifers have good potential for ground water yield and are being developed through dug wells, shallow bore wells and filter point wells. Potential alluvial aquifer, which is highly developed, found in Bilaspur and Janjgir–Champa district. Laterites also occur in detached patches over various rock types. Wells tapping laterite profile can be seen mostly on traps in Surguja and Jashpur districts. Ground water occurs in these rocks in phreatic condition and is restricted up to the upper level of the lithomargic clays. Ground water in this province is developed mainly through dug wells. Laterite aquifers are having moderately good yield.

Semi-consolidated formation

The rocks belonging to Gondwana Super Group are found mostly in Raigarh, Korba, Surguja and Koriya districts. A small part is also found in Bilaspur and Kawardha districts. They cover nearly 12 % of area in the state.

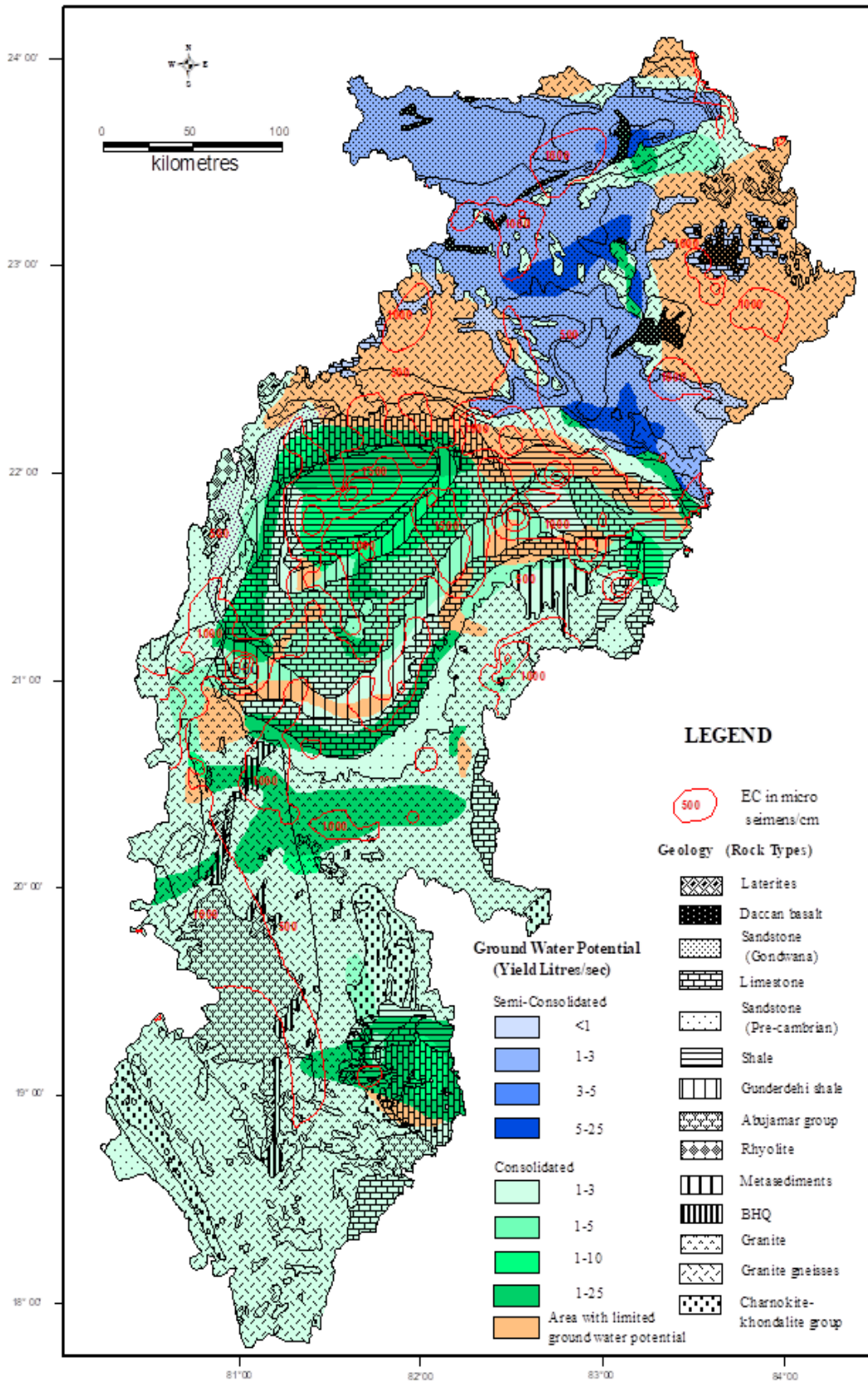


Figure 2 Hydrogeology of Chhattisgarh

These consist mainly of sandstone, shale, clay, siltstone and coal seams. The Gondwana sandstones have primary and occasional secondary porosity. They form thick and extensive unconfined to confined aquifers down to 300 m bgl. Groundwater, sometimes, occurs under flowing conditions in localised belts. The Barakar sandstones, which occupy the largest part within Gondwana area, are good productive aquifers with discharge ranges from 1 to 10 lps. Thick shale and clay beds of Barakar formation act as confining layer. At places high groundwater temperature even up to 50° C have been recorded. Ground water development in these formations is through dug wells as well as through bore wells and tube wells.

FISSURED FORMATIONS (CONSOLIDATED FORMATIONS)

The consolidated formations occupy nearly 87% of the area of the State. The occurrence of ground water in these rocks is largely controlled by fracture patterns and brittleness developed in them due to various tectonic activities or due to solution cavities formed by fluid activities. From the hydro-geological point of view the fissured rocks (having fractures) are broadly divided into three types, viz. Igneous and metamorphic, and carbonate rocks, Volcanic rocks and consolidated sedimentary rocks excluding carbonate rocks and Carbonate rocks.

The various rock formations with distinctive hydrogeological characteristics act as different aquifer systems of various dimensions. The various major rock formations of India can be broadly categorized in to 14 Principal aquifer Systems based on their broad hydrogeological properties. A brief account of the Principal Aquifer Systems is discussed in the following paragraphs. The principal Aquifer systems as identified by Central Ground Water Board are shown in Figure-4. The Principal Aquifers are further divided into 42 Major Aquifers (Table-4) depending on their distinctive hydrological characteristics and their spatial distribution.

b) HYDROMETEOROLOGY

The region experiences a sub-tropical climate with wide variation in temperature. There are four seasons during the year. The summer season from March to Mid-June, the monsoon season from Mid-June to September, the post monsoon season in October-November, and the winter season from December to February, May is the hottest month, while January is the coldest.

Temperature

The State climate is characterized by extreme summer and moderate winter. The summer extends from March to Mid-June and May is the hottest month. The mean daily maximum temperature during the month of May goes up to 45°C. The winter season lasts till end of February. January is the coldest month with the mean daily maximum temperature at 30°C and the mean

daily minimum temperature at 10.2°C. The salient features of the meteorological data are given in Table 1.

Table 1 Meteorological data of Chhattisgarh

Month	Mean monthly rainfall (mm)	Mean monthly temperature		Mean monthly relativity humidity (%)	Mean monthly wind velocity (km/hr)	Mean Monthly Evapo-transpiration (mm)	number of rainy days
		Max °C	Min °C				
January	6.1	27.6	13.3	54.0	3.1	32.0	3.0
February	3.6	30.3	16.1	48.0	6.1	44.0	2.0
March	24.5	34.7	20.2	40.0	6.9	54.0	2.0
April	4.4	39.2	25.0	37.0	8.4	91.0	2.0
May	19.6	42.2	28.7	35.0	10.7	116.0	2.0
June	164.2	37.7	26.9	61.0	12.1	68.0	11.0
July	361.0	30.3	24.1	82.0	11.8	37.0	19.0
August	357.1	30.0	24.1	83.0	10.4	37.0	19.0
September	295.6	30.9	24.0	79.0	7.4	36.0	12.0
October	79.8	31.1	21.4	68.0	6.0	39.0	5.0
November	0.0	29.0	15.9	62.0	4.1	35.0	2.0
December	0.0	27.3	13.1	57.0	4.4	30.0	3.0

Evapotranspiration: The trend of evapotranspiration is almost sympathetic with the variation of temperature as shown in Table 1. Evapotranspiration is maximum in the month of May, which is more than 120 mm and minimum during the month of December and January.

Humidity: The atmospheric humidity is usually low (maximum humidity around 30-40%) during summer months (March-May). The humidity again decreases from October onwards due to decrease in temperature and due to receding monsoon also, as tabulated in Table 1.

Rainfall: About 90% of the annual rainfall occurs during the south west monsoon periods from June to September. August is the rainiest month. The normal annual rainfall for the Region has been estimated as 1351 mm. The normal monsoon rainfall is 1201 mm. The rainfall decreases as we move from South-East to North-West. The normal rainfall varies with highest 1481 in Bastar district to lowest 1112 mm in Rajnandgaon district. Distribution of normal annual rainfall is depicted in Figure-3. The district wise annual rainfalls are presented in the Table 2.

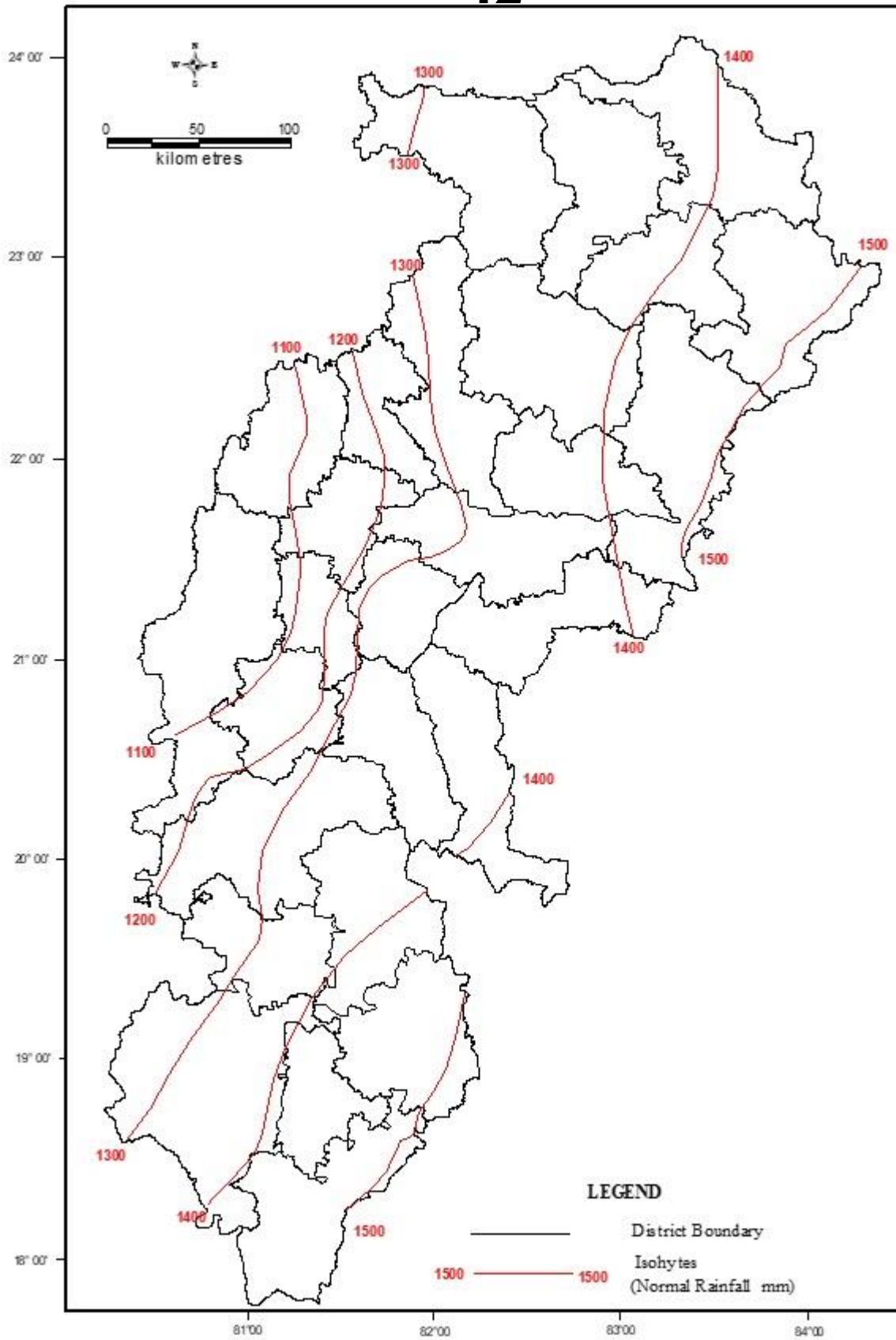


Figure 3 Rainfall distribution in Chhattisgarh

Table 2. District wise annual rainfall in mm (2022)

1.	BALOD	1122.9
2.	BALODA	1396.7
3.	BALRAMPUR	1317.0
4.	BASTAR	1362.6
5.	BEMETARA	1122.9
6.	BIJAPUR	1528.1
7.	BILASPUR	1114.5
8.	DANTEWADA	1327.9
9.	DHAMTARI	1385.3
10.	DURG	1122.9
11.	GARIABAND	1385.3
12.	GOURELA-PENDRA-MARWAHI	1229.8
13.	JANJGIR-CHAMPA	1386.0
14.	JASHPUR	1481.4
15.	KABIRDHAM	1218.2
16.	KANKER	1397.5
17.	KHAIRAGARH-CHHUIKHADAN_GANDAI	1208.7
18.	KONDAGAON	1362.4
19.	KORBA	1392.0
20.	KOREA	1734.0
21.	MAHASAMUND	1406.2
22.	MANENDRAGARH- CHIRMIRI_BHARATPUR	1317.0
23.	MOHLA-MANPUR_AMBAGARHCHOWKI	1208.7
24.	MUNGELI	1351.0
25.	NARAYANPUR	1404.1
26.	RAIGARH	1466.0
27.	RAIPUR	1376.3
28.	RAJNANDGAON	1208.7
29.	SAKTI	1386.0
30.	SARANGARH-BILAIRAGH	1418.4
31.	SUKMA	1403.8
32.	SURAJPUR	1241.8
33.	SURGUJA	1369.2

c) DESCRIPTION OF HYDROGEOLOGICAL UNITS

The hydrogeological framework of Chhattisgarh state consists both fracture and porous aquifer media. Based on the prevailing porosity type, the rocks of the state have been divided into two broad types (1) hard rocks and (2) soft rocks. Both these types of rocks were further subdivided into groups to simplify the complex geological classification for the purpose of study of ground water behavior. The distribution of hydrogeological units is presented in Table-3 and hydrogeological map of Chhattisgarh is presented in Figure-2.

Table 3 Distribution of Hydrogeological Units in Chhattisgarh

Geological Age		Rock Formations	Districts/ Hydrogeological Characters
Consolidated Formations:			
Upper Cretaceous to Eocene	Deccan traps	Basalts, Dolerites and acidic derivatives of Basaltic magma	Jashpur, Surguja, Kawardha, Bilaspur
Pre Cambrian (Proterozoics)	Chhattisgarh Super Group, Indravati Group, Khariyar Group, Sukma Group and Pakhal Group	a) Consolidated sandstones b) Shales c) Limestones and Dolomites	Raipur, Durg, Dhamtari, Janjgir-Champa, Bilaspur, Mahasamund, Rajnandgaon, Raigarh, Kawardha, Korba, Bastar, Dantewada Karstified and Cavernous, Lime-stones, Recrystallised fractured dolomites and fractured Shales forms the unconfined to confined aquifers.
	Dongargarh Supergroup (Abhujmar Group, Chilpi group, Dongargarh and Kanker Granites, Nandgaon Group)	a) Granites b) Schists and Phyllites c) Arkose and Conglomerate d) Rhyolites and Andesites	Bastar, Kanker, Raipur, Maha-samund, Dhamtari, Rajnandgaon, Kawardha, Durg, Bilaspur, Raigarh, Surguja, Dantewada Unconfined shallow aquifer
Archaeans	Bengpal / Amgaon Group Peninsular Gneiss and unclassified basement	a) Granites, Gneiss and Metasediments b) Charnockites and Khondalites	Dantewada, Bastar, Kanker, Raipur, Raigarh, Bilaspur, Mahasamund, Rajnandgaon, Surguja, Jashpur, Kawardha, Champa, Korba, Durg, Koriya Unconfined shallow aquifer
Semi-consolidated formation:			
Carboniferous to Cretaceous	Gondwana Supergroup	a) Pebbles and boulders b) Sandstones c) Shales d) Coal Seams	Raigarh, Surguja, Koriya, Korba Unconfined to confined aquifers
Unconsolidated formation:			
Quaternary	Alluvium and Laterites	a) Sand, Silt and Gravels b) Laterites	All over the State along major drainages. In isolated patches. Unconfined aquifers.

Hard rock

Rocks having secondary porosity- much dominated over primary porosity are grouped under hard rock category. The rock type and their distribution along with their broad characteristics

are Basement Crystallines, Plutonic-Volcanic and Meta Sedimentary- Precambrian Sedimentary rocks and Deccan Volcanics.

Soft Rocks

Rocks having primary porosity much dominated over secondary porosity are grouped under soft rock category. Semi Consolidated Sedimentary and Unconsolidated Sedimentary rocks

d) AQUIFER SYSTEMS OF CHHATTISGARH

Alluvial Aquifers

The unconsolidated Quaternary sediments comprising Recent Alluvium and Older Alluvium, forming by and large the major Alluvial Aquifers. These sediments are essentially composed of clays, silts, sands, pebbles, Kanker etc. found around Dhamtari- along Mahanadi, Bilaspur- along Arpa, Gandai- along Surhi, Jagdalpur- along Indravati, Bamnidih- along of Hasdeo, Dongargaon- along Seonath and Khairagarh- along Amner. The maximum thickness of the alluvium is found as 30 m in Bilaspur and 70m in Dhamtari area. In addition to the Annual Replenishable Ground Water Resources in the zone of Water Level Fluctuation (Dynamic Ground Water Resource), a huge ground water reserve occurs below the zone of fluctuation in unconfined aquifers and as well as in the deeper confined aquifers. This formation consists of sand, silt, clay and pebbles. Ground water occurs in phreatic to semi-confined condition. Water level in this area varies between 2 and 20 m. Though isolated, shallow and small, these aquifers have good potential for ground water yield and development through dug wells, shallow bore wells and filter point wells.

The dug wells in Bilaspur urban area can yield between 4.5 and 19 lps & the safe yield for large diameter dug wells in alluvium is between 4 and 6 lps (345 and 518 m³/day). Laterites also occur in detached patches over various rock types. Ground water occurs in these rocks in phreatic condition, which is restricted up to the upper level of the lithomargic clays. Ground water in this province is developed mainly through dug wells, where discharge is found up to 2 lps. The depth of dug wells in laterites in Surguja district ranges from 4 to 5 m and yield 0.46 to 0.70 lps (40-60 m³/day)

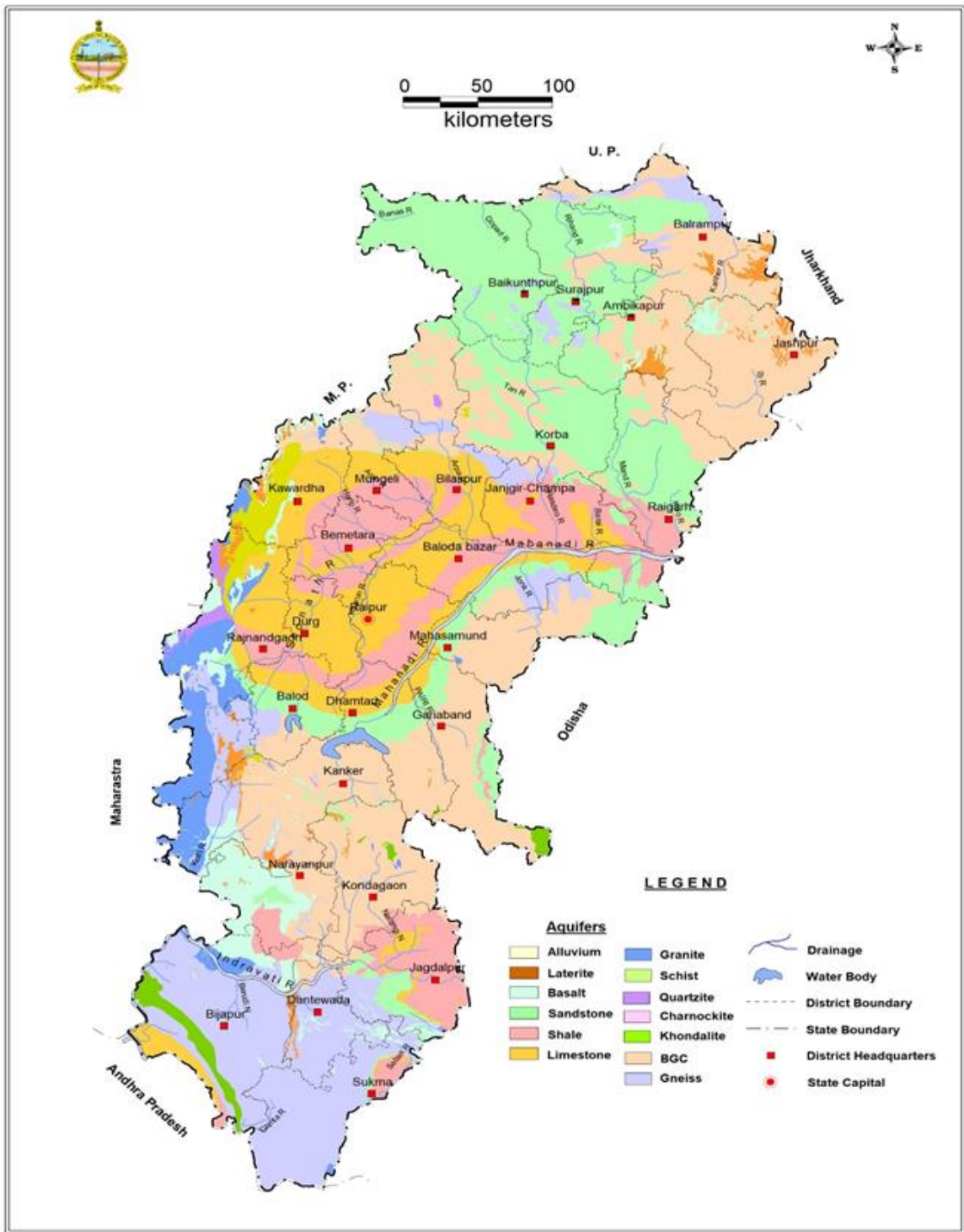


Figure 4. Aquifer system of Chhattisgarh

Table 4 Aquifer System of Chhattisgarh

Sl No	Principal Aquifer Code	Principal Aquifer Name	Major aquifer and Colour Code	Major Aquifer Name	Area Covered (Sq km)	%
1	AL	Alluvium	AL01	Fluvial Alluvium (Clay/Silt/Sand/ Calcareous concretions)	40.41	0.03
2	LT	Laterite	LT01	Laterite / Ferruginous concretions	1989.47	1.47
3	BS	Basalt	BS01	Basic Rocks (Basalt)	875.47	0.65
4			BS02	Ultra-Basic	4514.5	3.33
5	ST	Sandstone	ST02	Sandstone with Shale	10727.4	7.91
6			ST03	Sandstone with Shale/ Coal beds	9137.84	6.74
7			ST05	Sandstone/Conglomerate	7257.58	5.35
8			ST06	Sandstone with Shale	854.03	0.63
9	SH	Shale	SH03	Shale, Limestone and Sandstone	860.69	0.63
10			SH05	Shale/Shale with Sandstone	5374.75	3.96
11			SH06	Shale with Limestone	9792.08	7.22
12	LS	Limestone	LS03	Limestone/Dolomite	13651.1	10.07
13			LS04	Limestone with Shale	2910.47	2.15
14	GR	Granite	GR02	Acidic Rocks (Pegmatite, Granite, Syenite, Rhyolite, etc.)	4453	3.28
15	SC	Schist	SC02	Phyllite	1551.04	1.14
16			SC03	Slate	39.55	0.03
17	QZ	Quartzite	QZ01	Quartzite	569.07	0.42
18	CK	Charnokite	CK01	Charnockite	1198	0.88
19	KH	Khondalite	KH01	Khondalite	12	0.01
20	BG	Banded Gneissic Complex (BGC)	BG01	Banded Gneissic Complex (BGC)	39716.6	29.29
21	GN	Gneiss	GN01	Undifferentiated metasedimentary/ Undifferentiated metamorphic	6570.55	4.85
22			GN02	Gneiss	13500.4	9.96

Laterite Aquifer

Laterites are formed due to leaching (chemical weathering) of parent sedimentary rocks (sandstones, clays, limestones); metamorphic rocks (schists, gneisses, migmatites) and igneous rocks (granites, basalts, gabbros, peridotites) under hot and humid climatic conditions. Laterites rich in iron and aluminium contents are the most widespread and extensively developed aquifer especially in Jashpur District, Kumhari area in Durg district, Mainpat and Bodal Daldali area of Surguja- Kawardha districts in Chhattisgarh. Laterite forms potential aquifers along valleys and topographic lows where thick saturated zone sustain large diameter open wells for domestic and irrigation use.

Sandstone and Shale Aquifer

The sandstone and shale generally belong to the group of rocks ranging in age from Carboniferous to Mio-Pliocene forms this aquifer. These aquifers are found in Raigarh, Sarguja, Surajpur, Koriya, Janjgir-Champa and Korba. The terrestrial freshwater deposits belonging to Gondwana System and the Tertiary deposits along the west and east coast of the peninsular region are included under this category. The Gondwana sandstones form highly potential aquifers locally. Elsewhere, they have moderate potential and in places they yield meagre supplies. The Gondwana sandstones is the most extensive and productive aquifers.

The Gondwana Super Group and Lameta Group of rocks consist of sandstone, shale, clay, siltstone and coal. They possess both primary and secondary porosity, where primary porosity dominates over secondary porosity. Ground water occurs in both phreatic and semi-confined to confined conditions. Shallow aquifers are phreatic to semi-confined whereas deeper aquifers are generally confined, many time giving rises to flowing artesian wells. These rocks have good potential aquifer system (except the Talchir formation), ground water development in this area is still moderate and exploitation is restricted to the upper aquifers (within 120m). Dug wells tapping the Lametas in Surguja district have yield upto 0.80 lps (70 m³/day). the specific capacity ranges between 50-150 lpm/m of drawdown, hydraulic conductivity varies between 10-25 m/d and specific yield is from 10-15%

Limestone Aquifer

The consolidated sedimentary rocks include carbonate rocks such as limestone, dolomite and marble. Limestone is the dominating rock type among the carbonate rocks, which is widely distributed in Bastar, Raipur, Durg, Dhamtari, Janjgir-Champa, Mahasamund, Rajnandgaon, Raigarh, Kawardha, Bilaspur, Korba and Dantewad. In the carbonate rocks the secondary porosity

like fractures and solution cavities form the aquifer. Consolidated sedimentary rocks of Chhattisgarh Supergroup, Indravati, Sukma, Khariar and Pakhal Groups consist of limestone/dolomites apart from other major litho-units such as conglomerates, sandstones, shale, slates and quartzite form this principal aquifer. These are Unconfined to semi-confined aquifer, developed by dug /dug cum bore wells.

The rocks of Chhattisgarh Super Group, which are sedimentary rocks of marine origin consists of arenaceous-argillaceous-calcareous rocks and are dominated by limestone/ dolomites and calcareous shale and ortho-quartzite. The limestone is more ground water productive. The ortho-quartzites and shale are poor aquifers. The weathered zone is restricted to upper 30 m depth. The ground water in these formations occurs under water table, semi-confined and confined conditions. The weathered and cavernous part of the formation constitutes the good potential aquifers in the area. The transmissivity value of Maniyari formation is varying from 100 to 600 m²/day. The Charmuria and Chandi formation having Transmissivity value ranging from 5 to 400 m²/day. The Storativity is poor to moderate as calculated, ranges from 1.19×10^{-2} to 9.72×10^{-4} , field permeability ranges from 4 to 65 m/day. The specific capacity for the bore wells ranges from 0.0002 to 1.39 m³/min/m drawdown.

Basalt aquifers

Basalt is the basic volcanic rock which forms alternate layers of compact and vesicular beds of lava flows as seen in isolated patches in Koriya, Surguja, Jashpur, Kawardha and Bilaspur districts, generally occupying the hill tops. The groundwater occurrence in the basalts are controlled by nature and extent of weathering, presence of vesicles and lava tubes, thickness, number of flows and the nature of inter-trappean layers. The basalts have usually medium to low permeability. Groundwater occurrence in the Deccan Traps is controlled by the contrasting water bearing properties of different flow units, thus, resulted in multiple aquifer system, at places. The water bearing zones are the weathered and fractured zones.

This consists of basaltic lava flows and each flow is separated from other flow by intertrappean or red boles. The vesicular top parts of various flows and inter flow red boles form the aquifer along with weathered and fractured zones. The area is being developed through construction of dug wells and shallow bore wells fitted with hand pumps and have limited discharge. In general, the weathered part of trap is converted to Laterites and can yield substantial water to the dug wells. The Laterites of Jashpur area can yield up to 2 lps (173 m³/day) discharge. In some areas the control

of dolerite dykes on occurrence of ground water was observed. Wells located on the upstream side of these dykes and also on tectonic lineaments gave better yields.

Crystalline Aquifers

The crystalline hard rock aquifers such as granite, gneisses and high grade metamorphic charnockite and khondalite constitute moderate to good repository of ground water. Hard rocks generally neither receive nor transmit water, due to negligible or limited primary porosity. However, these may form good aquifers if weathered and/or have good secondary porosity in the form of faults, fractures, joints, bedding planes, and solution cavities. The crystalline rocks also form the aquifers with weathered zone or the fracture system. The weathered mantle cover and associated secondary porosity do not occur uniformly but are rather localised phenomena. The weathered zone is underlain by semi-weathered saprolite zone followed by fractured and massive rock. These aquifers distributed in Dantewara, Sukma and Bijapur, Bastar, Narayanpur, Kondagaon, Kanker, Rajnandgaon, Durg, Kawardha, Bilaspur, Janjgir-Champa, Mahasamund, Korba, Jashpur, Balrampur. Surguja, Koriya and parts of Raigarh districts.

In these aquifers, ground water occurs under phreatic condition in the weathered mantle cover and under semi-confined to confined state in underlying fissured, fractured, and jointed hard rock. The volume of ground water stored under semi-confined condition within the body of the hard rock is much lower than the storage in the overlying phreatic aquifer which is often much greater. Hydraulically connected fissures and fractures underlying weathered mantle cover generally serves as a permeable conduit feeding the deeper wells. Ground water flow rarely occurs across the topographical water divides so far as the unconfined aquifer is concerned and each basin or sub-basin can be treated as a separate hydro geological unit for planning the development of ground water resources.

The dug wells in the area have yield in the range of 0.23 to 2.30 lps. The bore wells have drill time discharge generally below 3 lps & specific capacity ranges from 20-200 lpm/m drawdown. These aquifers have low Transmissivity in the range of 1 to 55 m²/day (having less Storativity). The specific capacity for the open dug wells of BHQ and Gneisses in Durg district varies from 1.37 x 10⁻² to 7.86 x 10⁻³ m³/min/m drawdown. Hydraulic conductivity is generally less than 1 m/d and specific yield less than 5%.

Plutonic-Volcanic meta-sedimentary group constitutes of granites, acid and basic volcanics and Proterozoic meta-sedimentaries. Ground water in this rock mainly occurs in phreatic to semi-

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confined condition. These aquifer groups have better potential than the basement crystallines. The bore wells in the province can yield upto 5 lps (432 m³/day) with general discharge up to 3 lps. The Transmissivity ranges between 2 and 150 m²/day, which is good in comparison with other aquifers of the state.

GROUND WATER RESOURCES ESTIMATION METHODOLOGY

(GEC' 2015)

The ground water resource estimation of the entire country has been done broadly within the guidelines and recommendations of the GEC'2015. In Chhattisgarh, the unit of assessment to ground water resources has been taken as the smallest administrative unit i.e. Block. The hilly areas (slope greater than 20%) have been excluded from the computations. The assessment unit has been divided into command and non-command areas and ground water resources have been estimated separately for command and non-command areas. The ground water recharge in the monsoon season and non-monsoon season has also been estimated separately.

Ground Water Recharge during Monsoon season

The two approaches adopted for estimation of rainfall recharge are Water Level Fluctuation (WLF) Method and Rainfall Infiltration Factor (RIF) Method

Water Level Fluctuation (WLF) Method

Under this method the change in storage has been computed by multiplying water level fluctuations between pre and post monsoon periods with the area of assessment and specific yield. The ground water resources during monsoon season have been estimated as the sum of change in storage and Ground water Extraction which can be expressed as:

$$\mathbf{R = (h \times S_y \times A) + GE}$$

Where,

R= Recharge, h= rise in water level in the monsoon season, A=area for computation of recharge, S_y = Specific yield, GE= Ground water Extraction.

The specific yield values considered in the computations have been taken preferably from field tests, in absence of which, the recommended values of specific yield have been considered.

The ground water recharge calculated from above relation gives the recharge from rainfall and other sources during the monsoon period. In order to segregate the rainfall recharge, contribution from the other sources such as recharge from recycled water from irrigation, recharge from stream, seepage from canal, recharge from tanks and ponds and recharge from water conservation structures have been estimated separately based on the recommended norms. The rainfall recharge has been normalized for the normal monsoon rainfall.

Rainfall Infiltration Factor (RIF) method

Recharge from rainfall is estimated by using the following relationship -

$$R_{rf} = \text{RFIF} * A * (R - a)/1000, \text{ Where,}$$

R_{rf} = Rainfall recharge in Ham

A = Area in Hectares

RFIF = Rainfall Infiltration Factor

R = Rainfall in mm

a = Minimum threshold value above which rainfall induces ground water recharge in mm

The same Rainfall Infiltration Factor has been used for computation of recharge due to monsoon and non-monsoon rainfall. The norms adopted for computation of recharge as recommended by GEC'2015

The ground water recharge computed by WLF method has been compared with recharge computed by RIF method. In case the difference between the two sets of data are more than 20%, then RIF figure has been considered, otherwise monsoon recharge from WLF has been considered. While adopting the rainfall recharge figures, weightage has been given to WLF method over adhoc norms method of RIF. Hence, wherever the difference between RIF & WLF is more than 20%, data have been scrutinized and corrected accordingly.

The total recharge in monsoon season is the sum of the normalized rainfall recharge and recharge from other sources.

Ground Water Recharge During Non-Monsoon season

The recharge from rainfall during the non-monsoon season has been estimated by Rainfall Infiltration Factor (RIF) method provided the normal rainfall in the non-monsoon season is greater than 10% of the normal annual rainfall. If the rainfall is less than 10% the recharge due to rainfall has been taken as zero. The total recharge in non-monsoon has been obtained as the sum of recharge from rainfall and recharge from other sources.

Total Annual Ground Water Recharge

The Annual Ground Water Recharge of the area has been worked out by adding monsoon and non-monsoon recharge.

Natural Ground Water Discharge

Natural ground water discharge as base flow during non-monsoon season is considered 5% & 10 % of the total annual replenishable ground water where recharge during monsoon period computed by WLF & RIF methods respectively.

Annual Extractable Ground Water Recharge (EGR)

The Annual Extractable Ground Water Recharge has been computed after deducting the natural discharge from the Annual Replenishable Ground Water Resource and can be expressed as:

$$\text{Annual Extractable Ground Water Recharge (EGR)} = \text{Annual Ground Water Recharge} - \text{Natural Discharge during non-monsoon season.}$$

Annual Ground Water Extraction

The Annual Ground Water Extraction has been computed for Irrigation, Domestic and Industrial uses which includes the ground water extraction from all existing ground water structures during monsoon as well as non-monsoon period.

Stage of ground water extraction

The Stage of ground water extraction has been computed as given below: -

$$\text{Stage of Ground Water Extraction(\%)} = \frac{\text{Existing gross ground water extraction for all uses}}{\text{Annual Extractable Ground water Resources}} \times 100$$

Categorisation of Assessment Units

As emphasized in the National Water Policy, 2012, a convergence of Quantity and Quality of ground water resources is required while assessing the ground water status in an assessment unit. Therefore, it is recommended to separate estimation of resources where water quality is beyond permissible limits for the parameter salinity.

Categorization of Assessment Units Based on Quantity: The categorization based on status of ground water quantity is defined by Stage of Ground Water extraction as given below:

Table 5 Stage of Ground Water Extraction

Stage of Ground Water Extraction	Category
$\leq 70\%$	Safe
$> 70\%$ and $\leq 90\%$	Semi-Critical
$> 90\%$ and $\leq 100\%$	Critical
$> 100\%$	Over Exploited

In addition to this Category every assessment subunit should be tagged with potentiality tag indicating its ground water potentiality viz. Poor Potential (Unit Recharge $< 0.025\text{m}$), Moderately Potential (Unit Recharge in between 0.025 and 0.15m) and Highly Potential (Unit Recharge $> 0.15\text{m}$)

Categorization of Assessment Units Based on Quality: The Quantity based categorization (safe, semi-critical, critical and over-exploited) should bear a quality hazard identifier. Such quality hazards are to be based on available ground water monitoring data of State Ground Water Departments and/or Central Ground Water Board. If any of the three quality hazards in terms of Arsenic, Fluoride and Salinity are encountered in the assessment subunit in mappable units, the assessment subunit may be tagged with the Quality hazard.

Allocation of Ground Water Resource for Utilization

The Annual Extractable Ground Water Resources are to be apportioned between domestic, industrial and irrigation uses. Among these, as per the National Water Policy, requirement for domestic water supply is to be accorded priority. This requirement is based on population as projected to the year 2025, per capita requirement of water for domestic use, and relative load on ground water for urban and rural water supply. The estimate of allocation for domestic water requirement may vary for one subunit to the other in different states. In situations where adequate data is not available to make this estimate, the following empirical relation is recommended.

$$\text{Alloc} = 22 \times N \times L_g \text{ mm per year}$$

Where,

Alloc = Allocation for domestic water requirement

N = population density in the unit in thousands per sq. km.

L_g = fractional load on ground water for domestic and industrial water supply (≤ 1.0)

Net Annual Ground Water Availability for Future Use

The water available for future use is obtained by deducting the allocation for domestic use and current extraction for Irrigation and Industrial uses from the Annual extractable Ground Water Recharge. The resulting ground water potential is termed as the net annual ground water availability for future use. The Net annual ground water availability for future use should be calculated separately for non-command areas and command areas.

CHAPTER 4***PROCEDURE AND ASSUMPTIONS*****a. Data Source for each of the data element and how the data was used in the computation (constraint in the database if any)**

As per the decision taken by the State Level Ground Water Resource Estimation Committee, most of the data have been provided by state water resources department, mainly collected from concerned state department. The water level data collected by CGWB through NHS monitoring and from state ground water survey, has been utilised for resource estimation. The rainfall data, irrigation data for tube wells and dug wells were provided by Water Resources Department. The domestic dug wells & bore wells data are not available, therefore per capita consumption of 60 litres per day per person for rural areas and 100 litres per day per person for urban areas have been taken into consideration. The data of ground water withdrawal for industries incorporated from the NOC issued by CGWA.

b. Changes, if any, applied in the original methodology proposed by GEC along with justification

All the data provided by the state department have been computerised and the GEC'2015 methodology has been used for calculations of recharge, Extraction, natural discharge, Stage of ground water extraction etc.

c. Norms used in the computation

GEC'2015 methodology has recommended norms for various parameters are used in ground water recharge estimation. In order to segregate the rainfall recharge, contribution from the other sources such as recharge from recycled water from irrigation, seepage from canal, recharge from tanks and ponds and recharge from water conservation structures have been estimated separately based on the recommended norms. The rainfall recharge computed by WLF has been normalized for the normal monsoon rainfall.

Norms used in Rainfall Recharge- Ground water recharge from monsoon and non-monsoon rainfall has been computed separately for command and non-command areas. For computations of recharge from monsoon rainfall both methods i.e., water level fluctuation method and rainfall infiltration factor method have been used. For comparison, figures obtained from these two methods, the percent deviation is calculated, and figures of recharge have been accepted as recommended in this methodology. For computation of non-monsoon rainfall recharge rainfall

infiltration factor method is adopted when ratio of normal non-monsoon rainfall to normal annual rainfall is more than 10% as suggested in the methodology.

The specific yield of the formation for calculating the recharge for monsoon rainfall is used for most of the cases, as recommended by GEC. The specific yield used for particular areas based on field conditions in between the maximum and minimum value as per norms of GEC and is given in Table-6

Table 6 Specific Yield values and Rainfall Infiltration Factor for different formations.

S. No.	Formation	Sp. Yield	Rainfall Infiltration Factor
1	Alluvium	0.10	0.10
2	Gondwana Sandstone	0.02	0.09
3	Limestone	0.025	0.06
4	Weathered or Vesicular jointed Basalt.	0.02	0.06
5	Weathered Granite, Granite Gneiss and (with clay content)	0.010 - 0.02	0.06 - 0.09
6	Quartzite and Hard compact (Precambrian) Sandstone	0.010	0.06
7	Schist, Phyllite and Shale	0.010	0.03 – 0.05

Norms Used in Recharge from other sources- As per recommendations of methodology, recharge from other sources have been calculated separately for monsoon and non-monsoon periods. The factors for calculation of return flow from irrigation, canal seepage, recharge from Tanks and Ponds and water conservation structures have been taken as those recommended by GEC '97. The canals in Chhattisgarh by and large run during monsoon period, as major part of the area is falling under paddy cultivation in all parts of the state. Considering the hydrogeological conditions and irrigation practices in the State recharge computation parameters for various formations are given in Table – 7.

Table 7 Factors for Recharge from Other Sources

S.No.	Sources of Recharge Other than Rainfall	Value Range	Unit of Recharge
1	Seepage from Canal	3.5 (for all canals in hardrocks)	Ha-m/day per million square meters of wetted areas
2.	Return flow from Surface Water Irrigation	0.26 – 0.45 (Depends on average DWL)	As a fraction
3.	Return flow from Ground Water Irrigation	0.4 – 0.45 (Depends on average DWL)	As a fraction

4.	Seepage from Tanks and Ponds	0.00144	Meters per day per hectare
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Norms used in Ground Water Extraction for Domestic and Industrial Water Supply- Ground Water Extraction for domestic and industrial water supply has been computed based on block wise population for the base year. The population figures were available for the year 2011. The average per capita consumption has been considered 60 liters per day for rural areas & 100 litres per day for urban areas. The dependency on ground water has also been considered in computation. Extraction during monsoon and non-monsoon periods have been calculated separately taking 4 months as monsoon period and 8 months as non-monsoon period.

Norms Used in Ground Water Extraction for Irrigation Uses- Block wise ground water extraction for irrigation has been calculated based on the number of ground water structures and the unit discharge of different types of structures. The unit extraction of different ground water abstraction structures in different lithological formations has been taken as per field studies carried out by CGWB and State departments. Dug wells and tube wells are main two main structures, which are used for irrigation in the State. Extraction from dug wells is varying between 0.4 Ham/year (dug wells fitted with low discharge pumps) and 1 Ham/year (dug wells in high potential Gondwana sandstone). The ground water extraction from tube wells is ranging between 0.9 Ham/year and 2.5 Ham/year (based on formation).

INDIA - GROUNDWATER RESOURCE ESTIMATION SYSTEM (IN-GRES)

INDIA-GROUNDWATER RESOURCE ESTIMATION SYSTEM (IN-GRES) is a Software/Web-based Application developed by CGWB in collaboration with IIT-Hyderabad (URL of IN-GRES <http://ingres.iith.ac.in>).

It will provide common and standardized platform for Ground Water Resource Estimation for the entire country and its pan India operationalization (Central and State Governments). The system will take 'Data Input' through Excel as well as Forms, compute various ground water components (recharge, extraction etc.) and classify assessment units into appropriate categories (safe, semi-critical, critical and over-exploited). The Software uses GEC 2015 Methodology for estimation and calculation of Groundwater resources. It allows for unique and homogeneous representation of groundwater fluxes as well as categories for all the assessment units (AU) of the country.

COMPUTATION OF GROUND WATER RESOURCES FOR CHHATTISGARH**a. Salient features of the dynamic ground water resource assessments**

Year of assessment – Ground water resources assessment is based on the recommendation of Ground Water Resource Estimation Methodology – 2015 (GEC’ 2015) and on advice of R&D committee. The base year for data collection is 2022-23 and water level fluctuation data is considered from 2017 to 2022.

Assessment Unit – The administrative block has been considered as a unit of assessment. The unit was further divided into sub-unit Command and Non-Command as the mappable poor-quality area and shallow ground water area are not in the state. The ground water resources have been computed for all 146 blocks of the state.

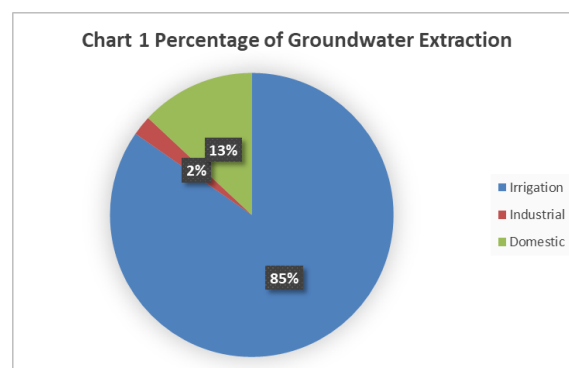
b. Assessment sub-unit-wise method adopted for computing rainfall recharge during monsoon season

In GEC’ 2015, two approaches are recommended – Water Level Fluctuation Method and Rainfall Infiltration Method. The Water Level Fluctuation method adopted for assessment of sub-unit wise recharge during monsoon season. The method is based on the concept of storage change due to the difference between various input and output components. Input refers to recharge from rainfall and other sources and subsurface inflow into the unit of assessment. Output refers to ground water extraction, ground water evapotranspiration, base flow to streams and subsurface outflow from the unit. The lateral inflow is considered as equal to the outflow because the assessment unit is block. The evapotranspiration is considered as zero because no shallow water level less than 3 meter below ground surface is available in the state. Total recharge to ground water has several components, rainfall being the major one. Other components include seepage from canals, recharge from stream, return flow from surface water irrigation, return flow from ground water irrigation, seepage from tanks and ponds and seepage from water conservation structure etc. has been used in the assessment.

c. Ground Water Resources of the Chhattisgarh

Total Ground Water Recharge – Total Annual Ground Water Recharge is 13.34 bcm and Natural Discharge during Non-Monsoon Period is 1.16 bcm. Thus, the Annual Extractable Ground Water Resource of the state is 12.18 bcm.

Ground Water Extraction - The existing ground water extraction for all uses in the state is 5.75 bcm with Dhamtari district having the highest extraction of ground water (50315.64 Ham) and Narayanpur district having the lowest (1029.61 Ham) ground water extraction. Dhamtari is the most developed district in the state in terms of



agricultural production and dependence on ground water is very high in the district. Comparison of ground water extraction for various uses reveals that extraction for irrigation accounts for more than 85 % of the total ground water extraction, whereas extraction for domestic purposes accounts for 13 % and for Industrial purposes is 2 % of the total ground water extraction in the state (chart-1).

Annual Extractable Ground Water Recharge for Future Development – Annual extractable ground water recharge for future development of the state is in order of 6.51 bcm which is 53.44% of the total resource of the state.

Stage of Ground Water Extraction- Stage of groundwater extraction of Chhattisgarh state is 47.17%, which is low as compared to the national extraction of 63.33%. Four districts in the state namely Balod, Bemetra, Dhamtari, Durg, Khairagarh-Chhuikhadan-Gandai have stage of development more than 70% i.e. 71.91%, 93.17%, 78.22%, 76.18%, 78.19% respectively. The Nawagarh block of Bemetara district reached at highest ground water extraction of 98.23% and Bemetara district shows highest ground water extracted district i.e. 93.17 % in state. Sukma district has lowest stage of ground development of less than 4.12%.

Out of 146 blocks, 119 blocks are safe and only 27 blocks have attained stages of development more than 70%. The state as a whole has a stage of extraction of 47.16 % only (Table-8).

Categorization of Assessment Units- Out of 146 assessment units (blocks), 5 units (3.42 %) as ‘Critical’, 22 units (15.07 %) have been categorized as ‘Semi-critical’ and 119 units (81.51 %) as ‘Safe’ categories of assessment units (Annexure 3, Figure-7). There are no ‘Over-exploited’ and ‘Saline’ categories of assessment units. Critical and Semi-critical blocks are distributed in Balod, Bemetara, Bilaspur, Dhamtari, Durg, Gariaband, Khairagarh-Chhuikhadan-Gandai, Kabirdham, Kanker, Korba, Mahasamund, Raigarh, Raipur, Rajnandgaon, Sarangarh-Bilaigarh and Surajpur districts. Rest all subunits have been categorized as safe from groundwater extraction point of view.

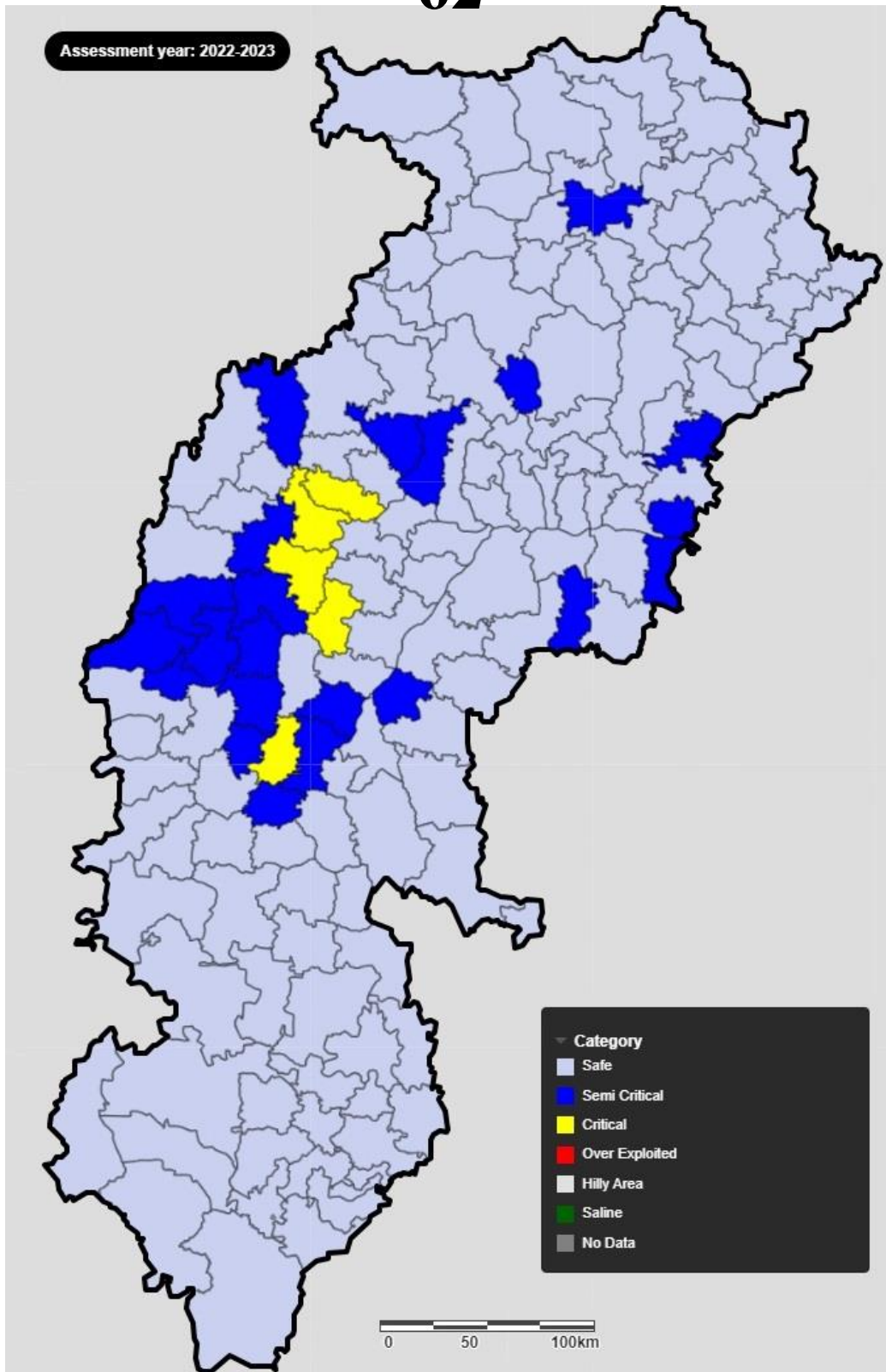


Figure 5 Categorization of Assessment Unit

District Wise Dynamic Ground Water Resources (Unit: Ham) of Chhattisgarh, As on March' 2023

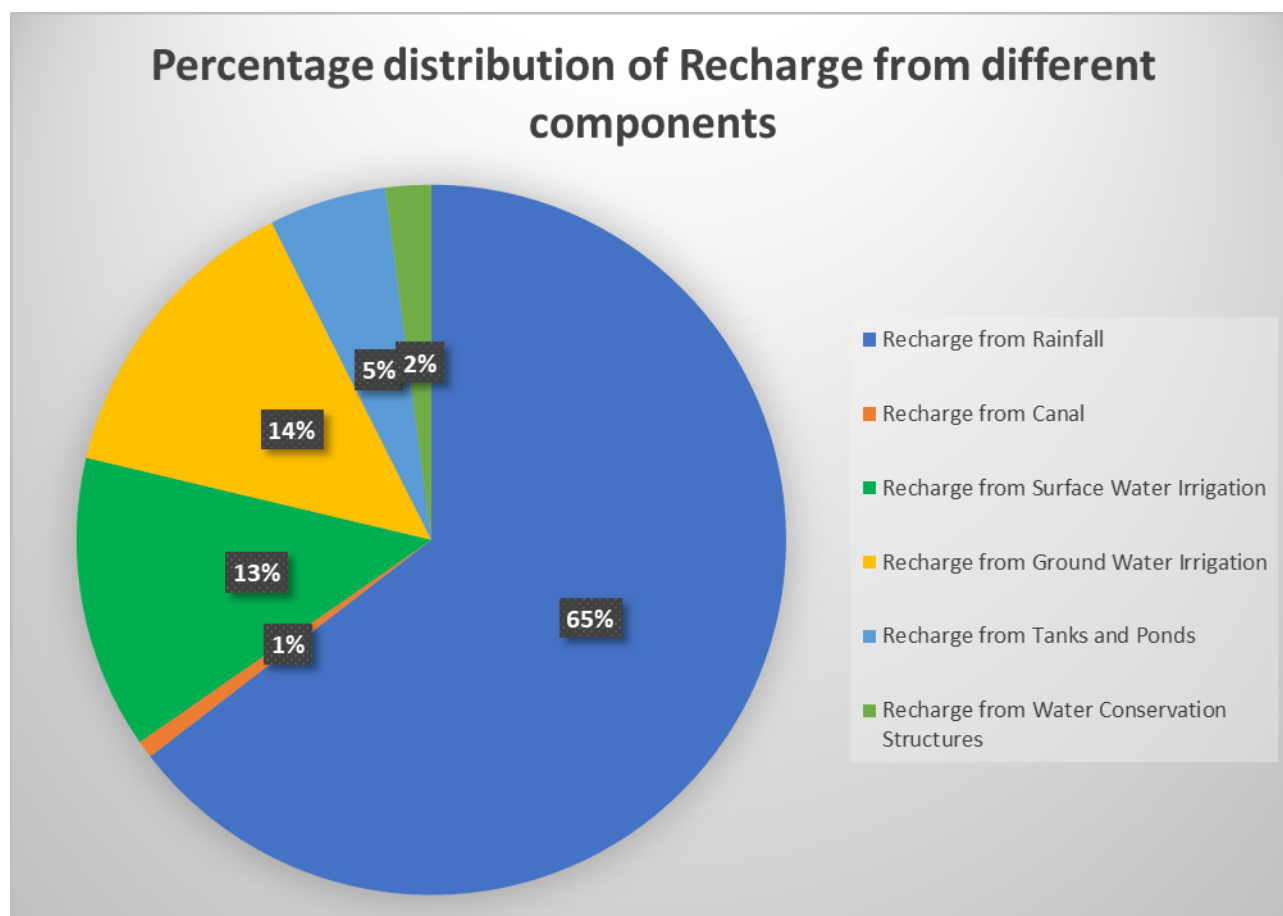
S.N O	Name of Districts	Ground Water Recharge					Total Natural Discharges	Annual Extractabl e Ground Water Resource	Current Annual Ground Water Extraction				Annual GW Allocati on for Domest ic use as on 2025	Net Ground Water Availabilit y for future use	Stage of Ground Water Extraction(%)
		Monsoon Season		Non-Monsoon Season		Total Annual Ground Water Recharg e			Irrigatio n	Industri al	Domestic	Total			
		Recharg e from rainfall	Recharg e from other Sources	Recharg e from Rainfall	Recharg e from other Sources										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	BALOD	15852.66	10272.46	0	12660.34	38785.46	3487.54	35297.92	23093.45	61.98	2227.76	25383.18	2356.22	10192.6	71.91
2	BALODA BAZAR	25093.26	23926.27	412.24	8557.11	57988.88	5539.34	52449.54	19906.01	1183.96	4378.8	25468.78	5644.19	26941.21	48.56
3	BALRAMPUR	44878.89	1568.02	309.07	2365.2	49121.18	4267.72	44853.46	7861.56	7.11	2039.4	9908.07	2200.65	34784.14	22.09
4	BASTAR	21496.22	989.79	1752.02	2048.01	26286.04	2297.36	23988.68	5001.44	69.46	2266.3	7337.23	2400.33	16517.42	30.59
5	BEMETARA	17197	13002.28	0	19666.13	49865.41	4700.03	45165.38	39585.47	102.07	2396.31	42083.83	2889.52	6818.17	93.18
6	BIJAPUR	49859.36	478.68	214.88	1386.26	51939.18	5193.92	46745.26	3059.84	1.72	671.9	3733.45	711.88	42971.82	7.99
7	BILASPUR	19944	15173.85	414.06	11993.49	47525.4	4282.42	43242.98	21349.51	591.25	5552.89	27493.64	6529.12	17345.66	63.58
8	DANTEWADA	25283.02	322.14	342.85	1346.37	27294.38	2729.44	24564.94	2801.46	187	768.55	3757.02	820	20756.47	15.29
9	DHANTARI	19403.57	18081.41	0	33500.99	70985.97	6663.24	64322.73	48161.52	62.3	2091.84	50315.64	2180.05	19973.45	78.22
10	DURG	14658.31	18579.99	0	11752.7	44991	4239.29	40751.71	25723.92	421.73	4901.88	31047.54	5135.19	10704.22	76.19
11	GARIABAND	21086.5	7004.54	0	9165.85	37256.89	3563.66	33693.23	19833.14	11.5	1697.95	21542.56	1877.55	12001.7	63.94
12	GOURELA-PENDRA-MARWAHI	11478.09	1288.68	545.15	1285.14	14597.06	1277.59	13319.47	3720.68	1.68	1117.18	4839.55	1324.53	8272.57	36.33
13	JANJGIR-CHAMPA	11902.08	14090.13	153.04	11754.58	37899.83	3465.99	34433.84	7390.16	238.93	2810.49	10439.53	3060.17	23744.63	30.32
14	JASHPUR	26678.31	1960.69	873.6	3631.52	33144.12	2772.64	30371.48	10846.65	20.62	2217.09	13084.37	2320.47	17183.73	43.08
15	KABIRDHAM	30184.35	5832.57	5611.29	9656.61	51284.82	4638.41	46646.41	27935.68	61.96	2519.06	30516.72	2837.22	15949.35	65.42
16	KANKER	57507.98	2081.89	2224.16	7710.24	69524.27	5731.21	63793.07	19413.75	31.62	2027.16	21472.56	2150.07	42197.6	33.66
17	KHAIRAGARH-CHHUIKHADAN_GANDAI	8226.19	6287.45	98.12	6963.88	21575.64	1554.2	20021.44	14578.5	11.42	1065.43	15655.38	1161.58	4269.91	78.19
18	KONDAGAON	28476	1516.66	2064.15	2289.1	34345.91	1831.05	32514.87	10398.22	20.64	1564.48	11983.32	1658.78	20689.5	36.85
19	KORBA	38409.53	3955.18	676.81	5639.65	48681.17	2837.67	45843.51	9308.64	2768.33	3581.35	15658.32	3879.21	29901.1	34.16
20	KOREA	9055.87	3134.99	3312.22	1962.97	17466.05	1137.44	16328.61	5567.81	151.89	655.66	6375.36	683.63	9925.28	39.04
21	MAHASAMUND	42455.75	13423.89	325.68	14234.88	70440.2	4952.53	65487.67	36296.5	87.77	2870.5	39254.77	3077.95	26025.46	59.94

22	MANENDRAGARH- CHIRMIRI_BHARATPUR	48108.19	1322.47	244.3	1852.8	51527.76	4396.77	47130.99	5998.95	424.78	1090.03	7513.76	1136.16	39571.09	15.94
23	MOHLA- MANPUR_AMBAGARHCH OWKI	12357.67	1853.22	144.29	2815.98	17171.16	1717.11	15454.05	4801.86	37.62	733.73	5573.22	767.82	9846.77	36.06
24	MUNGELI	8526.88	5361.69	0	4989.62	18878.19	1790.31	17087.88	7652.85	28.09	1868.09	9549.04	2236.98	7169.95	55.88
25	NARAYANPUR	24792.42	327.67	772.79	509.63	26402.51	2640.25	23762.26	630.2	12.74	386.68	1029.61	412.02	22707.31	4.33
26	RAIGARH	37523.45	2430.6	405.7	3434.35	43794.1	3877.86	39916.24	10086.68	3156.54	3096.59	16339.79	3302.28	23370.75	40.94
27	RAIPUR	18941.34	18835.68	42.18	11959.21	49778.41	4692.58	45085.83	20004.13	1727.45	6025.47	27757.07	6815.31	16702.68	61.56
28	RAJNANDGAON	19352.23	7819.38	236.55	11227.79	38635.95	3464.29	35171.66	21191.23	193.47	3129	24513.71	4080.63	9706.32	69.7
29	SAKTI	9029.17	10505.03	101.69	14071.24	33707.13	3232.67	30474.46	11768.55	5.25	1901.82	13675.64	2086.47	16614.16	44.88
30	SARANGARH-BILAIRAGH	14765.66	7011.1	361.15	3294.96	25432.87	1986.72	23446.14	6647.62	25.1	1809.97	8482.67	2028	14745.44	36.18
31	SUKMA	43875.39	635.22	0	924.25	45434.86	4128.2	41306.66	1082.87	0.84	616.55	1700.25	636.6	39586.36	4.12
32	SURAJPUR	27888.37	2799.73	217.28	9882.33	40787.71	3230.81	37556.9	21995.88	781.11	2154.37	24931.37	2298.05	12481.83	66.38
33	SURGUJA	34351.56	1923.21	885.79	4610.16	41770.72	3627.62	38143.1	12958.14	986.09	2296.91	16241.16	2436.01	21762.84	42.58
	Total(Ham)	838639.2	223796.5	22741.06	249143.3	1334320.	115947.88	1218372.3	486652.8	13474.03	74531.19	574658.1	83134.6	651431.49	47.17
	Total(Bcm)	8.39	2.24	0.23	2.49	13.34	1.16	12.18	4.87	0.13	0.75	5.75	0.83	6.51	47.17

Table 8 District Wise Dynamic Ground Water Resources (Unit: Ham) of Chhattisgarh, As on March' 2023

d. Spatial variation of the Ground water recharge and extraction scenario in Chhattisgarh

In Chhattisgarh, recharge from rainfall is 8.61 billion cubic meter (BCM) whereas from other sources is 4.73 billion cubic meter (BCM). District-wise ground water resources of Chhattisgarh as on March 2023 are given in Table- 8 and block-wise figures also given in Annexure-3. Comparison of recharge from rainfall and recharge from sources other than rainfall shows the later accounts for 35.46 % of the total recharge.



The ground water resource of the individual block /assessment unit shows wide variation in the resource available and Stage of ground water extraction, In Chhattisgarh, the ground water development concentrates in the central part of the state i.e. within Chhattisgarh basin only. The other part of the state has very low development of ground water. District-wise ground water resource scenario is described below: -

1. BALOD

Nearly 87 % of the total geographical area of the district is covered by sedimentary formations of Chhattisgarh Super group comprising gypsiferous Maniyari shale, Chandi limestone, Gunderdehi shale, Charmuria limestone, Chandarpur sandstone. The Bastar Gneiss, Dongargarh Granite, Bijli Rhyolite and other similar rocks cover the rest of the area. Total Annual Ground

Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **38785.5** Ham and **35297.92** Ham respectively. Gross ground water Extraction for all uses in the district is only **25383.2** Ham. Stage of ground water extraction in the district is 71.91%, which is comparatively higher to the state average of 47.17%. Out of the five blocks of the district one block i.e. Gurur is categorised as Critical, while the blocks Balod and Gunderdehi are falling in semi Critical Category and the rest two blocks namely Doundi Lohara and Doundi are in Safe category. In addition to the phreatic aquifer, potential deeper aquifers also exist.

2. BALODABAZAR

Major parts of the total geographical area of the district is covered by sedimentary formations of Chhattisgarh Super group comprising gypsiferous Maniyari shale, Chandi limestone, Gunderdehi shale, Charmuria limestone, Chandarpur sandstone. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **57988.9** Ham and **52449.54** Ham respectively. Gross ground water Extraction for all uses in the district is only **25468.8** Ham. Stage of ground water extraction in the district is only 48.56 %, which is higher than the Stage of ground water extraction of the state. All six blocks in the district have been categorised as ‘safe’ category. In addition to the phreatic aquifer, potential deeper aquifers also exist.

3. BALRAMPUR

The major geological formations in the district are rocks belonging to Archean, Gondwanas, Lametas and Deccan trap group of rocks. Archaean rocks comprise granitoids and occupy the eastern part. Talchir Shale, Barakar Sandstone and Supra Barakars represent the Gondwana Supergroup and are exposed in the northern part. Lametas and Deccan Basalts occur as patches. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **49121.2** Ham and **44853.46** Ham respectively. The gross ground water Extraction for all uses in the district is only **9908.07** Ham. Stage of ground water extraction in the district is 22.09%. All 6 blocks in the district have been categorised as ‘safe’. In addition to the phreatic aquifer, potential deeper aquifers also exist in the district.

4. BASTAR

Major geological formations in the district are high-grade gneiss, granulite and charnockite complex (Bengpal group) of Archaen age. These are overlain by Bailadila Group of rocks comprising Banded Iron Formation. The Bailadila Group of rocks are intruded by acid igneous

rocks like granites/granitoids. Besides these main cratonic rocks formations, the sediments of Indravati Group are also found. Laterites are found as hill's capping. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **26286** Ham and **23988.68** Ham respectively. Gross ground water Extraction for all uses in the district is only **7337.23** Ham. Stage of ground water extraction in the district is only **30.59** %, which is very low in comparison to the state average of 47.17%. All the blocks in the district have been categorised as 'safe'. In addition to the phreatic aquifer, potential deeper aquifers also exist.

5. BEMETARA

Nearly 87 % of the total geographical area of the district is covered by sedimentary formations of Chhattisgarh Super group comprising gypsiferous Maniyari shale, Chandi limestone, Gunderdehi shale, Charmuria limestone, Chandarpur sandstone. The Bastar Gneiss, Dongargarh Granite, Bijli Rhyolite and other similar rocks cover the rest of the area. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **49865.4** Ham and **45165.38** Ham respectively. Gross ground water Extraction for all uses in the district is **42083.8** Ham. Stage of ground water extraction in the district is **93.18**%. Stages of development in the blocks vary from 89.44% in Saja to 98.23% in Nawagarh block. Bemetara, Nawagarh and Berla blocks of the district have been categorised as '**Critical**' and Saja falls under semi-critical category.

6. BIJAPUR

Major geological formations in the district are high-grade gneiss, granulite and charnockite complex (Bengal group) of Archaen age. Granitoids including Dongargarh Granites and Bastar Gneisses are the major rock types in the district. These are overlain by Bailadila Group of rocks comprising Banded Iron Formation. The Bailadila group of rocks are intruded by acid igneous rocks. Argillo-calcareous sediments of Sabri and Pakhal Group are also found. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **51939.2** Ham and **46745.26** Ham respectively. Gross ground water Extraction for all uses in the district is only **3733.45** Ham. Stage of ground water extraction in the district is only **7.99**%, which is lowest Stage of ground water extraction in the state. All the blocks in the district have been categorised as 'safe'. In addition to the phreatic aquifer, potential deeper aquifers also exist.

7. BILASPUR

High-grade gneisses and unclassified metamorphics of Archean Age are the major rock types, which occur, in the northern part. The southern half is almost entirely covered by sedimentary formations of upper Proterozoic known as Chhattisgarh Super Group consisting of limestones, siltstones, shales, sandstone and marlstone. Rocks belonging to Gondwana Super Group occur as a small patch in western boundary. Recent to sub recent- alluvial deposits and laterite also occur at places in the district. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **47525.4** Ham and **43242.98** Ham respectively. Gross ground water Extraction for all uses in the district is **27493.6** Ham. The of Stage of ground water extraction in the district is **63.58%**. Belha and Takhatpur block with a stage of development of 70.84% and 89.16 is categorized as '**Semi-critical**'. The rest of the blocks in the district have been categorised as safe.

8. DANTEWADA

Granitoids including Dongargarh Granites and Bastar Gneisses are the major rock types in the district. These are overlain by Bailadila Group of rocks comprising Banded Iron Formation. The Bailadila group of rocks are intruded by acid igneous rocks. Argillo-calcareous sediments of Sabri and Pakhal Group are also found. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **27294.4** Ham and **24564.94** Ham respectively. gross ground water Extraction for all uses in the district is only **3757.02** Ham. Stage of ground water extraction in the district is a meagre **15.29%**, which is very low in comparison to the state average. This is the third lowest developed district in the state in terms of ground water development. All the blocks in the district have been categorised as 'safe'. Besides the phreatic aquifer, potential deeper aquifers also exist.

9. DHAMTARI

More than 50% of the area of the district-mostly in the southern and south-central part is covered by Dongargarh Granite. These rocks have been intruded by quartz veins and dykes of basic to ultra-basic composition. The northern half is covered by rocks belonging to Proterozoic Chhattisgarh Supergroup. Chhattisgarh Supergroup in this part is represented by Chandarpur sandstone, Charmuria Limestone and Gunderdehi Shale. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **70986** Ham and **64322.73** Ham respectively. Gross ground water Extraction for all uses in the district is

50315.6 Ham. Average Stage of ground water extraction in the district is **78.22%**. Stages of development in the blocks vary from 64.97% in Nagri to 86.02% in Dhamtari block. Dhamtari and Kurud is categorized as semi-critical. Potential deeper aquifers exist in the district. Central Ground Water Board has drilled 97 bore wells under the ground water exploration programme. These wells in the depth range of 45 to 200 m have yielded 0.5 to 16 lps.

10. DURG

The major parts of is underlain by the chandi formation which is dominantated stromatolitic limestone sequence. The bottom most (Newari member) comprises of stromatolitic limestone and dolomite which is pink to light grey in colour and thickly bedded followed by dark grey flaggy limestone (Pendri member) with intercalations of calcareous shale and Deodongar sandstone of lensoid shape. The topmost unit (Nipania member) comprises of pink to purple dolomitic limestone. Towards upper part it changes into bedded limestone and purple shale and is devoid of stromatolitic structure. This formation has very good ground water potential due to development of caverns at places. A total of 27 no. of exploratory wells have been drilled in this formation. The depth of bore wells drilled in this rock types varies from 19.5 to 304.57 m bgl. The casing length inserted varies from 6.00 to 30.50 m, which also represents the weathered thickness in this formation. The deep-seated fractures have been encountered in this formation during drilling down to depth of 152.5 m. Within a depth range of 6 to 152.5 m, 2-8 fracture zones were encountered. The discharge varies from 0.27 to 17 lps (Parpori) and the maximum drawdown was 35m. The static water level is varying between 1.90 m bgl and 15.10 m bgl.

Other formation occurring at northern parts of the district is Tarenga formation of dark grey, bedded dolomite associated with light grey laminated argillaceous dolomite. This formation has also good ground water potential.

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **44991** Ham and **40751.71** Ham respectively. Gross ground water Extraction for all uses in the district is **31047.5** Ham. Stage of ground water extraction in the district is **76.19%**. Dhamdha and Durg blocks in the district have been categorised as ‘**Semi-critical**’ having stage of development 80.33% and 86.68 respectively.

11. GARIABAND

Major parts of the district is covered by the rocks of Lower Proterozoic Dongargarh Super Group, Comprising mainly of fine to medium grained Potash rich Dongargarh Granite and its equivalentents are distributed in northern and central parts of the district. Big Granite boulders on

hills, formed due to the differential weathering, are a common sight in granitic terrain. Well-developed wide joints can also be seen in various areas. Effect of weathering through joints down to 40 metres can be very well observed during drilling in this formation. Intrusive of pegmatite /quartz vein can be often seen in this granite, So far 16 no of exploratory bore wells have been drilled in granites and gneisses down to a maximum depth of 157 meters. Based on the drilling data it can be inferred that the weathered thickness varies from 13 meters to 29 meters. Weathered mantle is the main aquifer which holds considerable potential of ground water. Generally, the weathered zone is immediately followed by a fracture.

In granite and gneisses, the yield of well depends upon structure, lithology and landform. The structure controlled by lineament plays a major role in controlling the yield. Generally, the site located along the lineaments or in close vicinity of lineaments have given high yields whereas sites away from the lineaments have yielded poorly. Felsic rocks (Pink granite) have more fractures compared to mafic and felsic rocks. The depth of wells ranges between 60 and 135 m bgl. Based on the exploration data it can be inferred that the weathered thickness in granites ranges between 16 and 40 m bgl. Weathered granite followed by a fracture at bottom is the only aquifer which possess good quantity of water. In general, the shallow fractured zone lies within 80 m. depth. The yield of this zone varies from 3 to 15 lps and specific capacity varies between 23 and 37 lpm/mdd. The south eastern part of the district is underlain by the Charnokite-Khodolite group of rocks.

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **37256.9** Ham and **33693.23** Ham respectively. Gross ground water Extraction for all uses in the district is **21542.6** Ham. Stage of ground water extraction in the district is **63.94%**. All the blocks in the district have been categorised as 'safe except Rajim which is falling in '**Semi-critical**' category having stage of development **82.68%**.

12. GOURELA-PENDRA-MARWAHI

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **14597.1** Ham and **13319.47** Ham respectively. Gross ground water Extraction for all uses in the district is **4839.55** Ham. Stage of ground water extraction in the district is **36.33%**. All the blocks in the district have been categorised as 'safe'.

13. JANJGIR – CHAMPA

Chhattisgarh Super Group of rocks and its equivalents covers almost the entire district. The cavernous limestone/ dolomite and fractured rocks form potential deeper aquifers in the district. The potential cavernous zones in general are restricted to 40 m bgl. However cavernous zone followed by fractures are identified down to 130 m bgl (Kotmi). 51 exploratory bore wells have been drilled by CGWB in the depth range of 66 to 200 m. Drill time discharges recorded in these wells are in the range of 0.2 to 12 lps. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **37899.8** Ham and **34433.84** Ham respectively. Gross ground water Extraction for all uses in the district is **10439.5** Ham. Stage of ground water extraction in the district is 30.32%. All the blocks in the district have been categorised as safe.

14. JASHPUR

The district is mainly underlain by crystalline rocks of Proterozoic age belonging to Chota Nagpur gneissic complex. Presence of sandstone of Lameta Formation (infra-trappeans) and Deccan trap basalt though insignificant, have also been reported. Extensive lateritisation with occasional bauxite deposits are also found. Laterite, which forms the phreatic aquifer, is extensive and is exploited through dug wells. Average thickness of laterite is 15m. At places it is as high as 30m. Potential of the basalts as aquifer material has not been explored properly as this part is covered mostly by forests and is thinly populated. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **33144.1** Ham and **30371.84** Ham respectively. Gross ground water Extraction for all uses in the district is only **13084.4** Ham. Stage of ground water extraction in the district is **43.08%**. All the blocks in the district have been categorised as 'safe'. Out of the 52 bore wells drilled by CGWB in the granitic terrain, 33 are either dry or have negligible discharge. Drill time discharge in only 7 wells was more than 3lps.

15. KANKER

The district is covered almost entirely by granitic rocks. Dongargarh granite and Bastar gneisses are the major geological formations. Bijli Rhyolite occurs as a thin band in the central part. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **69524.3** Ham and **63793.07** Ham respectively. Gross ground water Extraction for all uses in the district is **21472.6** Ham. Stage of ground water extraction in the

district is only **33.66%**. All the blocks in the district have been categorised as ‘**safe**’ except **Charama** block which has been categorized as ‘**Semi-critical**’. Exploratory drilling by CGWB indicates that deeper aquifer system exists. 63 exploratory bore wells with depth range of 79 to 243m drilled in the district have yielded in the range of 0.4 to 23 lps.

16. KABIRDHAM

Western part of the district is covered by granitoids and other hard rocks including andesites and meta-sediments of Chilpi Group. The eastern part is covered by sandstones-shale-limestone/dolomite belonging to Precambrian Chhattisgarh Supergroup. Extensive lateritisation has taken place at many places. Under the exploration programme, the Central Ground Water Board has drilled 21 boreholes to assess the aquifer systems and their potential. These wells drilled in the hard rock areas ranged in depth from 21 to 274m and yielded 1 to 14.5lps drill time discharge. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **51284.8** Ham and **46646.41** Ham respectively, gross ground water Extraction for all uses in the district is only **30516.7** Ham. Stage of ground water extraction in the district is only **65.42%**. All the blocks in the district have been categorised as ‘**safe**’ except **Pandariya** block which has been categorized as ‘**Semi-critical**’.

17. KONDAGOAN

Major parts of the district is covered by the rocks of Lower Proterozoic Dongargarh Super Group, Comprising mainly of fine to medium grained Potash rich Dongargarh Granite and its equivalents are distributed in northern and central parts of the district. Big Granite boulders on hills, formed due to the differential weathering, are a common sight in granitic terrain. Well-developed wide joints can also be seen in various areas. Effect of weathering through joints down to 40 metres can be very well observed during drilling in this formation. Intrusives of pegmatite /quartz vein can be often seen in this granite, So far 16 no of exploratory bore wells have been drilled in granites and gneisses down to a maximum depth of 157 meters. Based on the drilling data it can be inferred that the weathered thickness varies from 13 meters to 29 meters. Weathered mantle is the main aquifer which holds considerable potential of ground water. Generally, the weathered zone is immediately followed by a fracture.

In granite and gneisses, the yield of well depends upon structure, lithology and landform. The structure controlled by lineament plays a major role in controlling the yield. Generally, the site located along the lineaments or in close vicinity of lineaments have given high yields whereas

sites away from the lineaments have yielded poorly. Felsic rocks (Pink granite) have more fractures compared to mafic and mafelsic rocks. The depth of wells ranges between 60 and 135 m bgl. Based on the exploration data it can be inferred that the weathered thickness in granites ranges between 16 and 40 m bgl. Weathered granite followed by a fracture at bottom is the only aquifer which possess good quantity of water. In general, the shallow fractured zone lies within 80 m. depth. The yield of this zone varies from 3 to 15 lps and specific capacity varies between 23 and 37 lpm/mdd. The south eastern part of the district is underlain by the Charnokite-Khodolite group of rocks.

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **34345.9** Ham and **32514.87** Ham respectively. The gross ground water Extraction for all uses in the district is only **11983.3** Ham. Stage of ground water extraction in the district is only **36.85** %, which very low in comparison to the state average. All the blocks in the district have been categorised as ‘**safe**’.

18. KORBA

Talchir Shale, Barakar Sandstone with coal and Suprabarkars are the major rock types in the district. They are exposed in the northern and north eastern part of the district. Bastar Gneisses occupy the western and the southern part of the district. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **48681.2** Ham and **45843.51** Ham respectively. The gross ground water Extraction for all uses in the district is only **15658.3** Ham. Stage of ground water extraction in the district is only **34.16** %, which very low in comparison to the state average of **47.17%** of the state. All the blocks in the district have been categorised as ‘**safe**’ except **Katghora (74.48%)** block which has been categorized as ‘**Semi-critical**’. Ground water exploration in the district carried out by CGWB has proved that the deeper aquifers though present in the district are not that potential.

19. KOREA

The rocks belonging to Gondwana supergroup occupy more than 90% of the area of the district. Nearly 60% area of the district is covered by Barakar Sandstone and Supra Barakars. Southern part of the district is occupied by Talchir Shale. The granites/gneisses/phyllites etc occur mostly as inliers and in isolated patches. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **17466.1** Ham and **16328.61** Ham respectively. The gross ground water Extraction for all uses in the district is only **6375.36** Ham. Stage of ground water extraction in the district is only **39.04** %, which very low in

comparison to the state average. All the blocks in the district have been categorised as 'safe'. Underground water exploration programme 12 tube wells have been drilled in the area occupied by the Gondwanas. Depth of the wells range between 181 to 397m and the yields range from 0.5 to 4.2 lps.

20. MAHASAMUND

Major part of the district is covered by Dongargarh Granite and its variants. Precambrian sedimentaries equivalent of Chhattisgarh Supergroup are exposed in the eastern part. Chandarpur Sandstone and Charmuria Limestone occupy nearly 15% area in the western part of the district. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **70440.2** Ham and **65487.67** Ham respectively. Gross ground water Extraction for all uses in the district is only **39254.8** Ham. Stage of ground water extraction in the district is **59.94** %. All the blocks in the district have been categorised as 'safe' except **Basna** which is 'Semi-Critical' with stage of extraction is **86.22**%. Ground water exploration carried out by CGWB in the district has proved the existence of potential deeper aquifers. 34 exploratory bore wells have been constructed by CGWB in the depth range of 67 to 275m have yielded in the range of 0.5 to 12.8 lps.

21. MUNGELI

The Bastar granite & gneiss of Archaean age consist of granite & gneiss, cover northern part of the district. They are coarse to medium grained & grey to pinkish grey in colour. The predominant mineralogical constituents are quartz & feldspar with other accessories minerals, such as biotite, hornblende, chlorite etc. In plain area they are affected by the prolonged denudation & weathering action. The weathered mantle extends up to a depth of 15 m bgl. The exposed rocks are hard & compact in nature.

In granite and gneisses, the yield of well depends upon structure, lithology and landform. The structure controlled by lineament plays a major role in controlling the yield. Generally, the site located along the lineaments or in close vicinity of lineaments have given high yields whereas sites away from the lineaments have yielded poorly. The depth of wells ranges between 60 and 157 m.bgl. The weathered thickness in granites ranges between 16 and 40 m bgl. Weathered granite is followed by a fracture at bottom is the only aquifer which possess good quantity of water. In general, the shallow fractured zone lies within 80 m depth. The yield of this zone varies from 3 to 15 lps and specific capacity varies between 23 and 37 lpm/mdd.

Pandaria formation of Chhattisgarh group covers central part of the district. This formation represents the calc-argillite facies overlying the Chanderpur arenites and is characterized by predominance of purple coloured calcareous shale with lenses and pockets of bedded flaggy limestone, stromatolitic limestone and dolomite. From ground water point of view this formation is highly potential Central Ground Water Board has drilled 16 numbers of exploratory bore wells in the area maximum down to a depth of 128 m bgl. The wells have yielded water in the range of 7 and 14 lps. The transmissivity of the formation was measured to be 405 m²/day. Due to the collapsible nature and high ground water potential of the formation drilling of deep borewell is a difficult job. Deep bore wells can be constructed only by using telescopic method by gradually decreasing the diameter of bore well and lowering slotted sections against the collapsible strata.

The southern part of the district is underlain by the Maniyari formation of Chhattisgarh group consist of mainly bedded dolomite associated with light grey laminated argillaceous dolomite and Maniari Formation is gypsiferous shale.

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **18878.2** Ham and **17087.88** Ham respectively. Gross ground water Extraction for all uses in the district is only **9549.04** Ham. Stage of ground water extraction in the district is **55.88%**. All the blocks in the district have been categorised as 'safe'.

22. NARAYANPUR

Major geological formations in the district are the intracratonic, volcano-sedimentary suite of rocks of Abhujmar Group overlies high-grade gneiss, granulite and charnockite complex (Bengal group) of Archaen age. The Group of rocks are intruded by acid igneous rocks like granites/granitoids. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **26402.5** Ham and **23762.26** Ham respectively. Gross ground water Extraction for all uses in the district is only **1029.61** Ham. Stage of ground water extraction in the district is **4.33%**. All the blocks in the district have been categorised as 'safe'.

23. RAIGARH

Nearly 50% area of the district is covered by rocks of Gondwana Supergroup, which comprise Barakar sandstone, Kamthi Sandstone and Talchir Shale. Southern part is occupied by sandstone, limestone and shale, which are equivalents of Chhattisgarh Supergroup. Granitoids occupy the northern part, which accounts for nearly 20% of the total geographical area of the district. Extensive Lateritisation with occasional bauxite deposits are also found. Total Annual

Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **43794.1** Ham and **39916.24** Ham respectively. Gross ground water Extraction for all uses in the district is only **16339.79** Ham. Stage of ground water extraction in the district is only **40.94%**. Tamnar & Pussore blocks with a stage of development of **71.71%** and **84.64%** respectively have been categorised as '**Semi critical**'. The rest of the blocks in the district have been categorised as '**safe**'. Rocks belonging to Gondwana Supergroup form potential aquifers. Out of 29 tube wells drilled in the Gondwanas up to a maximum depth of 400m, only two have yielded less than 1 lps and 20 wells yielded more than 3 lps. Wells drilled in hard rock areas have yielded between 0.5 to 22.42 lps.

24. RAIPUR

More than 60% area of the district is covered by Chhattisgarh Supergroup of rocks, which comprise Sandstone, Limestone/dolomite and Shale. Nearly 30% area is occupied by Dongargarh Granite and rocks of Charnockite-Khondalite Group. Nawagarh Group of rocks exposed in the eastern boundary occupies nearly 10% area of the district. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **49778.4** Ham and **45085.83** Ham respectively. Gross ground water Extraction for all uses in the district is only **27757.1** Ham. Stage of ground water extraction in the district is **61.56%**. The **Dharsiwa** block with **94.07%** stage of development has been categorised as '**Critical**' while the remaining assessed subunits in the district have been categorised as '**safe**'. Hard rock areas in the district have been proved to be potential aquifers. Underground water exploration programme 131 bore wells have been drilled in the district ranging in depth from 45 to 301m. They have yielded up to 40 lps.

25. RAJNANDGAON

The geology of Rajnandgaon from south to north varies widely. Older metamorphics, igneous and iron ore series of rocks covers almost entire southern part. The middle and upper middle occupied by Chilpi group, Dongargarh supergroup & Chhattisgarh supergroup of rocks. The northern part comprises Chhattisgarh sediments and Chilpi group of metasediments. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **38636** Ham and **35171.66** Ham respectively. The gross ground water Extraction for all uses in the district is only **24513.7** Ham. Stage of ground water extraction in the district is **69.70%**. **Dongargarh, Dongargaon and Rajnandgaon** blocks with a stage of development of **87.52%**, **83.82%** and **74.65%** respectively have been categorised as '**Semi-**

critical'. A total of 82 bore wells ranging in depth from 32 to 240 m. have been constructed in the district by Central Ground Water Board. They have yielded in the range of 0.5 to 12.4 lps.

26. SUKMA

The major portion of the district is underlain by Bengal Group comprises high-grade metamorphites (Amphibolite-Granulite facies) including metasedimentaries, metabasites, gneisses-migmatite enclaves, bands and patches within Bastar gneissic complex and Charnockites. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **45434.9** Ham and **41306.66** Ham respectively. The gross ground water Extraction for all uses in the district is only **1700.25** Ham. Stage of ground water extraction in the district is **4.12%**. All the blocks of the district have been categorised as **safe**.

27. SURAJPUR

The major geological formations in the district are rocks belonging to Gondwanas, group of rocks represented by Talchir Shale, Barakar Sandstone and Supra Barakars Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **40787.7** Ham and **37556.90** Ham respectively. The gross ground water Extraction for all uses in the district is only **24931.4** Ham. Stage of ground water extraction in the district is **66.38%**. All the blocks in the district have been categorised as 'safe' except **Surajpur** block which has been categorized as 'Semi-Critical' with stage of development **82.00%**. In addition to the phreatic aquifer, potential deeper aquifers also exist in the district. Under the exploration programme, the Central Ground Water Board (CGWB) has constructed 24 in the Gondwana area. Nearly 75% wells in the Gondwana area yielded more than 1 lps.

28. SURGUJA

The major geological formations in the district are rocks belonging to Archean, Gondwanas, Lametas and Deccan trap group of rocks. Archean rocks comprise granitoids and occupy the eastern part. Talchir Shale, Barakar Sandstone and Supra Barakars represent the Gondwana Supergroup and are exposed in the western part. Lametas and Deccan Basalts occur as patches in the north-western part. Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **41770.7** Ham and **38143.1** Ham respectively. The gross ground water extraction for all uses in the district is only **16241.2** Ham. Stage of ground water extraction in the district is **42.58%**. All the blocks in the district have been categorised as 'safe'. In addition to the phreatic aquifer, potential deeper aquifers also exist in the

district. Under the exploration programme, the Central Ground Water Board (CGWB) has constructed 20 bore wells in the hard rock areas and 42 tube wells in the Gondwana area. Nearly 45% wells in the hard rock area and 75% wells in the Gondwana area yielded more than 1 lps.

29. KHAIRAGARH-CHHUIKHADAN-GANDAI

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **21575.6** Ham and **20021.44** Ham respectively. Gross ground water Extraction for all uses in the district is **15655.4** Ham. Stage of ground water extraction in the district is **78.19%**. All the blocks in the district have been categorised as 'safe' except Khairagarh (**85.80%**) which is categorized as semi critical.

30. MANENDRAGARH-CHIRMIRI-BHARATPUR

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **51527.8** Ham and **47130.99** Ham respectively. Gross ground water Extraction for all uses in the district is **7513.76** Ham. Stage of ground water extraction in the district is **15.94%**. All the blocks in the district have been categorised as 'safe'.

31. MOHLA-MANPUR-AMBAGARHCHOWKI

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **17171.2** Ham and **15454.05** Ham respectively. Gross ground water Extraction for all uses in the district is **5573.22** Ham. Stage of ground water extraction in the district is **36.06%**. All the blocks in the district have been categorised as 'safe'.

32. SAKTI

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **33707.1** Ham and **30474.46** Ham respectively. Gross ground water Extraction for all uses in the district is **13675.6** Ham. Stage of ground water extraction in the district is **44.88%**. All the blocks in the district have been categorised as 'safe'.

33. SARANGARH-BILAIRAGH

Total Annual Ground Water Recharge and Annual Extractable Ground Water Recharge of the district have been estimated to be **25432.9** Ham and **23446.14** Ham respectively. Gross ground water Extraction for all uses in the district is **8482.67** Ham. Stage of ground water extraction in the

district is **36.18%**. All the blocks in the district have been categorised as ‘safe’ except Baramkela (**71.92%**) which is categorized as semi critical.

e. Ground water recharge in poor ground water quality zone

No poor-quality area has been in the state except few localised patches in the state.

f. Additional annual potential recharges

No shallow water level or waterlogged area are found in the state. Thus, the annual potential recharge is zero for the state

g. Comparison with the earlier ground water resources estimate and reasons for significant departure from earlier estimates

The ground water resource of all blocks of Chhattisgarh were estimated in 2022 using GEC’2015 methodology and the present ground water resource assessment as on March 2023 is also based on the GEC’2015 methodology. All the 146 administrative blocks of 33 districts has been considered as a unit of assessment for state.

As compared to 2022 assessment, there is an increase in groundwater extraction from 5.46 to 5.75 bcm. Due to increase in number of abstraction structure mainly for irrigation, resulted in the increase of total extraction. The extractable ground water recharge has been increased from 11.02 bcm to 12.18 bcm resulting from updated data of ponds and tanks from each block and additional increase in area under surface water irrigation which further aided to increased recharge.

For state the stage of development in the year of 2022 was 49.50 % which has decreased to 47.17 % in the year 2023. As compared to 2022 assessment, Critical blocks decreased to 06 from 05, Semi-Critical decreased to 24 from 22 and Safe categorization increased from 116 compared to 119. In current 2023 assessment there is decrease in the number of Critical and Semi Critical units, mainly due to increase in recharges in the semi-critical and critical blocks.

h. Details of Assessment units Improved & Deteriorated from 2022 to 2023 Ground Water Resources Assessment

In comparison to 2022 Ground Water Resources Assessment of 2023, no assessments units have showing deteriorated categorization. 04 blocks are showing improved categorization (Table-9).

Table-9 Comparison of Assessment units Improved & Deteriorated from 2022 to 2023 Ground Water Resources Assessment

S.No	Name of District	Name of Assessment Unit	Stage of Ground Water Extraction (%) 2022	Categorization in 2022	Stage of Ground Water Extraction (%) 2023	Categorization in 2023	Remark
1	DURG	PATAN	73.32	Semi-critical	63.86	safe	Improved
2	DHAMTARI	DHAMTARI	94.62	critical	86.02	Semi-critical	Improved
3	SAKTI	DABHARA	78.77	Semi-critical	58.61	safe	Improved
4	SAKTI	MALKHARODA	77.07	Semi-critical	48.66	safe	Improved

ANNEXURES

82
 Government of Chhattisgarh
 General Administration Department
 Mantralay, Mahanadi Bhawan
 Nava Raipur, Atal Nagar District Raipur (C.G.)

ORDER

Nava Raipur, Atal Nagar, Dated 06/07/2023

No. F 9-21/2023/1/5 :: Government of Chhattisgarh, here by constituted the Permanent State Level Committee (SLC), for Ground Water Resources Assessment for the State of Chhattisgarh, as under-

1	Secretary, Government of Chhattisgarh Water Resources Department	-	Chairman
2	The Engineer in Chief, Water Resources Department	-	Member
3	The Engineer in Chief, Public Health Engineering Department	-	Member
4	Director, Department of Agriculture, Raipur	-	Member
5	Chief Engineer, Mahanadi Godavari Basin Raipur	-	Member
6	Director of Industries Raipur	-	Member
7	Chief General Manager NABARD Nava Raipur – Atal Nagar	-	Member
8	Director, Economic & Statistics Department, Nava Raipur Atal Nagar	-	Member
9	Regional Director Central Ground Water Board Raipur	-	Member –Secretary

2. Terms of Reference:-

- I To ensure the assessment of annual replenishable ground water resource of Chhattisgarh for the reference year. The committee will work on ground water assessment in accordance with the GEC methodology and will adopt improved procedures and practices wherever possible for the sake of achieving greater accuracy of assessments.
- II To estimate status of utilization of the annual replenishable ground water resources as on 31st March of respective year for Chhattisgarh State.

3. Time Frame:-

The Committee will submit its report within one year.

4. Expenditure:-

Expenditure on account of TA/DA to official Members of the Committee will be met from the source from which they draw their salaries and that of non- official members (if any) will be borne by the concerned State Water Resources Department.

**By order and in the name of the
Governor of Chhattisgarh**



(Ansika Rishi Panday)

Under Secretary

Government of Chhattisgarh

General Administration Department

Endt. No. F 9-21/2023/1/5

Nava Raipur Atal Nagar, Dated 06/07/2023

Copy to:

1. The Secretary, Government of India, Jal Shakti Mantralaya, Deptt. of Water Resources, River Development & Ganga Rejuvenation, Shram Shakti Bhawan, Rafi Marg, New Delhi-110 001 for information please.
2. The Chief Secretary, Government of Chhattisgarh, Mantralaya, Nava Raipur-Atal Nagar for information please.
3. Secretary, Water Resources Department, Govt of Chhattisgarh, Mantralaya Nava Raipur-Atal Nagar for information please.
4. Personal Secretary to Hon'ble Chief Minister, Government of Chhattisgarh, Mantralaya, Nava Raipur-Atal Nagar for information please.
5. Personal Secretary to Hon'ble Minister of Water Resources Department, Govt of Chhattisgarh, Mantralaya Nava Raipur-Atal Nagar for information please.
6. The Engineer-in- Chief, Water Resources Department, Shivnath Bhawan Sector-19, North Block, Nava Raipur-Atal Nagar.
7. The Engineer-in- Chief, Public Health Engineering Department, Indravati Bhawan, Nava Raipur-Atal Nagar
8. The Director, Department of Agriculture, Krishak Bhawan, Sector-19, North Block, Nava Raipur-Atal Nagar.
9. The Chief Engineer, Mahanadi Godavari Basin, Water Resources Department, Raipur.
10. The Director of Industries, 1st Floor, Udyog Bhawan, Opp Ring Road No.1, Telibandha, Raipur, Chhattisgarh
11. Chief General Manager NABARD, Chattisgarh Regional Office, Ananya, Plot No- 01, Sector-24, Behind Central Bank, Nava Raipur-Atal Nagar.
12. The Director of Economics & Statistics Department, Indravati Bhawan, Nava Raipur Atal Nagar.
13. The Regional Director. Central Ground Water Board, NCCR, 2ND Floor LK Corporates & Logistic Park Dhamtari Road, Dumartarai with reference his letter No.82/CGWB/ NCCR/21-22, dated 02.03.2023 for information and necessary action please.



Under Secretary
Government of Chhattisgarh
General Administration Department

14 JUL 2023

**Govt. of Chhattisgarh,
Water Resources Department
Mantralaya,
Mahanadi Bhawan, Nava Raipur-Atal Nagar**

**MINUTES OF THE MEETING OF STATE LEVEL COMMITTEE (SLC) FOR
GROUND WATER RESOURCES ASSESSMENT (GWRA) 2023 Held on 19.07.2023**


The first meeting of the Permanent State Level Committee (SLC) for Ground Water Resources Assessment (GWRA) 2023 for Chhattisgarh State was held via Video Conferencing dated 19.07.2023, 04:00 PM under chairmanship of Shri Anbalagan P, Secretary, Water Resource Department, Govt. of Chhattisgarh. The meeting was attended by all the respective departments i.e. Central Ground Water Board (CGWB), Water Resources Department, Ground Water Survey Circle, Department of Agriculture, Directorate of Industries, National Bank for Agriculture and Rural Development (NABARD), Economics and Statistics Department and Public Health Engineering Department. The list of members attended the meeting is appended in Annexure-I. The major outcome of the meeting are given below.

- (1) At the outset, with the permission of Chair, Dr P. K Naik, Regional Director, Central Ground Water Board, NCCR, Raipur as the Member Secretary for the committee, welcomed all the members. Further on request of Member Secretary, Chairman of the committee (Secretary, WRD) have also elaborated the importance of permanent SLC and its role in several policies and welfare of the state. He further directed all the departments to validate all the data before using in resource assessment. He also pointed out that recharge data from all the line departments should be collected and be used for exercise.
- (2) Member Secretary & RD, CGWB also shared the timeline for GWRA. 2023 where it has been informed that approval of the State Ground Water Resources by SLC is by 15th August 2023. Further he also requested for constitution of Ground Water Resource Assessment Cell (GWRAC) at state level and nomination of district level officer for carrying out the resource assessment. The Chairman of the committee agreed and suggested to send a letter for the same. With the permission of Chair, RD, CGWB handed the session to Shri Uddeshya Kumar, Scientist C, CGWB for presenting the status of works completed till date.
- (3) Shri Uddeshya Kumar, Scientist 'C' presented the status of data collection and informed the SLC about the scheduled training on IN-GRES by Vasar labs on 25/07/2023 where issues related to IN-GRES will be discussed.

At the end Chairman of the committee directed all the members to provide respective data at the earliest and also suggested RD, CGWB to send a copy of progress every week.

The meeting ended with thanks to the chair.

(Approved by)


Secretary WRD
Govt of Chhattisgarh
Chairman
State Level Committee


(Dr. P.K. Naik)

Member Secretary-SLC
Cum Regional Director
CGWB, Raipur

Annexure-1

List of participants in the first meeting of the Permanent State Level Committee for re-estimation ground Water Resources, as on March 2023 for Chhattisgarh, held on 19.07.2023.

Sl. No.	Name	Designation and department
1	Shri Anbalagan P	Secretary, Water Resources, Govt. of Chhattisgarh and Chairman of the Committee
2	Dr. P.K Naik	Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, Govt. of India, and Member Secretary of the Committee
3	Mr. R.L. Dhurandhar	Joint Director, Agriculture
4	Representative	Director. Commerce & Industry Department
5	Representative	NABARD, Naya Raipur – Atal Nagar
6	Representative	Economics and Statistics Department Naya Raipur – Atal Nagar
7	Representative	Public Health Engineering Department, Govt. of Chhattisgarh
8	Shri D.N. Gidronia	OSD, Water Resources Department Mantralaya, Govt. of Chhattisgarh, Atal Nagar, Raipur.
9	Shri S K Tikam	Superintending Engineer and Head of the State Ground Water Survey (WRD), Govt. of Chhattisgarh, Raipur
10	Shri A.K.Shukla	Senior Geohydrologist, Ground Water Survey Circle, Raipur
11	Sh Nitin Meshram	Senior Geohydrologist, Ground Water Survey Circle, Bilaspur
12	Smt Priyanka Sonbarse	Scientist C, Central Ground Water Board, North Central Chhattisgarh Region, Govt. of India, Raipur
13	Shri Uddeshya Kumar	Scientist C, Central Ground Water Board, North Central Chhattisgarh Region, Govt. of India, Raipur
14	Shri B Abhishek	Scientist C, Central Ground Water Board, North Central Chhattisgarh Region, Govt. of India, Raipur
15	Shri Suman Bharti	Scientist B, Central Ground Water Board, North Central Chhattisgarh Region, Govt. of India, Raipur
16	Sh Champat Dewangan	AE, Water Resources, Govt. of Chhattisgarh
17	Sh Lokesh Manhar	AGH, Ground Water Survey Circle, Raipur
18	Sh Sachin Parate	AGH, Ground Water Survey Circle, Bilaspur
19	Sh Samudra Behara	AGH, Ground Water Survey Circle, Raipur
20	Sh Biranjan Toppo	AGH, Ground Water Survey Circle, Ambikapur
21	Sh M Shrivastava	Sub- Engineer, Ground Water Survey Circle
22	Sh Peyoush Verma	Sub- Engineer, Ground Water Survey Circle

MINUTES OF THE MEETING OF THE STATE LEVEL COMMITTEE FOR GROUND WATER RESOURCE ASSESSMENT.

Held on 18/01/2024

A meeting of the State Level Committee (SLC) for Ground Water Resources Assessment for approval of 'Dynamic Ground Water Resources of Chhattisgarh, 2023' was held in the office of the Secretary, Water Resources, Government of Chhattisgarh on 18th January, 2024 at 12:00 hours. The meeting was chaired by Secretary, Water Resources Department, Government of Chhattisgarh. The meeting was attended by representatives from Central Ground Water Board (CGWB), Water Resources Department, Department of Agriculture, National Bank for Agriculture and Rural Development (NABARD), Public Health Engineering Department. The list of members attended the meeting is appended in Annexure-I. The major outcomes of the meeting are given below.

At the outset, Secretary, Water Resources and the Chairman of the State Level Committee for estimation of Ground Water Resources, welcomed all the members and requested the Regional Director, CGWB to give a brief introduction and objectives of the meeting for the assessment of ground water resources of Chhattisgarh state.

1. Dr. Prabir K. Naik, Regional Director, Central Ground Water Board, NCCR, Raipur as the member secretary for the committee gave a brief introduction with importance of the ground water resource estimation and objectives of the meeting for the assessment of ground water resources of Chhattisgarh state. Subsequently, with the permission of Chair, he handed over the session to Shri Uddeshya Kumar, Scientist C, CGWB for presenting the present scenario of Ground Water Resources in Chhattisgarh state assessed based on data base for the year 2023.
2. Shri Uddeshya Kumar presented the Ground Water scenario of Chhattisgarh state as on March, 2023. In the assessment, administrative block was taken as unit of assessment and command & non-command area in block was taken as sub unit. The overall stage of ground water extraction of the state is 47.17% with 22 blocks falling under Semi-Critical and 5 blocks under Critical category in Chhattisgarh. He also explained the comparative scenario of Dynamic Ground Resources of Chhattisgarh from 2017 to 2023.

3. Secretary, Water Resources & the Chairman of the Committee enquired about the several factors used in resource assessment and also discussed about contribution of recharge from other sources across the different assessment year. He discussed the quality issues in the state with respect to Fluoride and Arsenic contamination.
4. Further, Secretary, WRD also advised to take up studies at the Kunkuri block in detail and carry out mapping work for Bastar region also. He emphasized that being the Water Resource Department of the state, the management of water is on the top priority. In response, Dr. Prabir K. Naik, Regional Director, CGWB informed that a proposal for hydrogeological study covering 01 block of Bastar region, Kunkuri block and Deobhog block will be incorporated in forthcoming AAP 2024-25 to CHQ, CGWB for approval. RD CGWB also informed the chair about the area taken for study under NAQUIM (2.0) in AAP 2023-24, for which he requested a consent letter from Secretary, WRD may be provided as it is required by CHQ, CGWB.
5. **All the members of the State Level Committee for Ground Water Resources Assessment of Chhattisgarh as on March 2023 appreciated the work carried out by State Ground Water Department, Govt. of Chhattisgarh & Central Ground Water Board, Govt. of India for bringing out the report on “Dynamic Ground Water Resources of Chhattisgarh as on March 2023” which will be helpful for proper development and management of ground water resources in the state of Chhattisgarh and finally the committee approved the report.**

The meeting ended with thanks to the chair.



Sh. Rajesh Sukumar Toppo
IAS, Special Secretary,
Water Resources Department, Govt. of Chhattisgarh
& Chairman of the Committee

Annexure-1

List of Members participated in the meeting of the State Level Committee for Approval of Ground Water Resources Assessment (as on March 2023) for Chhattisgarh, held on 18/01/2024.

Sl. No.	Name	Designation and department
1	Sh. Rajesh Sukumar Toppo	IAS, Special Secretary, Water Resources Department, Govt. of Chhattisgarh & Chairman of the Committee
2	Dr. Prabir K. Naik	Regional Director (CHWB, North Central Chhattisgarh Region, Raipur) & Member Secretary, SLC
3	Sh. Indrajeet Uikey	Engineer-In-Chief, Water Resources Department, Govt. of Chhattisgarh
4	Sh. K.S. Guroower	Chief Engineer, Monitoring, Water Resources Department
5	Sh. Mukesh Santoshi	Chief Engineer, MGB, Water Resources Department
6	Sh. G. L. Lakhera	S.E., Public Health Engineering Department Chhattisgarh
7	Sh. R.L. Dhurandhar	Joint Director, Department of Agriculture
8	Sh. Saurabh Singh	Assistant Manager, NABARD
9	Sh. D. N. Gidronia	OSD, Water Resource Department
10	Sh. S. K. Tikam	Superintending Engineer, Water Resources Department & Ground Water
11	Sh. A.K. Shukla	Senior Hydrogeologist, Water Resources Department,
12	Sh. C. L. Dewangan	EE, Water Resources Department, Govt. of Chhattisgarh
13	Sh. Uddeshya Kumar	Scientist-C, CGWB, NCCR
14	Sh. B. Abhishek	Scientist-C, CGWB, NCCR
15	Sh. Sweta Mohanty	AHG, CGWB, NCCR

CATEGORISATION OF ASSESSMENT UNIT, 2023							
CHHATTISGARH							
S.NO	Name of District	S.NO	Name of Semi-Critical Assessment Units	S.NO	Name of Critical Assessment Units	S.NO	Name of Over-Exploited Assessment Units
1	BALOD	1	BALOD	1	GURUR		
		2	GUNDERDEHI				
2	BEMETARA	1	SAJA	1	NAWAGARH		
				2	BEMETARA		
				3	BERLA		
3	BILASPUR	1	TAKHATPUR				
		2	BELHA				
4	DHAMTARI	1	DHAMTARI				
		2	KURUD				
5	DURG	1	DURG				
		2	DHAMDHA				
6	GARIABAND	1	RAJIM/FINGESHWAR				
7	KABIRDHAM	1	PANDARIYA				
8	KANKER	1	CHARAMA				
9	KHAIRAGARH- CHHUIKHADAN_GANDAI	1	KHAIRAGARH				
10	KORBA	1	KATGHORA				
11	MAHASAMUND	1	BASNA				
12	RAIGARH	1	TAMNAR				
		2	PUSAUR				
13	RAIPUR			1	DHARSIWA		
14	RAJNANDGAON	1	RAJNANDGAON				
		2	DONGARGAON				
		3	DONGARGARH				
15	SARANGARH-BILAIRAGH	1	BARAMKELA				
16	SURAJPUR	1	SURAJPUR				
ABSTRACT							
Total No. of Assessed Units		Number of Semicritical Assessment Units		Number of Critical Assessment Units		Number of Over Exploited Assessment Units	
146		22		5		0	

QUALITY TAGGING IN ASSESSMENT UNITS, 2023							
NAME OF STATE/UT							
S.NO	Name of District	S.NO	Name of Assessment Units affected by Fluoride	S.NO	Name of Assessment Units affected by Arsenic	S.NO	Name of Assessment Units affected by Salinity
1	BALRAMPUR	1	BALRAMPUR				
2	GARIABAND	1	CHHURA				
		2	DEOBHOG				
		3	GARIABAND				
3	GOURELA-PENDRA-MARWAHI	1	MARWAHI				
4	JASHPUR	1	BAGICHA				
		2	KUNKURI				
		3	PHARSABAHAHAR				
5	KORBA	1	KARTALA				
		2	KATGHORA				
		3	KORBA				
		4	PALI				
6	MAHASAMUND	1	BAGBAHARA				
7	MOHLA-MANPUR_AMBAGARHCHOWKI			1	AMBAGARH CHOWKI		
8	RAIGARH	1	DHARAMJAIGARH				
		2	LAILUNGA				
		3	TAMNAR				
9	SARANGARH-BILAIRAGH	1	SARANGARH				
10	SURAJPUR	1	PRATAPPUR				
		2	PREMNAGAR				
		3	RAMANUJNAGAR				
ABSTRACT							
Total No. of Assessed Units		Number of Assessment Units affected by Fluoride		Number of Assessment Units affected by Arsenic		Number of Assessment Units affected by Salinity	
146		20		1		0	

Sl. No	District	Assessment Unit Name	Total Area of Assessment Unit (Ha)	Recharge Worthy Area(Ha)	Recharge from Rainfall-Monsoon Season	Recharge from Other Sources-Monsoon Season	Recharge from Rainfall-Non Monsoon Season	Recharge from Other Sources-Non Monsoon Season	Total Annual Ground Water (Ham) Recharge	Total Natural DiSemi-Criticalhar ges (Ham)	Annual Extractabl e Ground Water Resource (Ham)	Ground Water Extraction for Irrigation Use (Ham)	Ground Water Extraction for Industrial Use (Ham)	Ground Water Extraction for Domestic Use (Ham)	Total Extraction (Ham)	Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availabilit y for future use (Ham)	Stage of Ground Water Extraction (%)	Categorization (Over-Exploited/Critical/Semi-Critical/Safe/Saline)
1	BALOD	GURUR	41128	33680	2136.98	2000.12	0.00	3002.52	7139.62	713.96	6425.66	5898.74	12.87	371.10	6282.72	388.90	531.47	97.78	critical
2	BALOD	GUNDERDEHI	68070	68070	3995.03	2881.59	0.00	3545.44	10422.06	1042.21	9379.85	6403.55	17.92	563.53	6985.00	603.03	2355.35	74.47	semi_critical
3	BALOD	DOUNDI	52919	40963	2226.45	1159.14	0.00	1293.71	4679.30	325.93	4353.37	2451.00	19.08	418.74	2888.81	436.26	1447.04	66.36	safe
4	BALOD	DOUNDI LOHARA	88332	88332	5262.14	3348.45	0.00	3028.41	11639.00	914.89	10724.11	5014.15	5.89	524.48	5544.52	554.61	5149.46	51.70	safe
5	BALOD	BALOD	30425	30425	2232.06	883.16	0.00	1790.26	4905.48	490.55	4414.93	3326.01	6.23	349.90	3682.13	373.42	709.28	83.40	semi_critical
6	BALODA BAZAR	SIMGA	61506	61506	4575.77	4220.38	37.57	2792.50	11626.22	1035.58	10590.64	5523.73	744.37	1090.02	7358.12	1360.26	3743.72	69.48	safe
7	BALODA BAZAR	BALODA BAZAR	62320	62320	3439.75	7910.75	188.25	1051.26	12590.01	1126.49	11463.52	3295.21	380.98	1016.66	4692.85	1407.89	6823.84	40.94	safe
8	BALODA BAZAR	BHATAPARA	47115	47115	3230.53	1916.07	156.90	2024.46	7327.96	732.80	6595.16	3861.01	28.17	718.31	4607.49	868.04	1837.94	69.86	safe
9	BALODA BAZAR	KASDOL	176339	176339	9774.11	2452.83	0.00	1730.52	13957.46	1395.74	12561.72	5964.23	2.53	667.36	6634.11	768.05	5826.92	52.81	safe
10	BALODA BAZAR	PALARI	59468	59468	4073.10	7426.24	29.52	958.37	12487.23	1248.73	11238.50	1261.84	27.91	886.45	2176.21	1239.95	8708.79	19.36	safe
11	BALRAMPUR	WADRAFAGARH	136594	105098	12686.15	207.71	67.79	312.35	13274.00	682.99	12591.01	1086.44	1.09	453.92	1541.44	491.96	11011.53	12.24	safe
12	BALRAMPUR	SHANKARGARH	90038	63645	4631.11	148.45	34.58	234.52	5048.66	504.87	4543.79	841.00	0.18	189.07	1030.25	199.35	3503.26	22.67	safe
13	BALRAMPUR	BALRAMPUR	108416	82416	4811.12	267.64	35.89	340.58	5455.23	545.53	4909.70	1118.77	0.18	311.54	1430.48	337.68	3453.08	29.14	safe
14	BALRAMPUR	RAJPUR	100066	89540	7517.03	262.07	56.52	498.93	8334.55	833.45	7501.10	1353.11	2.72	305.81	1661.64	330.47	5814.80	22.15	safe
15	BALRAMPUR	RAMCHANDRAPUR	127833	105873	7397.96	434.04	55.63	695.37	8583.00	858.30	7724.70	2498.00	2.13	485.87	2986.00	531.43	4693.14	38.66	safe
16	BALRAMPUR	KUSMI	150973	119559	7835.52	248.11	58.66	283.45	8425.74	842.58	7583.16	964.24	0.81	293.19	1258.26	309.76	6308.33	16.59	safe
17	BASTAR	BASTANAR	59987	47888	3108.90	62.84	275.40	73.83	3520.97	352.09	3168.88	59.28	0.56	118.86	178.70	123.00	2986.04	5.64	safe
18	BASTAR	BAKAWAND	106455	68134	3577.62	209.40	302.09	547.45	4636.56	242.77	4393.79	1613.40	4.94	400.83	2019.17	426.04	2349.41	45.96	safe
19	BASTAR	BASTAR	125149	89027	4120.23	330.75	363.51	732.98	5547.47	554.75	4992.72	1827.40	7.52	440.08	2275.01	468.32	2689.47	45.57	safe
20	BASTAR	DARBHA	98449	34077	2109.05	33.92	186.84	35.05	2364.86	236.48	2128.38	45.23	2.51	205.27	253.02	215.43	1865.20	11.89	safe
21	BASTAR	JAGDALPUR	101017	50170	3672.46	150.91	217.08	314.40	4354.85	435.49	3919.36	821.86	44.65	694.98	1561.49	737.43	2315.42	39.84	safe
22	BASTAR	LOHANDIGUDA	79793	57951	3068.21	84.25	271.03	97.04	3520.53	352.05	3168.48	201.62	2.54	200.44	404.60	211.97	2752.35	12.77	safe
23	BASTAR	TOKAPAL	42148	36286	1839.75	117.72	136.07	247.26	2340.80	123.73	2217.07	432.67	6.73	205.84	645.24	218.14	1559.53	29.10	safe
24	BEMETARA	BEMETARA	72779	72779	4144.09	4146.60	0.00	5340.92	13631.61	1363.17	12268.44	10316.56	10.32	728.96	11055.83	883.09	3085.49	90.12	critical
25	BEMETARA	BERLA	77718	77718	5338.67	2510.27	0.00	5224.79	13073.73	1307.38	11766.35	10783.84	86.73	586.74	11457.31	674.75	285.12	97.37	critical
26	BEMETARA	NAWAGARH	62498	62498	3130.83	1657.11	0.00	3358.26	8146.20	528.09	7618.11	6772.00	0.01	711.95	7483.95	907.10	907.79	98.24	critical
27	BEMETARA	SAJA	72486	72486	4583.41	4688.30	0.00	5742.16	15013.87	1501.39	13512.48	11713.07	5.02	368.66	12086.74	424.58	2539.77	89.45	semi_critical
28	BIJAPUR	USOOR	174535	111983	13703.70	131.65	59.06	184.85	14079.26	1407.93	12671.33	318.27	0.80	133.61	452.68	136.07	12216.19	3.57	safe
29	BIJAPUR	BIJAPUR	114011	86778	10515.44	112.89	45.32	375.68	11049.33	1104.94	9944.39	1476.60	0.40	162.09	1639.10	165.11	8302.27	16.48	safe
30	BIJAPUR	BHOPALPATTNAM	144418	92598	9042.22	130.57	38.97	490.04	9701.80	970.18	8731.62	763.03	0.15	129.71	892.89	136.84	7831.60	10.23	safe
31	BIJAPUR	BHAIRAMGARH	228284	146370	16598.00	103.57	71.53	335.69	17108.79	1710.87	15397.92	501.94	0.36	246.48	748.78	273.86	14621.76	4.86	safe
32	BILASPUR	MASTURI	73920	73920	4134.51	3264.64	250.01	858.45	8507.61	690.64	7816.97	2043.26	224.43	1042.93	3310.63	1291.43	4257.84	42.35	safe
33	BILASPUR	TAKHATPUR	72440	72440	4574.60	8133.74	0.00	6676.09	19384.43	1938.45	17445.98	11297.42	96.56	965.40	12359.38	1115.41	7023.77	70.84	semi_critical
34	BILASPUR	KOTA	116598	83345	5060.91	1791.58	0.00	1439.84	8292.33	519.23	7773.10	2013.43	37.95	671.05	2722.43	732.96	4988.76	35.02	safe
35	BILASPUR	BELHA	87890	87890	6173.98	1983.89	164.05	3019.11	11341.03	1134.10	10206.93	5995.39	232.31	2873.51	9101.20	3389.32	1075.29	89.17	semi_critical
36	DANTEWADA	DANTEWADA	177296	160453	12313.31	97.72	166.98	542.72	13120.73	1312.07	11808.66	1163.48	184.00	234.68	1582.16	238.99	10222.19	13.40	safe
37	DANTEWADA	GEEDAM	58628	55110	4262.33	118.92	57.80	405.25	4844.30	484.43	4359.87	846.09	2.35	258.51	1106.94	296.53	3214.91	25.39	safe
38	DANTEWADA	KATEKALYAN	48800	43920	4764.91	37.58	64.61	155.55	5022.65	502.27	4520.38	321.77	0.00	110.69	432.47	115.60	4083.00	9.57	safe
39	DANTEWADA	KUAKONDA	56326	52383	3942.47	67.92	53.46	242.85	4306.70	430.67	3876.03	470.12	0.65	164.67	635.45	168.88	3236.37	16.39	safe
40	DHAMTARI	DHAMTARI	67883	67883	4336.74	6691.12	0.00	13363.75	24391.61	2439.16	21952.45	18109.53	28.35	746.53	18884.41	774.76	7501.71	86.02	semi_critical
41	DHAMTARI	KURUD	59242	59242	4769.40	7850.67	0.00	13765.47	26385.54	2638.56	23746.98	18671.17	26.12	571.65	19268.93	598.16	6044.21	81.14	semi_critical
42	DHAMTARI	MAGARLOD	88191	88191	7271.89	716.17	0.00	2774.96	10763.02	640.94	10122.08	6315.60	3.68	319.72	6639.00	336.50	3466.30	65.59	safe

Sl. No	District	Assessment Unit Name	Total Area of Assessment Unit (Ha)	Recharge Worthy Area(Ha)	Recharge from Rainfall-Monsoon Season	Recharge from Other Sources-Monsoon Season	Recharge from Rainfall-Non Monsoon Season	Recharge from Other Sources-Non Monsoon Season	Total Annual Ground Water (Ham) Recharge	Total Natural DiSemi-Criticalhar ges (Ham)	Annual Extractabl e Ground Water Resource (Ham)	Ground Water Extraction for Irrigation Use (Ham)	Ground Water Extraction for Industrial Use (Ham)	Ground Water Extraction for Domestic Use (Ham)	Total Extraction (Ham)	Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Extraction (%)	Categorization (Over-Exploited/Critical/Semi-Critical/Safe/Saline)
43	DHAMDHARI	NAGRI	192877	33390	3025.54	2823.45	0.00	3596.81	9445.80	944.58	8501.22	5065.22	4.14	453.94	5523.30	470.63	2961.23	64.97	safe
44	DURG	DHAMDHA	88249	88249	6401.70	5073.34	0.00	5263.09	16738.13	1673.81	15064.32	11164.68	166.82	770.36	12101.86	826.91	2905.91	80.33	semi_critical
45	DURG	DURG	67517	67517	4317.67	5319.73	0.00	2739.07	12376.47	1237.65	11138.82	6190.29	224.98	3240.17	9655.46	3372.77	2584.12	86.68	semi_critical
46	DURG	PATAN	76233	76233	3938.94	8186.92	0.00	3750.54	15876.40	1327.83	14548.57	8368.95	29.93	891.35	9290.22	935.51	5214.19	63.86	safe
47	GARIABAND	CHHURA	111127	44880	2799.25	1062.51	0.00	1875.90	5737.66	573.77	5163.89	3196.64	2.47	308.33	3507.44	325.31	1639.47	67.92	safe
48	GARIABAND	DEOBHOG	39129	30000	2032.60	400.99	0.00	807.35	3240.94	162.05	3078.89	1110.29	0.47	262.20	1372.97	283.29	1715.47	44.59	safe
49	GARIABAND	GARIABAND	154517	80280	6885.33	1513.60	0.00	1696.37	10095.30	1009.53	9085.77	5270.96	3.61	245.89	5520.44	258.05	3553.17	60.76	safe
50	GARIABAND	RAJIM/FINGESHWAR	59530	59530	5400.66	1745.44	0.00	2417.87	9563.97	956.40	8607.57	6668.20	4.83	444.51	7117.54	466.50	1468.04	82.69	semi_critical
51	GARIABAND	MAINPUR	217963	48450	3968.66	2282.00	0.00	2368.36	8619.02	861.91	7757.11	3587.05	0.12	437.01	4024.17	544.40	3625.55	51.88	safe
52	GOURELA-PENDRA-MARWAHI	PENDRA	34921	34921	3138.04	375.64	122.64	514.58	4150.90	232.96	3917.94	1934.37	0.00	277.16	2211.52	320.23	1663.35	56.45	safe
53	GOURELA-PENDRA-MARWAHI	MARWAHI	100972	79547	4805.70	310.65	244.62	363.44	5724.41	572.45	5151.96	1081.28	0.65	407.20	1489.15	504.23	3565.78	28.90	safe
54	GOURELA-PENDRA-MARWAHI	GAURELA	94846	50655	3534.35	602.39	177.89	407.12	4721.75	472.18	4249.57	705.03	1.03	432.82	1138.88	500.07	3043.44	26.80	safe
55	JANJGIR-CHAMPA	AKALTARA	39699	39699	2672.73	3326.83	31.86	2337.29	8368.71	729.17	7639.54	1366.15	146.58	498.84	2011.56	538.11	5588.71	26.33	safe
56	JANJGIR-CHAMPA	BAMHANIDIH	34334	34334	1790.99	2538.66	22.48	2897.27	7249.40	670.75	6578.65	1666.61	14.88	622.68	2304.17	678.09	4219.07	35.02	safe
57	JANJGIR-CHAMPA	JANJGIR (NAWAGARH)	60361	60361	2700.69	3869.00	34.99	2779.75	9384.43	938.45	8445.98	1456.79	0.15	919.11	2376.03	1008.27	5980.79	28.13	safe
58	JANJGIR-CHAMPA	PAMGARH	44533	44533	2209.35	3467.97	28.91	2404.58	8110.81	811.08	7299.73	1337.06	0.36	461.77	1799.18	495.02	5467.30	24.65	safe
59	JANJGIR-CHAMPA	BALODA	58631	36331	2528.32	887.67	34.80	1335.69	4786.48	316.54	4469.94	1563.54	76.96	308.09	1948.59	340.68	2488.76	43.59	safe
60	JASHPUR	MANORA	89049	56129	3252.52	190.95	109.54	323.54	3876.55	387.66	3488.89	870.90	0.15	153.61	1024.65	159.92	2457.92	29.37	safe
61	JASHPUR	JASHPUR	58986	44936	2475.26	132.90	70.40	442.48	3121.04	159.06	2961.98	1719.29	1.76	270.76	1991.82	287.82	953.10	67.25	safe
62	JASHPUR	KANSABEL	50715	39155	2550.14	167.08	85.79	392.44	3195.45	319.55	2875.90	1334.50	0.97	189.97	1525.45	196.41	1344.02	53.04	safe
63	JASHPUR	KUNKURI	55737	47537	2232.02	314.10	74.39	464.10	3084.61	308.46	2776.15	1209.75	3.00	244.03	1456.78	253.06	1310.34	52.47	safe
64	JASHPUR	PATHALGAON	79200	57040	3725.51	564.56	124.97	835.53	5250.57	525.05	4725.52	2034.25	11.68	511.35	2557.28	538.65	2140.94	54.12	safe
65	JASHPUR	PHARSABAHAHAR	79650	63350	5559.99	261.56	142.54	519.30	6483.39	648.34	5835.05	1540.93	1.76	267.04	1809.72	275.59	4016.78	31.01	safe
66	JASHPUR	DULDULA	51364	31968	1637.15	71.11	39.96	212.76	1960.98	100.81	1860.17	777.84	0.57	127.10	905.51	131.81	949.95	48.68	safe
67	JASHPUR	BAGICHA	181040	110890	5245.72	258.43	226.01	441.37	6171.53	323.71	5847.82	1359.18	0.74	453.23	1813.16	477.21	4010.68	31.01	safe
68	KABIRDHAM	SAHASPUR LOHARA	97520	96282	8289.08	1412.47	356.70	1503.57	11561.82	1156.18	10405.64	6458.00	4.95	503.19	6966.13	596.18	3346.52	66.95	safe
69	KABIRDHAM	PANDARIYA	121778	111646	8064.59	853.25	343.14	1701.94	10962.92	1096.29	9866.63	7024.16	4.44	766.75	7795.35	852.50	2123.35	79.01	semi_critical
70	KABIRDHAM	KAWARDHA	53143	53143	5221.36	1189.99	4453.06	3539.27	14403.68	1440.37	12963.31	8346.00	8.39	709.54	9063.94	797.18	3811.73	69.92	safe
71	KABIRDHAM	BODLA	172264	162892	8609.32	2376.86	458.39	2911.83	14356.40	945.57	13410.83	6107.52	44.18	539.58	6691.30	591.36	6667.75	49.89	safe
72	KANKER	ANTAGARH	79632	78039	9247.27	105.57	133.31	226.64	9712.79	971.28	8741.51	823.50	0.15	213.02	1036.67	226.70	7691.14	11.86	safe
73	KANKER	CHARAMA	50595	45535	4757.85	776.25	77.78	2193.61	7805.49	437.74	7367.75	5141.50	1.91	276.80	5420.20	289.34	1935.01	73.57	semi_critical
74	KANKER	BHANUPRATAPUR	91366	89539	9059.60	189.08	152.95	542.87	9944.50	509.69	9434.81	2165.50	14.28	251.92	2431.70	265.36	6989.67	25.77	safe
75	KANKER	NARHARPUR	73758	73020	5608.91	545.49	521.80	1852.01	8528.21	459.16	8069.06	4416.75	1.65	298.52	4716.92	317.63	3333.03	58.46	safe
76	KANKER	KOYALIBEDA	204312	198183	15234.63	206.90	1096.23	1029.50	17567.26	1756.73	15810.53	2295.75	3.17	469.94	2768.86	502.77	13008.84	17.51	safe

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77	KANKER	KANKER	81071	80260	6340.29	166.43	137.10	1441.39	8085.21	808.53	7276.68	3532.75	3.21	348.77	3884.74	371.09	3369.62	53.39	safe
78	KANKER	DURGUKONDAL	62714	61460	7259.43	92.17	104.99	424.22	7880.81	788.08	7092.73	1038.00	7.25	168.21	1213.47	177.18	5870.29	17.11	safe
79	KHAIRAGARH-CHHUIKHADAN_GAND AI	CHHUIKHADAN	75464	68915	3056.66	3886.60	41.25	3113.76	10098.27	810.34	9287.93	5925.48	2.36	517.98	6445.84	569.12	2790.95	69.40	safe
80	KHAIRAGARH-CHHUIKHADAN_GAND AI	KHAIRAGARH	81095	80123	5169.53	2400.85	56.87	3850.12	11477.37	743.86	10733.51	8653.02	9.05	547.45	9209.54	592.46	1478.96	85.80	semi_critical
81	KONDAGAON	BADERAJPUR	47376	46676	2700.75	347.40	235.77	439.32	3723.24	215.33	3507.92	2086.40	0.57	223.81	2310.78	234.17	1439.02	65.87	safe
82	KONDAGAON	KESHKAL	74916	73004	5801.10	294.55	474.12	486.82	7056.59	377.80	6678.79	2294.75	1.91	246.40	2543.03	258.86	4123.29	38.08	safe
83	KONDAGAON	KONDAGAON	139297	132097	9408.57	288.05	571.93	407.02	10675.57	546.62	10128.95	1458.32	17.76	562.80	2038.89	601.97	8050.89	20.13	safe
84	KONDAGAON	PHARASGAON	67581	65881	6243.50	443.26	427.85	478.95	7593.56	426.46	7167.10	2256.75	0.37	262.58	2519.70	277.17	4632.82	35.16	safe
85	KONDAGAON	MAKDI	56857	54583	4322.08	143.40	354.48	476.99	5296.95	264.84	5032.11	2302.00	0.03	268.90	2570.92	286.61	2443.48	51.09	safe
86	KORBA	KORBA	204001	88256	8154.76	351.28	142.03	425.81	9073.88	472.59	8601.29	1026.70	461.41	1130.71	2618.82	1218.49	5894.69	30.45	safe
87	KORBA	KATGHORA	47181	47116	5287.21	548.84	75.73	784.33	6696.11	669.61	6026.50	1567.71	1948.78	972.31	4488.80	1066.77	1457.01	74.48	semi_critical
88	KORBA	PODI UPRORA	234881	131634	10571.82	2201.59	212.83	2749.39	15735.63	791.76	14943.88	1038.45	266.03	513.05	1817.52	548.67	13090.74	12.16	safe
89	KORBA	PALI	150482	99201	7372.91	502.52	133.53	1012.69	9021.65	466.91	8554.74	3532.00	72.11	568.44	4172.56	620.66	4329.96	48.77	safe
90	KORBA	KARTALA	77999	65223	7022.83	350.95	112.69	667.43	8153.90	436.80	7717.10	2143.78	20.00	396.84	2560.62	424.62	5128.70	33.18	safe
91	KOREA	BAIKUNTHPUR	56221	43547	5275.79	1554.41	31.24	1301.94	8163.38	535.22	7628.16	4151.75	151.89	521.11	4824.76	538.44	2786.07	63.25	safe
92	KOREA	SONHAT	35471	29100	3780.08	1580.58	3280.98	661.03	9302.67	602.22	8700.45	1416.06	0.00	134.55	1550.60	145.19	7139.21	17.82	safe
93	MAHASAMUND	BAGBAHARA	117600	96920	11360.53	1345.76	0.00	1754.77	14461.06	855.04	13606.02	6072.40	12.84	554.49	6639.73	602.72	6918.06	48.80	safe
94	MAHASAMUND	BASNA	64300	64300	5464.37	1838.53	0.00	3459.70	10762.60	1076.26	9686.34	7893.07	4.20	454.46	8351.74	475.16	1313.90	86.22	semi_critical
95	MAHASAMUND	MAHASAMUND	116700	116700	10620.43	3792.53	0.00	3025.64	17438.60	1241.24	16197.36	8118.80	63.55	747.08	8929.43	799.43	7215.58	55.13	safe
96	MAHASAMUND	PITHORA	97100	81200	9011.63	5248.95	0.00	4848.32	19108.90	1269.56	17839.34	10614.40	2.93	545.85	11163.18	577.67	6644.34	62.58	safe
97	MAHASAMUND	SARAIPALI	100600	100600	5998.79	1198.12	325.68	1146.45	8669.04	510.43	8158.61	3597.83	4.25	568.63	4170.69	622.97	3933.58	51.12	safe
98	MANENDRAGARH-CHIRMIRI_BHARATPU R	MANENDRAGARH	46383	31914	4313.26	265.70	22.81	568.77	5170.54	301.33	4869.21	1148.17	229.92	403.14	1781.24	419.48	3071.63	36.58	safe
99	MANENDRAGARH-CHIRMIRI_BHARATPU R	KHADGAWAN	229601	71739	10103.15	776.51	52.60	827.60	11759.86	635.70	11124.16	3110.64	194.80	438.67	3744.10	447.91	7370.82	33.66	safe
100	MANENDRAGARH-CHIRMIRI_BHARATPU R	BHARATPUR	230094	226187	33691.78	280.26	168.89	456.43	34597.36	3459.74	31137.62	1740.14	0.06	248.21	1988.42	268.77	29128.64	6.39	safe
101	MOHLA-MANPUR_AMBAGARH CHOWKI	MOHLA	70301	50408	3237.10	458.91	49.80	824.82	4570.63	457.06	4113.57	1461.42	11.24	223.30	1695.95	233.60	2407.32	41.23	safe
102	MOHLA-MANPUR_AMBAGARH CHOWKI	MANPUR	113950	57041	5805.56	407.74	59.92	660.34	6933.56	693.35	6240.21	1116.25	24.57	228.59	1369.42	239.55	4859.85	21.95	safe

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103	MOHLA-MANPUR_ AMBAGARH CHOWKI	AMBAGARH CHOWKI	54747	47433	3315.01	986.57	34.57	1330.82	5666.97	566.70	5100.27	2224.19	1.81	281.85	2507.85	294.67	2579.60	49.17	safe
104	MUNGELI	LORMI	162240	51146	3378.97	1011.50	0.00	1151.59	5542.06	456.70	5085.36	2034.00	0.36	407.88	2442.24	457.89	2593.11	48.02	safe
105	MUNGELI	PATHARIA	51464	51464	2119.86	2013.73	0.00	1723.48	5857.07	585.71	5271.36	2737.81	23.81	671.50	3433.12	879.46	1630.28	65.13	safe
106	MUNGELI	MUNGELI	61332	61332	3028.05	2336.46	0.00	2114.55	7479.06	747.90	6731.16	2881.04	3.92	788.71	3673.68	899.63	2946.56	54.58	safe
107	NARAYANPUR	ORCHHA	497551	248611	19449.95	6.69	547.29	17.44	20021.37	2002.13	18019.24	77.50	0.00	94.17	171.67	100.35	17841.39	0.95	safe
108	NARAYANPUR	NARAYANPUR	193765	102432	5342.47	320.98	225.50	492.19	6381.14	638.12	5743.02	552.70	12.74	292.51	857.94	311.67	4865.92	14.94	safe
109	RAIGARH	TAMNAR	46900	23800	3541.05	333.15	31.70	390.99	4296.89	429.69	3867.20	655.00	1854.63	263.84	2773.48	281.06	1076.50	71.72	semi_critical
110	RAIGARH	RAIGARH	94272	78841	6292.04	450.78	83.20	477.40	7303.42	730.35	6573.07	1658.36	134.98	933.45	2726.78	1009.45	3770.29	41.48	safe
111	RAIGARH	PUSAUR	51030	51030	3188.67	531.07	28.60	834.34	4582.68	458.27	4124.41	3103.87	37.77	392.09	3533.74	424.02	558.74	85.68	semi_critical
112	RAIGARH	LAILUNGA	91035	75115	7403.39	250.77	69.30	354.70	8078.16	432.57	7645.59	613.38	3.18	341.24	957.78	357.90	6671.15	12.53	safe
113	RAIGARH	KHARSIYA	40079	31449	2482.78	287.23	28.39	443.42	3241.82	197.86	3043.96	1158.35	95.96	403.95	1658.26	426.13	1363.52	54.48	safe
114	RAIGARH	DHARAMJAIGARH	153769	95749	11399.60	373.11	121.81	580.40	12474.92	1247.49	11227.43	1879.29	4.43	543.88	2427.60	571.35	8772.36	21.62	safe
115	RAIGARH	GHARGHODA	43304	29935	3215.92	204.49	42.70	353.10	3816.21	381.63	3434.58	1018.42	1025.59	218.13	2262.15	232.37	1158.19	65.86	safe
116	RAIPUR	ABHANPUR	60398	60398	2990.74	6307.12	0.00	2880.39	12178.25	1217.83	10960.42	3906.29	89.99	784.11	4780.38	903.99	6060.17	43.61	safe
117	RAIPUR	ARANG	90039	90039	4619.32	5211.80	0.00	3407.72	13238.84	1323.90	11914.94	6554.65	467.19	947.20	7969.04	1055.17	3837.93	66.88	safe
118	RAIPUR	DHARSIWA	65231	65231	5927.58	1900.96	0.00	1748.66	9577.20	957.72	8619.48	3896.74	573.84	3637.99	8108.58	4159.65	152.99	94.07	critical
119	RAIPUR	TILDA	73530	73530	5403.70	5415.80	42.18	3922.44	14784.12	1193.13	13590.99	5646.44	596.44	656.17	6899.07	696.50	6651.59	50.76	safe
120	RAJNANDGAON	DONGARGAON	41249	40736	2915.77	1674.22	30.94	2275.85	6896.78	689.68	6207.10	5009.51	44.63	378.93	5433.07	407.98	744.98	87.53	semi_critical
121	RAJNANDGAON	CHHURIYA	80214	74787	5260.75	3093.52	78.38	2954.59	11387.24	1138.73	10248.51	3650.05	6.66	495.03	4151.77	532.99	6058.78	40.51	safe
122	RAJNANDGAON	DONGARGARH	76732	69964	5279.05	1895.58	65.30	3907.06	11146.99	715.38	10431.61	8157.66	7.07	579.32	8744.05	618.04	1648.84	83.82	semi_critical
123	RAJNANDGAON	RAJNANDGAON	74265	74245	5896.66	1156.06	61.93	2090.29	9204.94	920.50	8284.44	4374.00	135.09	1675.72	6184.82	2521.62	1253.72	74.66	semi_critical
124	SAKTI	SAKTI	65230	34231	2002.19	1303.18	22.11	1785.77	5113.25	511.33	4601.92	1599.97	0.10	512.72	2112.80	557.62	2444.22	45.91	safe
125	SAKTI	DABHARA	42064	42064	2381.81	1962.65	27.73	3133.04	7505.23	612.48	6892.75	3582.90	0.76	456.49	4040.16	488.76	2820.32	58.61	safe
126	SAKTI	JAIJAI PUR	44026	44026	2581.37	4906.17	28.89	5908.79	13425.22	1342.52	12082.70	3667.12	4.09	495.31	4166.52	554.73	7856.76	34.48	safe
127	SAKTI	MALKHARODA	34068	34068	2063.80	2333.03	22.96	3243.64	7663.43	766.34	6897.09	2918.56	0.30	437.29	3356.16	485.36	3492.86	48.66	safe
128	SARANGARH-BILAIRAGH	BILAIGARH	92692	92692	5940.81	5196.16	54.08	623.43	11814.48	1181.45	10633.03	806.19	6.54	724.56	1537.29	838.37	8981.93	14.46	safe
129	SARANGARH-BILAIRAGH	BARAMKELA	78134	60034	4493.49	872.80	49.72	2135.79	7551.80	431.42	7120.38	4632.77	5.79	482.64	5121.19	556.42	1925.41	71.92	semi_critical
130	SARANGARH-BILAIRAGH	SARANGARH	85112	74912	4331.36	942.14	257.35	535.74	6066.59	373.85	5692.73	1208.66	12.76	602.77	1824.19	633.21	3838.10	32.04	safe
131	SUKMA	CHHINDGARH	84871	79921	7966.27	163.67	0.00	308.31	8438.25	428.54	8009.71	555.29	0.08	203.79	759.15	212.94	7241.41	9.48	safe
132	SUKMA	KONTA	382059	350479	28530.11	323.95	0.00	338.74	29192.80	2919.28	26273.52	160.10	0.11	235.59	395.79	236.52	25876.80	1.51	safe
133	SUKMA	SUKMA	96649	90799	7379.01	147.60	0.00	277.20	7803.81	780.38	7023.43	367.48	0.66	177.17	545.31	187.14	6468.15	7.76	safe
134	SURAJPUR	PREMNAGAR	29198	27892	2379.07	333.46	0.00	754.25	3466.78	346.68	3120.10	1165.93	0.19	181.96	1348.08	196.27	1757.71	43.21	safe
135	SURAJPUR	ODGI	47104	37389	3400.08	322.44	0.00	723.10	4445.62	444.56	4001.06	1536.39	0.37	246.11	1782.88	267.05	2197.24	44.56	safe
136	SURAJPUR	BHAIYATHAN	43360	42608	5178.86	707.73	0.00	1880.60	7767.19	438.95	7328.24	4201.07	205.21	350.38	4756.67	369.94	2552.01	64.91	safe
137	SURAJPUR	PRATAPPUR	60461	60013	6061.49	370.39	0.00	1957.32	8389.20	838.92	7550.28	4524.60	258.93	421.49	5205.02	456.08	2310.67	68.94	safe
138	SURAJPUR	RAMANUJNAGAR	41063	39412	4262.80	481.03	217.28	1553.89	6515.00	651.50	5863.50	3558.97	2.40	328.21	3889.59	349.25	1952.87	66.34	safe
139	SURAJPUR	SURAJPUR	57534	56474	6606.07	584.68	0.00	3013.17	10203.92	510.20	9693.72	7008.92	314.01	626.21	7949.13	659.46	1711.33	82.00	semi_critical

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140	SURGUJA	UDAIPUR	141730	125630	10218.98	231.71	423.10	429.04	11302.83	580.82	10722.01	1771.50	875.76	212.50	2859.76	226.37	7848.38	26.67	safe
141	SURGUJA	SITAPUR	50099	48167	3810.58	314.75	22.16	389.10	4536.59	453.67	4082.92	1618.50	1.05	248.21	1867.76	258.76	2204.61	45.75	safe
142	SURGUJA	MAINPAT	67179	35076	2575.97	55.80	10.16	91.03	2732.96	273.30	2459.66	267.44	9.27	200.86	477.57	211.78	1971.17	19.42	safe
143	SURGUJA	AMBIKAPUR	67632	57665	4494.08	685.27	194.21	1462.62	6836.18	683.62	6152.56	2732.21	20.10	809.35	3561.67	862.94	2537.30	57.89	safe
144	SURGUJA	BATAULI	40173	32460	2514.69	155.39	0.00	785.49	3455.57	345.56	3110.01	1835.00	0.12	184.11	2019.23	194.06	1080.83	64.93	safe
145	SURGUJA	LAKHANPUR	78008	64699	5912.72	223.34	236.16	978.54	7350.76	735.08	6615.68	2786.99	74.35	322.03	3183.38	342.55	3411.78	48.12	safe
146	SURGUJA	LUNDRA	74294	61745	4824.54	256.95	0.00	474.34	5555.83	555.57	5000.26	1946.50	5.44	319.85	2271.79	339.55	2708.77	45.43	safe

CONTRIBUTORS

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Ministry of Jal Shakti
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Ganga Rejuvenation, Govt. of India**

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“ मायो मौष घीहि ऊं सीर्घाम्नोः घाम्नो राजस्तो वरुण नो मुंच । ”

(अर्थात् हे राजन, आप अपने राज्य के स्थानों में जल और वनस्पतियों को हानि न पहुँचाओ, ऐसा उद्यम करो जिससे हम सभी को जल एवं वनस्पतियाँ सत् रूप से प्राप्त होती रहे ।)

– यजुर्वेद 6/22



क्षेत्रीय निदेशक

केंद्रीय भूमि जल बोर्ड, उत्तर मध्य छत्तीसगढ़ क्षेत्र,
द्वितीय तल, एल. के. कॉर्पोरेट टावर्स,
धमतरी रोड, डूमरतराई, रायपुर (छत्तीसगढ़)- 492015
मेल: rdnc-cr-cgwb@nic.in

“बिजनेस पोस्ट के अन्तर्गत डाक शुल्क के नगद भुगतान (बिना डाक टिकट) के प्रेषण हेतु अनुमत. क्रमांक जी.2-22-छत्तीसगढ़ गजट / 38 सि. से. भिलाई. दिनांक 30-05-2001.”



पंजीयन क्रमांक
“छत्तीसगढ़/दुर्ग/09/2013-2015.”

छत्तीसगढ़ राजपत्र

(असाधारण)
प्राधिकार से प्रकाशित

क्रमांक 643]

रायपुर, सोमवार, दिनांक 7 नवम्बर 2022 — कार्तिक 16, शक 1944

विधि और विधायी कार्य विभाग
मंत्रालय, महानदी भवन, नवा रायपुर अटल नगर

अटल नगर, दिनांक 7 नवम्बर 2022

क्र. 11965/डी. 109/21-अ/प्रारू./छ.ग./22. — छत्तीसगढ़ विधान सभा में पारित निम्नलिखित अधिनियम, जिस पर दिनांक 29-09-2022 को राज्यपाल की अनुमति प्राप्त हो चुकी है, एतद्वारा सर्वसाधारण की जानकारी के लिए प्रकाशित किया जाता है।

छत्तीसगढ़ के राज्यपाल के नाम से तथा आदेशानुसार,
मोहन प्रसाद गुप्ता, अतिरिक्त सचिव.

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छत्तीसगढ़ अधिनियम

(क्रमांक 18 सन् 2022)

छत्तीसगढ़ भू-जल (प्रबंधन और विनियमन) अधिनियम, 2022.

- धाराएं
- विवरण
- अध्याय—एक
प्रारंभिक
1. संक्षिप्त नाम, विस्तार, प्रारंभ एवं लागू होना.
 2. परिभाषाएं.
- अध्याय—दो
संस्थागत ढांचा
3. राज्य भू-जल प्रबंधन और नियामक प्राधिकरण.
 4. जिला भू-जल प्रबंधन परिषद्.
 5. विकासखंड स्तरीय भू-जल उपयोगकर्ता पंजीकरण समिति
- अध्याय—तीन
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6. भू-जल विंग के कर्तव्य.
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शक्तियां और कृत्य.
7. शक्तियों और कर्तव्यों का प्रत्यायोजन
 8. भू-जल संसाधनों के प्रबंधन और विनियमन के लिये क्षेत्रों को अधिसूचित करने की शक्तियां.
 9. अधिसूचित और गैर अधिसूचित क्षेत्रों में विद्यमान वाणिज्यिक, औद्योगिक, अवसंरचनात्मक और थोक भू-जल उपयोगकर्ताओं का रजिस्ट्रीकरण.
 10. अधिसूचित क्षेत्रों में नवीन कूप निर्माण पर प्रतिबंध.

11. अधिसूचित क्षेत्रों में भूगर्भ जल सुरक्षा योजनाओं का तैयार किया जाना और उनका क्रियान्वयन.
12. गैर अधिसूचित क्षेत्रों में भू-जल निकालने के प्राधिकार को स्वीकृत किया जाना.
13. वाणिज्यिक, औद्योगिक, अवसंरचनात्मक, खनन, थोक भू-जल उपयोगकर्ताओं हेतु भू-जल निकालने की सीमा नियत किया जाता तथा आदेशों या निर्देशों इत्यादि की तामिली.
14. भू-जल निकासी/निष्कर्षण पर शुल्क.
15. प्राधिकरण के कर्मचारी लोक सेवक होंगे.
16. सम्भावनापूर्वक की गई कार्यवाही का संरक्षण.
17. समाघात निर्धारण

अध्याय—पांच
उल्लंघन, अपराध एवं शस्तियां

18. वेधन अभिकरणों का रजिस्ट्रीकरण
19. विधि विरुद्ध खनन, भू-जल निकासी, आपूर्ति, विक्रय, उपयोग आदि के लिये अपराध एवं शास्ति.
20. अपराधों का संज्ञान.
21. अपराधों का प्रशमन.
22. कंपनियों द्वारा अपराध.
23. भू-जल शिकायत निवारण अधिकारी.

अध्याय—छः

प्रकीर्ण

24. समुचित निकाय को सूचना मांगने की शक्ति.
25. स्वतः विनियमन.

26. पूर्व विद्यमान अधिकार.
27. भू-जल संवर्धन कोष.
28. राज्य सरकार को नियम बनाने की शक्ति.
29. राज्य सरकार को छूट प्रदान करने की शक्ति.
30. अधिनियम का अन्य नियमों पर प्रभाव.

छत्तीसगढ़ अधिनियम (क्रमांक 18 सन् 2022)

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छत्तीसगढ़ भू-जल (प्रबंधन और विनियमन) अधिनियम, 2022.

राज्य के विशेष रूप से संकटग्रस्त ग्रामीण तथा नगरीय क्षेत्रों में, परिणात्मक एवं गुणात्मक दोनों रूप में, भू-जल का अविरत प्रबंधन सुनिश्चित करने हेतु भू-जल की सुरक्षा, संरक्षा, नियंत्रण तथा विनियमन और उससे सम्बन्धित या आनुषंगिक विषयों का उपबन्ध करने हेतु अधिनियम।

यतः, भू-जल के अनियंत्रित और तीव्र निष्कर्षण के फलस्वरूप भू-जल के स्तरों में आई गिरावट से भयप्रद स्थिति उत्पन्न हो गयी है और राज्य के अनेक भागों के ग्रामीण एवं नगरीय दोनों क्षेत्रों में, भू-जल के स्रोतों में कमी आ गयी है;

और यतः, भू-जल, घरेलू, कृषि और औद्योगिक उपयोगों हेतु एकल सर्वाधिक महत्वपूर्ण जल स्रोत होने के कारण ग्रामीण एवं नगरीय क्षेत्रों में पेय जल, खाद्य तथा जीविका सुरक्षा का मेरुदण्ड है;

और यतः, अतिशय भू-जल निष्कर्षण और भू-जल संदूषण के कारण गम्भीर भू-जल संकट विद्यमान है;

और यतः, भू-जल का विकास राज्य की आवश्यकता है, इसलिए विशेष रूप से अतिदोहित तथा संकटग्रस्त क्षेत्रों में इसका प्रबंधन, नियंत्रण और विनियमन किया जाना भी इस बहुमूल्य संसाधन की सुरक्षा एवं संरक्षण हेतु समय की माँग है;

और यतः, संकटग्रस्त क्षेत्रों में भू-जल की समुचित वृद्धि/पुनर्भरण के प्रयोजनार्थ भूगर्भ जल संसाधनों के संरक्षण, सुरक्षा तथा विकास के लिए, और राज्य में भूगर्भ जल की पूर्णकालिक गुणवत्ता को अनुरक्षित या पुनर्स्थापित करते हुए भू-जल प्रदूषण निवारण के लिए उपबन्ध करना भी समीचीन है;

और यतः, भू-जल के साम्यपूर्ण तथा पर्यावरणीय रूप से ठोस भू-जल विनियमन से वर्तमान समय की जलवायु परिवर्तन सहित कतिपय सर्वाधिक महत्वपूर्ण चुनौतियों का सामना करने में सहायता प्राप्त हो सकेगी;

और यतः, जल एकिक प्रकृति का होता है, जिसके लिए भू-पृष्ठ जल तथा भू-गर्भ जल का एकीकृत रूप में होना अपेक्षित है, जो भूमि और वनस्पति से अभिन्न रूप में संयोजित होता है और उसका वर्षा जल (प्राकृतिक पुनर्भरण के माध्यम से) से जटिल रूप में जुड़ाव होता है;

और यतः, भू-जल लोगों की सार्वजनिक विरासत है, यह अपने सभी रूपों में जीवन को बनाये रखने के लिये आवश्यक है, यह परिस्थितिक तन्त्र का एक अभिन्न अंग है;

और यतः, भू-जल अपनी प्राकृतिक अवस्था में सामान्य रूप से एक सामूहिक संसाधन है और भारत के उच्चतम न्यायालय ने भू-गर्भ जल लोक न्यास सिद्धांत को इस मान्यता के साथ लागू किया है कि भू-जल में निजी संपत्ति अधिकार भू-जल की उभरती स्थिति, संघर्ष एवं परिवर्तनशील को देखते हुये अनुपयुक्त है;

और यतः, राज्य सरकार ने समस्त सम्बन्धित पहलुओं पर सावधानीपूर्वक परीक्षण करने के पश्चात् यह विनिश्चय किया है कि भू-जल का किसी भी रूप में न्यायसंगत निष्कर्षण और उपयोग का प्रबंधन तथा विनियमन करना और राज्य के संकटग्रस्त क्षेत्रों में भू-जल का संरक्षण तथा उसकी सुरक्षा करना भी लोकहित में समीचीन तथा आवश्यक है और उसे नियोजन तथा प्रबंधन में सर्वोच्च प्राथमिकता प्रदान की जायेगी;

और यतः, भू-जल संसाधनों की गुणात्मक एवं परिमाणात्मक अविश्तता और भू-जल उपयोग में साम्या को सुनिश्चित करने के लिए एक नया विधिक ढांचा (सन्नियमों, सिद्धान्तों, प्रक्रियाओं और समकालीन तथा आसन्न चुनौतियों को इंगित करने वाली उपयुक्त संस्थाओं सहित) अपेक्षित है;

और यतः, राज्य सरकार ने समस्त संबंधित पहलुओं पर सावधानी पूर्वक परीक्षण करने के पश्चात् यह विनिश्चय किया है कि लोकहित में भू-जल उपयोग का प्रथम अधिकार पीने के लिए, घरेलू तथा पशु उपयोग हेतु होगा।

भारत गणराज्य के तिहत्तरवें वर्ष में छत्तीसगढ़ विधानमंडल द्वारा निम्नलिखित रूप में यह अधिनियमित हो:-

अध्याय-एक

प्रारंभिक

1. (1) यह अधिनियम छत्तीसगढ़ भूजल (प्रबंधन एवं विनियमन) अधिनियम, 2022 कहलायेगा। संक्षिप्त नाम,
विस्तार, प्रारंभ
एवं लागू होना.
- (2) इसका विस्तार सम्पूर्ण छत्तीसगढ़ राज्य में होगा।
- (3) यह ऐसी तारीख से प्रवृत्त होगा, जैसा कि राज्य सरकार राजपत्र में अधिसूचना द्वारा नियत करे तथा विभिन्न प्रावधानों के लिये विभिन्न तारीखें नियत की जा सकेंगी।
- (4) इस अधिनियम के अधीन निर्मित किये गये दण्डात्मक प्रावधान, भू-जल के घरेलू तथा कृषि उपयोगकर्ताओं पर लागू नहीं होंगे।
2. (1) इस अधिनियम में, जब तक कि संदर्भ से अन्यथा अपेक्षित न हो,- परिभाषाएं.
- (क) "समुचित निकाय" से अभिप्रेत है प्रासंगिक संदर्भ में जहां कहीं भी यह उल्लिखित है, राज्य भू-जल प्रबंधन और नियामक प्राधिकरण, जिला भू-जल प्रबंधन परिषद और विकासखंड स्तरीय भू-जल उपयोगकर्ता पंजीकरण समिति;

- (ख) "जलभृत" से अभिप्रेत है खण्डित चट्टानों, रेत, बजरी तथा तद्समान तलछटों से समाविष्ट भौगोलिक संरचना, संरचना समूह या आंशिक संरचना समूह की भूमिगत सतह, जो पर्याप्त सरंध, पारगम्य और जल से संतृप्त है और जो किसी कूप या जल स्रोत को पर्याप्त मात्रा में जल प्रेषित करता है/प्रतिगृहीत करता है/प्रदान करता है;
- (ग) "भूजल समिति" से अभिप्रेत है छत्तीसगढ़ के प्रत्येक जिले में भूगर्भ जल जागरूकता कार्यक्रम क्रियान्वित करने हेतु गठित व्यक्ति समूह;
- (घ) "सामूहिक उपयोगकर्ता" से अभिप्रेत है किसी अधिष्ठान यथा होटलों/लॉज/हॉस्टल/ निजी आवासीय भवनों/आवासीय कालोनियों/ रिजार्टों/निजी चिकित्सालयों/परिचर्या गृहों/ कारबार प्रक्षेत्रों/मॉल्स/वाटर पार्क सहित कोई व्यक्ति या कोई व्यक्ति समूह, जो अपनी क्रियात्मक जल आवश्यकताओं के प्रयोजनार्थ भू-जल का निष्कर्षण और उपयोग करते हैं;
- (ङ) "केन्द्रीय भू-जल बोर्ड" से अभिप्रेत है केन्द्रीय भू-जल बोर्ड, भारत शासन;
- (च) "वाणिज्यिक उपयोगकर्ता" से अभिप्रेत है ऐसी कोई संस्था या कोई अभिकरण या कोई अधिष्ठान, जो उक्त प्रयोजनार्थ भू-जल का निष्कर्षण और उपयोग करता है, सहित ऐसे किसी व्यक्ति

या व्यक्ति समूह, जो वित्तीय उपलब्धि या लाभ हेतु अपने कारोबार या व्यापार के लिए प्रत्यक्ष या परोक्ष रूप से लाभ प्राप्त करता है;

(ज) "जिला भू-जल प्रबंधन परिषद्" से अभिप्रेत है धारा 4 के अधीन गठित जिला भू-जल प्रबंधन परिषद्;

(झ) "वेधन अभिकरण" से अभिप्रेत ऐसे व्यक्ति या व्यक्तियों के वर्ग या किसी संस्था से है, जो किसी प्रयोजन यथा घरेलू/पीने हेतु/वाणिज्यिक/औद्योगिक/सामूहिक/अवसंरचनात्मक उपयोग के लिए भूगर्भ जल का निष्कर्षण और उपयोग करने हेतु कूपों/नलकूपों का वेधन करने के व्यवसाय के भाग के रूप में संलग्न हैं;

(ञ) "पर्यावरणीय प्रवाह" से अभिप्रेत है लोगों को वस्तुएं और सेवाएं प्रदान करने वाले जलीय पारिस्थितिकीय तंत्रों के संघटकों, कृत्यों, प्रक्रियाओं तथा नम्यता को अनुरक्षित करने के लिए अपेक्षित जल प्रवाहों की गुणवत्ता, परिमाण तथा समय निर्धारण को निर्दिष्ट करने वाले प्रवाह;

(ट) "भू-जल विभाग" से अभिप्रेत है छत्तीसगढ़ शासन के अधीन जल संसाधन विभाग जो भू-जल से संबंधित गतिविधियों के लिये भी कार्यरत है;

(ठ) "भू-जल गुणवत्ता संवेदनशील परिक्षेत्र" से अभिप्रेत इस प्रकार के किसी क्षेत्र से है, जहाँ भू-जल गुणवत्ता, भूजनित या मानव जनित कारणों के

फलस्वरूप रासायनिक तत्वों, भौतिक-रासायनिक संघटकों, भारी धातुओं और जीवाण्विक संदूषण के उच्च स्तरीय/अतिशय संकेन्द्रण से प्रभावित है;

(ड) "भू-जल संसाधन प्राक्कलन रिपोर्ट" से अभिप्रेत है खण्डों का अतिदोहित, संकटग्रस्त, अर्द्ध संकटग्रस्त और सुरक्षित श्रेणियों में श्रेणीकरण सहित भू-जल संसाधन खण्डवार निर्धारण के लिए भू-जल विभाग (जल संसाधन विभाग), छत्तीसगढ़ और केन्द्रीय भू-जल बोर्ड द्वारा तैयार की गयी भूगर्भ जल प्राक्कलन समिति की पद्धति तंत्र पर आधारित नवीनतम अनुमोदित रिपोर्ट;

(ढ) "भूगर्भ जल सुरक्षा योजना" से अभिप्रेत है उपलब्ध जल भूगर्भीय सूचनाओं पर क्रमिक रूप से आधारित कोई योजना और उसमें ऐसे उपाय/मध्यक्षेप सम्मिलित हैं, जो विनिर्दिष्ट क्षेत्र के रूप में तथा जल भूगर्भीय रूप में संभाव्य है;

(ण) "भू जल" से अभिप्रेत ऐसे जल से है, जो किसी संतृप्त परिक्षेत्र में जलभृत या भूमि की सतह के नीचे पाया जाता है और जिसे कूपों या किन्हीं अन्य साधनों से निकाला जा सकता है अथवा धाराओं और नदियों में झरनों तथा मुख्य प्रवाहों के रूप में निकलता है;

(त) "उद्योग" से अभिप्रेत है किसी ऐसे कारबार, व्यापार, उपक्रम, विनिर्माण या नियोजकों की आजीविका, जो

किसी अभिलाष या लाभ हेतु चलाया जाता हो और उसके अन्तर्गत कोई आजीविका सम्बन्धी सेवा नियोजन, हस्तशिल्प या औद्योगिक व्यवसाय या श्रमिक का उप व्यवसाय या माल के उत्पादन के लिये किसी नियोजक और उसके श्रमिक (चाहे ऐसा श्रमिक उक्त नियोजक द्वारा सीधे नियोजित किया गया हो या किसी अभिकरण, जिसके अन्तर्गत ठेकेदार भी हैं, के द्वारा अथवा उसके माध्यम से) के मध्य सहयोग द्वारा चलाया जाने वाला क्रमबद्ध क्रियाकलाप भी सम्मिलित है;

(थ) "अवसंरचनात्मक उपयोगकर्ता" से अभिप्रेत ऐसी कोई फर्म या कंपनी सहित व्यक्ति या व्यक्तियों के समूह से है, जो अवसंरचनात्मक विकास से सीधे संबंधित क्रियाकलापों/ परियोजनाओं को क्रियान्वित करने के प्रयोजनार्थ भू-जल का निष्कर्षण और उपयोग करता है;

(द) "जिला पंचायत" से अभिप्रेत है छत्तीसगढ़ राज्य के जिले के जिला पंचायत;

(ध) "अधिसूचित क्षेत्र" से अभिप्रेत है धारा 6 के अधीन अधिसूचित क्षेत्र, जिसमें अति-दोहित, जटिल खंड और संकटग्रस्त नगरीय क्षेत्र सम्मिलित है;

(न) "प्रदूषण" से अभिप्रेत है भू-जल या भू-पृष्ठ जल या ऐसे संदूषण या जल के भौतिक, रासायनिक या जैविक गुणों में परिवर्तन या किसी मल, प्लास्टिक,

थर्मोकोल या व्यापारिक वहिःस्त्राव या गैसीय या ठोस पदार्थ युक्त किसी अन्य तरल पदार्थ का भू-जल में (प्रत्यक्ष या परोक्ष रूप में) निस्सारण, जिससे उपताप हो सकता है या उपताप उत्पन्न होना सम्भावित हो या ऐसे भू-जल, जो लोक स्वास्थ्य या सुरक्षा हेतु या घरेलू, वाणिज्यिक, औद्योगिक, कृषिगत या अन्य विधिसम्मत उपयोगों के लिए या पशुओं या पौधों या जलीय जीवों के जीवन एवं स्वास्थ्य के लिए हानिकारक या क्षतिकारक हो सकता है;

- (प) "वर्षा जल संचयन" से अभिप्रेत है भू-जल भण्डारण या उसके पुनर्भरण हेतु छत के ऊपर संचयता सहित सूक्ष्म जल विभाजक पैमाने पर वर्षा जल संग्रहण और भण्डारण तकनीक या प्रणाली;
- (फ) "ग्रामीण क्षेत्रों" से अभिप्रेत उन क्षेत्रों से है, जो नगरीय क्षेत्रों के रूप में वर्गीकृत नहीं हैं;
- (ब) "राज्य भू-जल प्रबंधन और नियामक प्राधिकरण" से अभिप्रेत है धारा 3 के अधीन गठित छत्तीसगढ़ राज्य भू-जल प्रबंधन और नियामक प्राधिकरण;
- (भ) "नगरीय क्षेत्रों" से अभिप्रेत ऐसे क्षेत्रों से है, जो यथास्थिति, किसी सक्षम प्राधिकरण या किसी नगर पालिका या किसी नियामक निकाय द्वारा अधिसूचित किये जायें, जिनमें ऐसे क्षेत्र/भूमि सम्मिलित नहीं है, जो किसी विकास प्राधिकरण या किसी नगर

पालिका या किसी विनियमित क्षेत्र की मुख्य योजना में कृषि उपयोग हेतु वर्गीकृत किये गये हों;

(म) "भू-जल" उपयोगकर्ता" से अभिप्रेत किसी ऐसे व्यक्ति या व्यक्तियों के वर्ग या संस्था से है, जो व्यक्तिगत या सामुदायिक आधार पर किये जाने वाले घरेलू उपयोग सहित किसी प्रयोजन के लिए भू-जल का स्वामित्व रखते हैं, उसका प्रयोग करते हैं या विक्रय करता है/करते हैं और उसमें/उनमें कोई सरकारी या गैर सरकारी उद्योग, वाणिज्यिक उपयोक्ता/उपयोगकर्ता सामूहिक उपयोक्ता/उपयोगकर्ता कंपनी का कोई प्रतिष्ठान सम्मिलित है, किन्तु उसमें/उनमें ऐसा कोई व्यक्ति या व्यक्तियों का वर्ग या संस्था सम्मिलित नहीं है, जो हस्तचालित या पशुचालित युक्तियों यथा हैण्डपम्प, रस्सी तथा बाल्टी और रहट आदि द्वारा कूप से निकाले गये भूगर्भ जल का प्रयोग करता है/करते हैं;

(य) "जल और स्वच्छता समिति" से अभिप्रेत है जल और स्वच्छता योजनाओं के नियोजन, अनुश्रवण, क्रियान्वयन और अनुरक्षण हेतु प्रत्येक ग्राम पंचायत/नगर पंचायत/पालिका/निगम में गठित कोई समिति;

(र) "जल उपभोक्ता संस्था" से अभिप्रेत है तालाबों/नलकूप या नलकूपों के समूह के अनुरक्षण

और संरक्षण के लिए तालाब/नलकूप स्तर या नलकूपों के समूह स्तर पर गठित कोई व्यक्ति-समूह;

(कक) "कूप" से अभिप्रेत हैं भू-जल के खोज या निष्कर्षण या पुनर्भरण के लिए निर्मित किसी संरचना और उसके अन्तर्गत खुला कूप, डगबेल, बोरबेल, डग कम बोरबेल, नलकूप, अन्तः स्पन्दन गैलरी पुनर्भरण कूप अथवा उनमें से किसी का संयोजन या रूपान्तरण भी है, जिसका उपयोग भू-जल निष्कर्षण तथा भू-जल पुनर्भरण के लिए किया जा सकता है।

(2) शब्द और अभिव्यक्तियाँ, जो इस अधिनियम में प्रयुक्त हैं, किन्तु परिभाषित नहीं है, के वही अर्थ होंगे, जो इस संबंध में प्रवृत्त किसी अन्य विधि में उनके लिये, यथास्थिति, समनुदेशित हैं।

अध्याय-दो

संस्थागत ढांचा

3. (1) राज्य सरकार, राजपत्र में अधिसूचना द्वारा, अधिसूचना में विनिर्दिष्ट दिनांक से छत्तीसगढ़ राज्य भू-जल प्रबंधन तथा नियामक प्राधिकरण, जिला भू-जल प्रबंधन परिषद् एवं विकास खण्ड स्तरीय भू-जल उपयोगकर्ता पंजीकरण समिति का गठन करेगी।

(2) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण में निम्नलिखित सम्मिलित होंगे—

(1) मुख्य सचिव,

अध्यक्ष

राज्य भू-जल
प्रबंधन और
नियामक
प्राधिकरण, जिला
भू-जल प्रबंधन
परिषद् एवं
विकास खण्ड
स्तरीय भू-जल
उपयोगकर्ता

- (2) भारसाधक सचिव, जल संसाधन विभाग सदस्य पंजीकरण समिति.
- (3) भारसाधक सचिव, वित्त विभाग सदस्य
- (4) भारसाधक सचिव, लोक स्वास्थ्य यांत्रिकी विभाग सदस्य
- (5) भारसाधक सचिव, कृषि विभाग सदस्य
- (6) भारसाधक सचिव, उद्योग विभाग सदस्य
- (7) भारसाधक सचिव, खनिज संसाधन विभाग सदस्य
- (8) भारसाधक सचिव, नगरीय प्रशासन एवं विकास सदस्य
- (9) प्रमुख अभियन्ता, जल संसाधन विभाग सदस्य-
सचिव
- (10) प्रमुख अभियन्ता, लोक स्वास्थ्य अभियांत्रिकी विभाग सदस्य
- (11) सदस्य सचिव, राज्य पर्यावरण संरक्षण मंडल सदस्य
- (12) क्षेत्रीय निदेशक, केन्द्रीय भू-जल बोर्ड (एनसीसीआर) रायपुर सदस्य
सचिव
- (13) प्रधान मुख्य वन संरक्षक सदस्य
- (14) छत्तीसगढ़ राज्य में भू-जल प्रबंधन का दीर्घकालिक कार्य करने का अनुभव रखने वाले तीन विषय विशेषज्ञ (राज्य सरकार द्वारा नाम निर्दिष्ट किये जायेंगे) सदस्य
- (15) भू-जल के क्षेत्र में कार्य करने वाला सदस्य सार्वजनिक/गैर सरकारी संगठन/

सामाजिक क्षेत्र का एक प्रख्यात व्यक्ति
(राज्य सरकार द्वारा नाम निर्दिष्ट किये
जायेंगे)

- (3) विषय विशेषज्ञ और सार्वजनिक/गैर सरकारी संगठन/सामाजिक क्षेत्र के प्रख्यात व्यक्ति की पदावधि और रिक्तियों को भरने की रीति तथा सेवा की अन्य शर्तें ऐसी होंगी, जैसा कि विहित किया जाये।
- (4) प्रमुख अभियन्ता, जल संसाधन विभाग, छत्तीसगढ़ राज्य भू-जल प्रबंधन और नियामक प्राधिकरण की ओर से नोडल कार्यपालिक अधिकारी होगा।
- (5) प्रमुख अभियन्ता, जल संसाधन विभाग, छत्तीसगढ़, कार्यालय, शिवनाथ भवन, नवा रायपुर, राज्य भू-जल प्रबंधन और नियामक प्राधिकरण के सचिवालय के रूप में कार्य करेगा।
- (6) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण के कृत्य निम्नलिखित होंगे,—
 - (क) धारा 8 के अधीन यथा उपबंधित भू-जल संसाधनों के प्रबंधन और विनियमन हेतु क्षेत्रों को अधिसूचित करना;
 - (ख) धारा 10 के अधीन यथा उपबंधित भू-जल संसाधनों के प्रबंधन और विनियमन हेतु क्षेत्रों को गैर-अधिसूचित करना;
 - (ग) धारा 13 के अधीन यथा उपबंधित भू-जल निष्कर्षण

- की सीमाओं को नियत करना;
- (घ) गैर-अधिसूचित/अधिसूचित क्षेत्रों में औद्योगिक/वाणिज्यिक/खनन उद्देश्य हेतु भू-जल निष्कर्षण हेतु अनुमति देना;
- (ङ) भू-जल निष्कर्षण हेतु कर एकत्र करना; तथा
- (च) भू-जल उपयोग की निगरानी और प्रबंधन हेतु तकनीक विकसित करना एवं नवीनतम तकनीक अपनाना;
- (छ) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण के वर्ष में कम से कम दो बैठकें आयोजित की जायेंगी किन्तु आवश्यक होने पर अधिक बैठकों का आयोजन भी किया जा सकेगा ।
- (7) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण के कर्मचारीगण,—
- (क) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण को अपने कृत्यों का समुचित निष्पादन करने या इस अधिनियम के अधीन शक्तियों का प्रयोग करने योग्य बनाने के उद्देश्य से राज्य सरकार उतनी संख्या में प्राविधिक कार्मिकों तथा अन्य कर्मचारीगण की नियुक्ति कर सकती है, जैसा कि वह संस्थागत सहायता, सुविधाओं तथा बजट सहित आवश्यक समझे;
- (ख) ऐसे कर्मचारियों के कृत्य, सेवा के निबंधन एवं शर्तें ऐसी होंगी, जैसा कि विहित किया जाये;

(ग) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण राज्य सरकार के समग्र नियंत्रण और पर्यवेक्षण के अधीन कार्य करेगा;

(8) अन्य समुचित निकायों के लिए सहायता:- जिला परिषद् को निर्विघ्न और सम्यक् रूप से कार्य करने के लिए कर्मचारी वर्ग तथा कार्यालय के साथ ही साथ समस्त संस्थागत सहायता तथा कार्य सुविधाओं, बजट संबंधी अपेक्षाओं के लिए भी उपबंध किये जायेंगे।

जिला भू-जल
प्रबंधन परिषद्.

4. (1) जिला भू-जल प्रबंधन परिषद् का गठन किया जायेगा, जो जिला स्तर पर भू-जल संसाधनों के प्रबंधन के लिए एक समग्र इकाई होगी, जिसमें निम्नलिखित सदस्य होंगे-

(क) अध्यक्ष- कलेक्टर;

(ख) उपाध्यक्ष - मुख्य कार्यपालन अधिकारी, जिला पंचायत;

(ग) सदस्य सचिव- कार्यपालन अभियंता, जल संसाधन संभाग, जिला मुख्यालय;

(घ) भू-जल के क्षेत्र में दीर्घकालीन कार्य करने का अनुभव/ज्ञान रखने वाले विषय विशेषज्ञ के रूप में दो सदस्य, जो अध्यक्ष द्वारा नाम निर्दिष्ट किया जायेगा;

(ङ.) अन्य सदस्य, जिला स्तरीय प्रतिनिधि होंगे यथा संभागीय वन अधिकारी, वन सहायक भू-जलविद,

जिला भू-जल सर्वेक्षण इकाई, क्षेत्रीय अधिकारी, छत्तीसगढ़ पर्यावरण संरक्षण मंडल, उप संचालक, कृषि विभाग, आयुक्त/मुख्य नगरपालिका अधिकारी, जिला मुख्यालय (स्थानीय निकाय) के नगर निगम/नगरपालिका, महाप्रबंधक/उप निदेशक, जिला उद्योग केन्द्र, कार्यपालन अभियंता लोक स्वास्थ्य यांत्रिकी विभाग, (प्रत्येक में से एक)।

(2) भू-जल के नामित विषय विशेषज्ञ सदस्यों की सेवा की शर्तें एवं निबंधन ऐसी होंगी, जैसा कि विहित किया जाये।

(3) जिला भू-जल प्रबंधन परिषद के कृत्य निम्नलिखित होंगे,—

(क) सूक्ष्म जल विभाजक पद्धति पर आधारित और यथा विहित मार्गदर्शन के अनुसार जिला स्तरीय भू-जल सुरक्षा योजना का समेकन करना;

(ख) जिला भू-जल सुरक्षा योजना का क्रियान्वयन;

(ग) जिला भू-जल सुरक्षा योजना के क्रियान्वयन का अनुश्रवण करना;

(घ) जल जागरूकता कार्यक्रम संचालित करना;

(ङ) अधिसूचित और गैर-अधिसूचित क्षेत्रों में समस्त विद्यमान वाणिज्यिक, औद्योगिक, अवसरचरणात्मक तथा थोक उपयोगकर्ता को पंजीकृत करना;

(च) अधिसूचित/ गैर अधिसूचित क्षेत्रों में भू-जल निष्कर्षण हेतु अनुमति की अनुशंसा करना;

(छ) वेधन अभिकरणों/वेधन रीग मशीन को पंजीकृत करना;

(ज) ऐसे कृत्यों को क्रियान्वित करना, जैसा कि राज्य भू-जल प्रबंधन और नियामक प्राधिकरण द्वारा विहित किया जाये या समनुदेशित किया जाये;

(झ) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण के साथ समन्वय स्थापित करना;

(ञ) जिला भू-जल प्रबंधन परिषद् की बैठके आवश्यकतानुसार आयोजित की जायेंगी ।

विकासखंड
स्तरीय भू-जल
उपयोगकर्ता
पंजीकरण समिति.

5. (1) विकासखण्ड में भू-जल के घरेलू और कृषि के सभी वर्तमान/नवीन उपयोगकर्ताओं के पंजीकरण हेतु विकासखंड स्तरीय भू-जल उपयोगकर्ता पंजीकरण समिति का गठन किया जायेगा, जिसमें निम्नलिखित होंगे:-

(क) अध्यक्ष- मुख्य कार्यपालन अधिकारी, जनपद पंचायत संबंधित विकासखंड;

(ख) सदस्य सचिव-अनुविभागीय अधिकारी, जल संसाधन, उप संभाग संबंधित विकासखंड;

(ग) अन्य सदस्य कृषि, पंचायत एवं ग्रामीण विभाग, उद्योग, लोक स्वास्थ्य एवं यांत्रिकी विभाग तथा वन विभाग के (प्रत्येक में से एक) विकासखंड स्तरीय प्रतिनिधि होंगे;

(2) विकासखंड स्तरीय भू-जल उपयोगकर्ता पंजीकरण समिति के कृत्य निम्नलिखित होंगे :-

- (क) जल जागरूकता कार्यक्रम आयोजित करना,
- (ख) विकासखंड अंतर्गत अधिसूचित एवं गैर अधिसूचित क्षेत्रों के भू-जल के घरेलू और कृषि के वर्तमान और नवीन उपयोगकर्ताओं के पंजीकरण का कार्य पंचायत स्तर पर करेगी, जैसा कि विहित किया जाये;
- (ग) ऐसे कृत्यों को क्रियान्वित करना, जैसा कि प्राधिकरण द्वारा विहित किया जाय या समनुदेशित किया जाये;
- (घ) विकासखण्ड स्तरीय भू-जल उपयोगकर्ता पंजीकरण समिति की बैठके आवश्यकतानुसार आयोजित की जायेंगी ।

अध्याय-तीन

कर्तव्य और उत्तरदायित्व

6. (1) जल संसाधन विभाग, जिला भू-जल प्रबंधन परिषद् के साथ समन्वय स्थापित करने हेतु एक क्रियाविधि विकसित करेगा। भू-जल विंग के कर्तव्य.
- (2) जल संसाधन विभाग, भू-जल से संबंधित आंकड़ों के एकत्रीकरण, विश्लेषण एवं प्रतिवेदन का प्रकाशन का कार्य करेगा।
- (3) भू-जल के विनियमन के प्रयोजन के लिए क्षेत्रों का अभिनिर्धारण:- राज्य भू-जल प्रबंधन और नियामक प्राधिकरण के परामर्श से ऐसे क्षेत्रों, यथा जल संसाधन विभाग और केन्द्रीय भू जल बोर्ड द्वारा किये गये नवीनतम भू-जल संसाधन प्राक्कलन के अनुसार श्रेणीकृत अतिदोहित तथा संकटग्रस्त खण्डों और संकटग्रस्त नगर पालिका/नगरीय क्षेत्रों (जहाँ भू-जल स्तरों में महत्वपूर्ण ह्रास हुआ हो) भू-जल के समग्र प्रबंधन तथा विनियमन हेतु समुचित उपाय करने के लिए उक्त संकटग्रस्त नगर पालिका/नगरीय क्षेत्रों को अभिनिर्धारित तथा चिन्हांकित करेगा;
- (4) भू-जल सूचना/आंकड़े:-अतिदोहित/संकटमय खण्डों और संकटग्रस्त नगरीय क्षेत्रों से सम्बंधित समस्त उपलब्ध भू-जल सूचना/आंकड़े उपलब्ध कराये जायेंगे।

अध्याय-चार
शक्तियाँ और कृत्य

शक्तियों और
कर्तव्यों का
प्रत्यायोजन

- 7 (1) राज्य भूजल प्रबंधन एवं नियामक प्राधिकरण, लिखित रूप में सामान्य या विशेष आदेश द्वारा, ऐसे व्यक्ति, जैसा कि वह आवश्यक समझे, को समस्त शक्तियों या कर्तव्यों को प्रत्यायोजित कर सकता है।
- (2) अधिसूचित और गैर अधिसूचित क्षेत्रों में किसी भू-जल उपयोगकर्ता तथा बेधन अभिकरणों के लिए प्रत्येक समुचित निकाय की शक्ति वहीं होगी, जैसा कि विहित की जाये।

भू-जल
संसाधनों के
प्रबंधन और
विनियमन के
लिये क्षेत्रों को
अधिसूचित
करने की
शक्तियाँ.

- 8 (1) जहाँ (जल संसाधन विभाग की जानकारियों पर आधारित) सक्षम निकायों से परामर्श करने के पश्चात राज्य भू-जल प्रबंधन एवं नियामक प्राधिकरण की यह राय हो कि किसी क्षेत्र में किसी रूप में विभिन्न प्रयोजनार्थ भू-जल का प्रबंधन एवं विनियमन करना और वर्षा जल संचयन/ भू-जल पुनर्भरण को प्रवर्तित करना तथा अतिदोहित/संकटग्रस्त खण्डों एवं संकटमय नगरीय क्षेत्रों (जल संसाधन विभाग द्वारा यथा अभिज्ञानित/चिन्हांकित) जहाँ भू-जल स्तर संकटग्रस्त या चिन्ताजनक स्तरों तक पहुंच गये हों, में विभिन्न समुचित जल संरक्षण/जल बचत/जल दक्ष पद्धतियों को क्रियान्वित करना लोकहित में आवश्यक और समीचीन हो, वहाँ वह राज्य सरकार को ऐसी रीति से, जैसा कि विहित किया जाये, यह परामर्श देगा कि वह इस अधिनियम के प्रयोजनार्थ अधिसूचना द्वारा ऐसे क्षेत्रों को अधिसूचना में यथा विनिर्दिष्ट दिनांक से अधिसूचित क्षेत्र घोषित करे:

परन्तु यह कि, —

(क) इस उप-धारा के अधीन अधिसूचना में विनिर्दिष्ट दिनांक, ऐसे अवधि से पूर्वतर नहीं होगा, जैसा कि राज्य भू-जल प्रबंधन एवं नियामक प्राधिकरण द्वारा परामर्श दिया जाये;

(ख) इस धारा के अधीन हिन्दी और अंग्रेजी भाषाओं में प्रत्येक अधिसूचना को राजपत्र में प्रकाशित किये जाने के अतिरिक्त व्यापक प्रसार किया जायेगा;

(ग) उप-धारा (1) में निर्दिष्ट क्षेत्रों का चिन्हांकन एवं अधिसूचना जारी करने की प्रक्रिया, ऐसी होगी, जैसा कि विहित किया जाये।

- (2) उप-धारा (1) के अधीन जारी की गई अधिसूचना की, अद्यतन भू-गर्भ जल निर्धारण रिपोर्ट के अनुसार, समय-समय पर, रिपोर्ट के निष्कर्षों के अनुसार ऐसी रीति में, जैसा कि विहित किया जाये, समीक्षा की जायेगी ।
- 9 (1) विद्यमान एवं भावी वाणिज्यिक, औद्योगिक, अवसंरचनात्मक और थोक भू-जल उपयोगकर्ताओं का पंजीकरण अनिवार्य होगा तथा ऐसी रीति से किया जायेगा, जैसा कि विहित किया जाये;
- अधिसूचित और गैर अधिसूचित क्षेत्रों में विद्यमान वाणिज्यिक, औद्योगिक, अवसंरचनात्मक और थोक भूजल उपयोगकर्ताओं का रजिस्ट्रीकरण.
- (2) उप-धारा (1) में उल्लिखित उपयोगकर्ताओं से भिन्न भू-जल के प्रत्येक विद्यमान एवं भावी उपयोगकर्ता, जिसमें भू-जल के घरेलू या कृषि उपयोगकर्ता शामिल हैं, का पंजीकरण ऐसी रीति से किया जायेगा, जैसा कि विहित किया जाये ।
- 10 अधिसूचित क्षेत्रों में, जैसा कि विहित किया जाये, पेय जलापूर्ति तथा वृक्षारोपण के सरकारी योजनाओं के सिवाय, नवीन कूप निर्माण पर प्रतिबंध होगा, ऐसा प्रतिबन्ध तब तक जारी रहेगा, जब तक कि राज्य सरकार द्वारा राज्य भू-जल प्रबंधन और नियामक प्राधिकरण के परामर्श पर उक्त क्षेत्र को गैर अधिसूचित नहीं कर दिया जाता है, जैसा कि विहित किया जाये ।
- अधिसूचित क्षेत्रों में नवीन कूप निर्माण पर प्रतिबंध.
- 11 अधिसूचित क्षेत्रों में भू-जल संसाधनों के अद्विधता को सुनिश्चित करने तथा उसे प्राप्त करने के लिए भू-जल सुरक्षा योजनाएँ ऐसी रीति से तैयार किया जायेगा, जैसा कि विहित किया जाये । ।
- अधिसूचित क्षेत्रों में भूगर्भ जल सुरक्षा योजनाओं का तैयार किया जाना और उनका क्रियान्वयन.

- गैर अधिसूचित क्षेत्रों में भू-जल निकालने के प्राधिकार को स्वीकृत किया जाना.
- 12 गैर अधिसूचित क्षेत्र में भू-जल निकालने के प्राधिकार की स्वीकृति ऐसी संबंधित नियमों के तहत विनियमित होगी, जैसा कि विहित किया जाये;
- वाणिज्यिक, औद्योगिक अवसंरचनात्मक खनन, थोक भू-जल उपयोगकर्ताओं हेतु भूजल निकालने की सीमा नियत किया जाना तथा आदेशों एवं निर्देशों इत्यादि की तामिली.
- 13 (1) राज्य भू-जल प्रबंधन और नियामक प्राधिकरण, जल संसाधन विभाग के परामर्श से भू-जल निकालने की सीमा नियत कर सकेगा।
- (2) उप-धारा (1) के अधीन जारी प्रत्येक आदेश या निर्देश को उसी रीति से तामिल किया जायेगा, जैसा कि इस अधिनियम में विहित किया जाये;
- भूजल निकासी/ निष्कर्षण पर शुल्क.
- 14 (1) कोई भी वाणिज्यिक, औद्योगिक, अवसंरचनात्मक, खनन या थोक भू जल उपयोगकर्ता, जो इसमें इसके पश्चात् इस धारा में उक्त उपयोगकर्ता के रूप में निर्दिष्ट है, दोनों अधिसूचित तथा गैर अधिसूचित क्षेत्रों में भू-जल निकासी करेगा, उससे ऐसा करारोपण शुल्क उद्गृहित किया जायेगा, जैसा कि विहित किया जाये।
- (2) उप-धारा (1) में निर्दिष्ट करारोपण शुल्क, जल (प्रदूषण निवारण तथा नियंत्रण) उपकर अधिनियम, 1977 (1977 का सं. 36) के अधीन प्रभारित जल उपकर के अतिरिक्त-होगी।

- (3) निकाले गये भूजल की मात्रा को मापने तथा उसे अभिलिखित करने के प्रयोजनार्थ उक्त प्रत्येक उपयोगकर्ता, ऐसे मीटर संस्थापित करेंगे, जैसा कि विहित किया जाये ।
- 15 राज्य भूजल प्रबंधन और नियामक प्राधिकरण के समस्त कर्मचारी, जब इस अधिनियम या इसके अधीन बनाये गये नियम के उपबंधों के अनुसरण में कार्यरत हों या उनका कार्यरत होना आशयित हो, भारतीय दण्ड संहिता, 1860 (1860 का सं. 45) की धारा 21 के अर्थान्तर्गत लोक सेवक समझे जायेंगे। प्राधिकरण के कर्मचारी, लोक सेवक होंगे।
- 16 इस अधिनियम या इसके अधीन बनाये गये नियम के अधीन सद्भावनापूर्वक की गई या किये जाने हेतु आशयित किसी बात के लिये राज्य सरकार या सरकार के किसी समुचित निकाय, किसी अन्य अधिकारी या किसी समुचित निकाय के किसी सदस्य या अन्य कर्मचारी के विरुद्ध कोई अभियोजन, वाद या किसी नुकसान/मुआवजा का दावा अथवा अन्य विधिक कार्यवाही संस्थित नहीं की जायेगी। सद्भावनापूर्वक की गई कार्यवाही का संरक्षण।
- 17 (1) इस अधिनियम के उपबंधों के अनुसार समुचित निकाय का यह कर्तव्य होगा कि वे अपनी अधिकारिता क्षेत्र में क्रियान्वित की जाने वाली ऐसी क्रियाकलापों के सामाजिक तथा पर्यावरणीय पहलुओं के प्रभाव को आंकलित करने का उपक्रम करें। समाघात निर्धारण।
- (2) उप-धारा (1) के अधीन किये गये क्रियाकलापों के प्रभावों के आकलन संबंधी सूचनाएँ, सार्वजनिक रूप में पहुंच हेतु इंटरनेट पर रखी जाएगी।

अध्याय—पाँच

उल्लंघन, अपराध एवं शस्तियाँ

- 18 समुचित निकाय में रजिस्ट्रीकरण के बिना, कोई व्यक्ति या फर्म, अभिकरण या कंपनी भू-जल निकालने हेतु भूमि का न तो बेधन करेगा और न ही उस कार्य में संलग्न होगा। बेधन अभिकरणों का रजिस्ट्रीकरण।
- 19 (1) जो कोई, इस अधिनियम या उसके अधीन बनाये किसी नियम या जारी की गई किसी अधिसूचना या किये गये किसी आदेश के, या इस अधिनियम के अधीन मंजूर की गई किसी अनुज्ञप्ति या अनुज्ञा-पत्र के उल्लंघन में — विधि विरुद्ध खनन, भू-जल निकासी, आपूर्ति, विक्रय, उपयोग, आदि के लिए अपराध
- (क) नवीन कूआ/नलकूप खनन करता है ; या

एवं शास्ति.

(ख) कच्चे असंसाधित अनुपचारित भू-जल का निष्कर्षण, विक्रय या आपूर्ति करता है; या

(ग) भू-जल का किसी टैंकर, पात्र इत्यादि से जलापूर्ति करता है; या

(घ) किसी समुचित निकाय, अथवा राज्य शासन या राज्य भू-जल प्रबंधन एवं नियामक प्राधिकरण द्वारा प्राधिकृत किसी अन्य व्यक्ति को इस अधिनियम के अधीन दी गई शक्तियों के प्रयोग करने में बाधा डालता है ; या

(ङ.) किसी असफल, अधूरे अथवा अनुपयोगी कूप, जो उसके स्वामित्व का है, को सुरक्षित करने की इस प्रकार अवहेलना करेगा, जिससे जन अथवा पशु की मृत्यु/उपहति कारित होने की संभावना हो;

वह उप-धारा (2) के प्रावधानों के अधीन रहते हुए, प्रत्येक ऐसे अपराध के लिए कारावास से, जिसकी अवधि तीन माह से कम नहीं होगी, किन्तु जो एक वर्ष तक की हो सकेगी अथवा जुर्माने से, जो रु. 5000/- से कम का नहीं होगा किन्तु जो रु. 10000/- तक का हो सकेगा, से दण्डनीय होगा.

परन्तु जब कोई व्यक्ति इस धारा के अधीन किसी अपराध के लिए दूसरी बार या पश्चातवर्ती समय पर सिद्धदोष ठहराया जाता है तो वह प्रत्येक ऐसे अपराध के लिए कारावास से, जिसकी अवधि छः माह से कम की नहीं होगी किन्तु जो एक वर्ष तक की हो सकेगी तथा जुर्माने से, जो रु 10000/- से कम नहीं होगी और जो रु 15,000/- तक की हो सकेगी, से दण्डनीय होगा।

- (2) उप-धारा (1) में अंतर्विष्ट किसी बात के होते हुए भी, यदि उप-धारा (1) के खण्ड (क), (ख), (ग) अथवा (घ) के अंतर्गत आने वाले कोई अपराध किसी वाणिज्यिक उपयोगकर्ता, औद्योगिक उपयोगकर्ता, अवसंरचनात्मक उपयोगकर्ता एवं बहुउपयोगकर्ता के द्वारा कारित किया जाता है, तो वह कारावास से, जिसकी अवधि छः माह से कम नहीं होगी, किन्तु जो दो वर्ष तक की हो सकेगी अथवा जुर्माने से, जो रु. 10000/- से कम का नहीं होगा किन्तु जो रु. 25000/- तक का हो सकेगा, से दण्डनीय होगा:

परन्तु जब कोई व्यक्ति इस धारा के अधीन किसी अपराध के लिए दूसरी बार या पश्चातवर्ती समय पर सिद्धदोष ठहराया जाता है तो वह प्रत्येक ऐसे अपराध के लिए कारावास से, जिसकी अवधि एक वर्ष से कम की नहीं

होगी किन्तु जो तीन वर्ष तक की हो सकेगी तथा जुर्माने से, जो रु० 20000/- से कम नहीं होगी और जो रु० 50,000/- तक की हो सकेगी, से दण्डनीय होगा;

(3) जब उप-धारा (1) या (2) के अंतर्गत आने वाले किसी अपराध के लिए दूसरी बार या पश्चातवर्ती समय पर सिद्धदोष ठहराया जाता है, तो भू-जल निष्कर्षण हेतु जारी की गई अनुमति/अनुज्ञप्ति, तत्काल प्रभाव से निरस्त किये जा सकेंगे।

(4) जब यह विश्वास करने का कारण हो कि इस अधिनियम के अधीन कोई अपराध किया गया है तो सहायक अभियंता की श्रेणी से अनिम्न अधिकारी या इस निमित्त राज्य सरकार द्वारा इस अधिनियम के अधीन प्राधिकृत कोई अन्य अधिकारी, इस अधिनियम के प्रावधानों के अधीन इस प्रकार अपराध कारित करने में प्रयुक्त मशीन, उपकरण, औजार, वाहन, पात्र या कोई अन्य वस्तु को जप्त कर सकेगा।

(5) इस धारा के अधीन किसी सम्पत्ति का अभिग्रहण करने वाला कोई अधिकारी, ऐसी सभी सम्पत्ति पर उपदर्शित करने वाला चिन्ह लगाएगा कि उसका इस प्रकार अभिग्रहण किया गया है और सम्पत्ति की अभिग्रहण रिपोर्ट यथाशक्य शीघ्र जल संसाधन विभाग के कार्यपालन अभियंता के समक्ष प्रस्तुत करेगा।

(6) (एक) जब कार्यपालन अभियंता के समक्ष ऐसा कोई अभिग्रहण रिपोर्ट, प्रकरण की जांच के दौरान किन्तु न्यायालय में परिवाद दाखिले के पूर्व, प्रस्तुत किया जाता है, तो कार्यपालन अभियंता, ऐसी अभिग्रहित सम्पत्ति की उचित अभिरक्षा हेतु प्रकरण की जांच अथवा विचारण की लंबित अवधि तक के लिए ऐसा समुचित आदेश कर सकेगा, जैसा कि उचित समझे। तथापि, यदि कार्यपालन अभियंता की राय हो कि ऐसी सम्पत्ति की अंतरिम अभिरक्षा के लिये आदेश किया जाना उपयुक्त नहीं है तो वह ऐसी सम्पत्ति के राजसात के आदेश के लिये कलेक्टर के समक्ष रिपोर्ट को निर्दिष्ट कर सकेगा;

(दो) यदि कार्यपालन अभियंता या इस हेतु प्राधिकृत किसी अन्य अधिकारी ने मजिस्ट्रेट के समक्ष लिखित परिवाद प्रस्तुत कर दिया हो तो ऐसी स्थिति में, सम्पत्ति के व्ययन के संबंध में दण्ड प्रक्रिया संहिता, 1973 (1974 का 2) की अध्याय-चौतीस के प्रावधान लागू होंगे।

20 (1) दण्ड प्रक्रिया संहिता, 1973 (1974 का सं. 2) में अन्तर्विष्ट किसी बात के होते हुए भी -

(क) इस अधिनियम के अधीन सभी अपराध असंज्ञेय एवं जमानतीय होंगे;

(ख) इस अधिनियम के अधीन कारित किसी अपराध का, कोई भी न्यायालय

अपराधों का संज्ञान.

कार्यपालन अभियंता, जल संसाधन विभाग अथवा राज्य शासन द्वारा समय-समय पर अधिसूचना के माध्यम से प्राधिकृत किसी अन्य अधिकारी के लिखित परिवाद के बिना, प्रसंज्ञान नहीं लेगा;

(ग) जब कोई अपराध धारा 19 के अधीन किया गया पाया जाता है, तो कार्यपालन अभियंता जल संसाधन विभाग, कार्यपालन अभियंता के समक्ष उपस्थित होने के लिये अभियुक्त को नोटिस जारी करेगा तथा इस प्रकार कारित अपराध का प्रशमन नोटिस के 30 दिनों के भीतर किया जायेगा। यदि अभियुक्त प्रशमन की प्रक्रिया के लिये उपस्थित नहीं होता है तो कार्यपालन अभियंता द्वारा नोटिस के तामिल होने की तिथि के एक माह के भीतर लिखित परिवाद किया जायेगा; परन्तु यह कि परिवाद का संज्ञान विहित अवधि के पश्चात् न्यायालय द्वारा लिया जा सकेगा, यदि परिवादी न्यायालय को संतुष्ट करता है कि उसके पास विहित अवधि के भीतर परिवाद प्रस्तुत न करने का पर्याप्त कारण है;

(घ) प्रथम श्रेणी न्यायिक मजिस्ट्रेट से निम्न कोई न्यायालय, इस अधिनियम के अधीन दण्डनीय किसी अपराध का विचारण नहीं करेगा।

अपराधों का
प्रशमन.

21 (1)

इस अधिनियम के अधीन दण्डनीय किसी अपराध का प्रशमन, कार्यपालन अभियंता की श्रेणी से अनिम्न अधिकारी अथवा ऐसे अधिकारियों, जिन्हें राज्य सरकार द्वारा समय-समय पर अधिसूचित किया जाए, द्वारा अभियोग संस्थित किए जाने के पूर्व या पश्चात्, अभियुक्त के आवेदन पर, प्रशमन किया जा सकेगा;

जब प्रशमन के लिये आवेदन, ऐसे प्रशमन के लिये प्राधिकृत अधिकारी द्वारा प्राप्त किया जाता है, प्रशमन शुल्क अधिरोपित करने तथा शासन के हित में जमा करने के पश्चात्, किया जा सकेगा जो रु0 20,000/- से कम नहीं होगा किन्तु रु. 10 लाख तथा जल कर एवं अन्य उपकर आदि सहित निर्धारित अधिकतम जुर्माने का 50%, जैसा कि मात्रा अनुरूप लागू हो, से अधिक नहीं होगा।

(2) धारा 21 की उप-धारा (1) में वर्णित प्रत्येक अधिकारी, समुचित निकाय के निर्देशन, नियंत्रण एवं पर्यवेक्षण के अध्यधीन रहते हुये अपराध के प्रशमन के लिये प्रदत्त शक्तियों का प्रयोग करेंगे।

(3) अपराधों के प्रशमन हेतु प्रत्येक आवेदन ऐसे प्ररूप में एवं ऐसी रीति में किया जायेगा, जैसा कि विहित किया जाये।

(4) जहां किसी अपराध का प्रशमन अभियोजन संस्थित करने के पूर्व किया जाता हो, वहां अपराधी, जिसके संबंध में इस प्रकार अपराध का प्रशमन किया

गया हो, के विरुद्ध, ऐसे अपराध के संबंध में कोई भी अभियोजन संस्थित नहीं किया जायेगा।

(5) जहाँ किसी अपराध का प्रशमन अभियोजन के संस्थित करने के पश्चात् किया जाता हो, वहाँ ऐसा प्रशमन, उप-धारा (1) में निर्दिष्ट अधिकारी के द्वारा न्यायालय, जिसमें अभियोजन लंबित है, के संज्ञान में, लिखित में, लाया जाएगा तथा अपराध के प्रशमन की ऐसी सूचना दिये जाने पर, व्यक्ति, जिसके विरुद्ध अपराध का इस प्रकार प्रशमन किया गया है, निर्मुक्त अथवा दोषमुक्त हो जायेगा।

22. (1) जब कभी किसी कंपनी द्वारा इस अधिनियम के अधीन कोई अपराध कारित किया गया हो, तब प्रत्येक व्यक्ति, जो अपराध किए जाने के समय कंपनी के कारोबार के संचालन के लिए कंपनी का प्रभारी था या उसके प्रति उत्तरदायी था, अपराध का दोषी समझा जायेगा।

कंपनियों द्वारा अपराध.

(2) उप-धारा (1) में अंतर्विष्ट किसी बात के होते हुए भी, जहां इस अधिनियम के अधीन कोई अपराध, कंपनी के निर्देशक, प्रबंधक, सचिव या अन्य अधिकारी की सहमति या मौनानुमति से किया गया हो या उसकी ओर से किसी उपेक्षा के कारण हो गया हो, वहां ऐसा निर्देशक, प्रबंधक, सचिव या अन्य अधिकारी भी उस अपराध का दोषी समझा जायेगा।

23. जिला कलेक्टर, जिला भू-जल शिकायत निवारण अधिकारी के रूप में कार्य करेगा, जिला भू-जल शिकायत निवारण अधिकारी के द्वारा पारित आदेश के विरुद्ध अपील राज्य भू-जल प्रबंधन और नियामक प्राधिकरण में, जिला भू-जल शिकायत निवारण अधिकारी द्वारा आदेश पारित होने के 60 दिन के भीतर, किया जायेगा।

भू-जल शिकायत निवारण अधिकारी.

अध्याय-छः

प्रकीर्ण

24. राज्य भू-जल प्रबंधन तथा नियामक प्राधिकरण और जिला भू-जल प्रबंधन परिषदों के पास राज्य सरकार के किसी विभाग या किसी अन्य व्यक्ति से ऐसी कोई सूचना, जो उसके द्वारा इस अधिनियम के अधीन उनकी शक्तियों के प्रयोग तथा उनके कर्तव्यों के निर्वहन में अपेक्षित हो, मांगने की शक्ति होगी और ऐसा विभाग या व्यक्ति, ऐसी सूचना उपलब्ध कराने के लिए बाध्य होगी।

समुचित निकाय को सूचना मांगने की शक्ति.

- स्वतः विनियमन.
- 25 (1) अधिसूचित क्षेत्रों (ग्रामीण) के भू-जल उपयोगकर्ताओं को स्वतः विनियमन, वर्षा जल संचयन, भू-जल पुनर्भरण, पुनर्चकण एवं पुनः उपयोग, जल भराव के निवारण की प्रक्रिया को अंगीकृत करने के लिए समुचित निकाय द्वारा प्रोत्साहित किए जाएंगे।
- (2) ग्रामीण तथा नगरीय दोनों क्षेत्रों में भू-जल के प्रत्येक उपयोगकर्ता को, मितव्ययिता एवं दक्षतापूर्वक भू-जल निकालने और उसका उपयोग करने, जल अपव्यय को रोकने, पुनर्चालित किए गए जल का प्राथमिकता पर प्रयोग करने, वर्षा जल संचयन तथा पुनर्भरण पद्धतियों को अपनाने हेतु प्रोत्साहित किया जाएगा।
- (3) भूवैज्ञानिक शर्तों के अनुसार वर्षा जल संचयन और जलागम संरक्षण को प्रोत्साहित करेंगे, जो कि जल सुरक्षा योजनाओं का अभिन्न अंग होगा।
- पूर्व विद्यमान अधिकार.
- 26 (1) भू-जल उपयोगकर्ता के पूर्व-विद्यमान अधिकार, ऐसे अवधि के लिए विधिमान्य रहना जारी रहेंगे, जैसा कि विहित किया जाये।
- (2) भू-जल उपयोगकर्ता, किन्हीं विधिक या अन्य अधिकारों, जो इस अधिनियम के अधीन समाप्त हो गए हैं, के लिए किसी प्रतिकर का हकदार नहीं होगा।
- भू-जल संवर्धन कोष.
- 27 राज्य सरकार द्वारा भू-जल संरक्षण कोष नामक एक निधि का सृजन किया गया है और शास्तियों, पंजीकरण फीस तथा भू-जल निष्कर्षण/निकासी का शुल्क/करारोपण शुल्क आदि की समस्त लेखा प्राप्तियां, इस निधि में जमा की जाएगी। निधि का ऐसा उपयोग किया जायेगा, जैसा कि विहित किया जाए।
- राज्य सरकार की नियम बनाने की शक्ति.
- 28 (1) राज्य सरकार, इस अधिनियम के उपबंधों को क्रियान्वित करने के लिए अधिसूचना द्वारा नियम बना सकेगी।
- (2) इस धारा के अधीन राज्य सरकार द्वारा बनाये गये प्रत्येक नियम इसके बनाये जाने के उपरांत, यथासंभव शीघ्र राज्य विधान-मण्डल के समक्ष रखा जायेगा।
- राज्य सरकार को छूट प्रदान करने की शक्ति.
- 29 राज्य सरकार, राज्य भू-जल प्रबंधन एवं नियामक प्राधिकरण की अनुशांसा पर, किसी विनिर्दिष्ट क्षेत्र के उपयोगकर्ता या उपयोगकर्ता के वर्ग को इस अधिनियम के किसी उपबंध से, विनिर्दिष्ट कालावधि के लिये, छूट प्रदान कर सकेगी।

30. (1) तत्समय प्रवृत्त राज्य के किसी अन्य विधि में अंतर्विष्ट किसी बात के होते हुए भी, इस अधिनियम के उपबंध, अभिभावी होंगे। अधिनियम का अन्य नियमों पर प्रभाव.
- (2) पेयजल परीक्षण अधिनियम के द्वारा राज्य/जिला प्राधिकरणों को प्रदत्त प्रावधान एवं शक्तियां, इस अधिनियम के किसी प्रावधान से प्रभावित नहीं होंगी।

अटल नगर, दिनांक 7 नवम्बर 2022

क्र. 11965/डी. 109/21-अ/प्रारू./छ.ग./22. - भारत के संविधान के अनुच्छेद 348 के खण्ड (3) के अनुसरण में इस विभाग का समसंख्यक अधिनियम दिनांक 07-11-2022 का अंग्रेजी अनुवाद राज्यपाल के प्राधिकार से एतद्वारा प्रकाशित किया जाता है।

छत्तीसगढ़ के राज्यपाल के नाम से तथा आदेशानुसार,
मोहन प्रसाद गुप्ता, अतिरिक्त सचिव.

CHHATTISGARH ACT
(No. 18 of 2022)

**THE CHHATTISGARH GROUND WATER (MANAGEMENT AND
REGULATION) ACT, 2022.**

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CHHATTISGARH ACT**(No. 18 of 2022)****THE CHHATTISGARH GROUND WATER (MANAGEMENT AND REGULATION) ACT, 2022.**

An Act to provide for protecting, conserving, controlling and regulating ground water to ensure its sustainable management in the State, both quantitatively and qualitatively, especially in stressed rural and urban areas and for matters connected therewith or incidental thereto;

Whereas, uncontrolled and rapid extraction of ground water has resulted in alarming situation of declining ground water levels and depletion of ground water reservoirs in many parts of the State, both in rural and urban areas;

And whereas, ground water, being the single most important source of water for domestic, agricultural and industrial uses, is the backbone of drinking water, food and livelihood security in rural and urban areas;

And whereas, a serious ground water crisis prevails due to excessive overdraft and ground water contamination;

And whereas, development of ground water is the need of the State, its management, control and regulation specially in over-exploited and critical areas is also the need of the hour for protection and preservation of this precious resource.

And whereas, it is also expedient to provide for conservation, protection and development of ground water resources for the purpose of proper augmentation/recharge of ground water in stressed areas and to prevent ground water pollution by maintaining or restoring wholesomeness of ground water quality thereof in the State;

And whereas, the equitable and environmentally sound regulation of ground water can contribute to tackling some of the most important challenges of our times, including climate change;

And whereas, water is unitary in nature, requiring the integration of surface water and ground water, has integral links to land and vegetation and has an intricate relationship with rainwater (through natural recharge);

And whereas, ground water is the common heritage of the people, it is essential for the sustenance of life in all its forms; an integral part of the ecological system;

And whereas, ground water in its natural state is a common pool resource and the Supreme Court of India has applied the public trust doctrine to ground water, in recognition that private property rights in ground water are inappropriate given the emerging status, conflicts and dynamics of ground water;

And whereas, the State Government has, after careful examination of all related aspects, decided that it is expedient and necessary in the public interest to manage and regulate the extraction and use of ground water judiciously in any form and also

to conserve and protect ground water in the stressed areas of the State and that shall be accorded the highest priority in both planning and management;

And whereas, a new legal framework (with norms, principles, procedures and institutions suitable to address contemporary and imminent challenges) is required to ensure the qualitative and quantitative sustainability of ground water resources and equity in groundwater use;

And whereas, the State Government has, after careful examination of all related aspects, decided that in the public interest the first right to use of ground water would be for drinking, domestic and cattle use.

Be it enacted by the Chhattisgarh Legislature in the Seventy-Third Year of the Republic of India, as follows:—

CHAPTER-I

PRELIMINARY

1. (1) This Act may be called the **Short title, extent
Chhattisgarh Ground Water commencement
(Management and Regulation) Act, and application.
2022.**
- (2) It extends to the whole State of Chhattisgarh.
- (3) It shall come into force on such date as the State Government may, by

notification in the Official Gazette, appoint and different dates for different provisions may be appointed.

- (4) Penal provisions made under this Act shall not be applicable on domestic and agricultural users of ground water.

Definitions.

2. (1) In this Act, unless the context otherwise requires, -

(a) “**Appropriate Body**” means State Ground Water Management and Regulatory Authority, District Ground Water Management Council and Block Level Ground Water User Registration Committee, in the relevant context wherever it is mentioned;

(b) “**Aquifer**” means an underground layer of geological formation, group of formations or part of a formation, comprising fractured rocks, sand, gravel and like sediments, that is sufficiently porous, permeable and saturated with water and that transmits/

accepts, store and yields significant quantity of water to a well or spring;

- (c) “**Bhoojal Samiti**” means group of persons constituted in every district of Chhattisgarh for carrying out ground water awareness programs;
- (d) “**Bulk user**” means a person or a group of persons including any establishment such as hotels/ lodges/hostel/private residential buildings/housing colonies/ resorts/private hospitals/nursing homes/business complexes/ malls/water parks, which extract and use ground water for the purpose of his or her or their operational water needs;
- (e) “**Central Ground Water Board**” means the Central Ground Water Board, Government of India;
- (f) “**Commercial user**” means a person or a group of persons including any institution or any agency or any establishment, who

or which extract and use ground water for the purpose which directly or indirectly benefits his/her or their business or trade to make financial gain or profit;

(g) "**District Ground Water Management Council**" means the District Ground Water Management Council constituted under Section 4;

(h) "**Drilling Agency**" means an establishment, owned by a person or a class of persons or an institution, who or which is involved as a part of trade thereof drilling wells/ tube wells for extracting and use of ground water for any purpose such as domestic/ drinking/commercial/industrial/ bulk/infrastructure use;

(i) "**Environmental flows**" refer to the quality, quantity and timing of water flows required to maintain the components, functions, processes and resilience of a aquatic ecosystems that provide

goods and services to people, flora and fauna;

(j) **“Ground Water Department”**

means the department of Water Resources under The Government of Chhattisgarh which is also related to Ground Water related activities;

(k) **“Ground Water Quality Sensitive Zone”**

means such an area where quality of ground water is affected with high levels/excessive concentration of chemical elements, physio-chemical constituents, heavy metals and bacteriological contamination, resulted due to geogenic or anthropogenic causes;

(l) **“Ground Water Resource Estimation Report”**

refers to the latest approved report, based on the Ground Water Estimation Committee methodology, prepared by the Ground Water Department (Water Resource Department), Chhattisgarh and Central Ground

Water Board for block-wise assessment of ground water resources including categorization of blocks into over-exploited, critical, semi-critical and safe categories;

(m) **“Ground Water Security Plan”**

means a plan to be progressively based on available hydro-geological information and shall include such measures/interventions which are area specific and hydro-geologically feasible;

(n) **“Ground Water”** means the water

occurring in its natural state below the ground surface in the zone of saturation, aquifer or any other sub-surface formation and that can be extracted through wells or any other means or emerges as springs and base flows in streams and rivers;

(o) **“Industry”** means any business,

trade, undertakings, manufacture or calling of employers, carried out

with a motive to make any gain or profit and includes any calling service, employment, handicraft or industrial occupation or avocation of workman or any systematic activity carried on by co-operation between an employer and his workman (whether such workman are employed by such employer directly or by or through any agency including a contractor) for the production of goods;

(p) **“Infrastructural user”** means a person or a group of persons including a firm or any company, who or which extract and use ground water for the purpose of carrying out such activities/projects which are directly related to infrastructural development;

(q) **“Jila Panchayat”** means Jila Panchayat of district in the State of Chhattisgarh;

(r) **“Notified area”** means the area notified as such under Section 6 which includes over-exploited,

Critical blocks and Stressed Urban Areas;

- (s) **“Pollution”** means such contamination of ground water or surface water or such alteration of the physical, chemical or biological properties of water or such discharge of any Sewage, Plastic, Thermocol or trade effluent or of any other liquid, gaseous or solid substance into ground water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such ground water harmful or injurious to public health or safety or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms;
- (t) **“Rainwater harvesting”** means the technique or system of collection and storage of rainwater, at micro watershed scale, including roof-top harvesting, for

storage or for recharge of ground water;

(u) “**Rural Areas**” means those areas which are not classified as Urban Areas;

(v) “**State Ground Water Management and Regulatory Authority**” means the Chhattisgarh State Ground Water Management and Regulatory Authority established under Section 3;

(w) “**Urban Areas**” means the areas notified by a competent authority or a municipality or a regulatory body as the case may be, excluding such areas/lands as are classified for agriculture use in the master plan of a development authority or a municipality or a regulated area;

(x) “**User of ground water**” means a person or a class of persons or an institution who or which own or use or sell ground water for any purpose including domestic use

made either on personal or community basis and includes an industry, a commercial user, a bulk user, a company or an establishment whether Government or Private but does not include a person or a class of persons or an institution who or which use water drawn from open well including traditional structures like Kuan, Dhodi, Bawadi, etc. by manual or animal devices such as hand pump, rope and bucket, persian wheel, etc.;

(y) **“Water and Sanitation Committee”** means a committee formed in Gram Panchayat, Nagar Panchayat/ Palika/ Nigam for planning, monitoring, implementation and maintenance of water and sanitation schemes;

(z) **“Water User Association”** means a group of persons constituted at pond level/ tube well or group of tube well level for maintenance

and conservation of ponds/tube well or group of tube wells;

(aa) "Well" means a structure sunk for the search or extraction or recharge of ground water for any purpose and shall include open well, dug well, bore well, dug-cum bore well, tube well, infiltration gallery, recharge well or any of their combination or variation, which could be utilized for extraction of ground water or recharge of ground water.

(2) Words and expressions used in this Act, but not defined, shall have the same meaning as assigned to them in any other law in this regard in force as the case may be.

CHAPTER-II

INSTITUTIONAL FRAMEWORK

3. (1) The State Government shall, by notification in the Official Gazette, establish, with effect from such date as may be specified in the notification, a State Authority to be **State Ground Water Management and Regulatory Authority.**

known as the Chhattisgarh State Ground Water Management and Regulatory Authority, District Ground Water Management Council and Block Level Ground Water User Registration Committee.

(2) The State Ground Water Management and Regulatory Authority shall consist of-

- | | | |
|-----|---|-------------|
| (1) | The Chief Secretary | Chairperson |
| (2) | The Secretary In charge, Water Resources Department | Member |
| (3) | The Secretary In charge, Finance Department | Member |
| (4) | The Secretary In charge, Public Health Engineering Department | Member |
| (5) | The Secretary, In-charge, Agriculture Department | Member |
| (6) | The Secretary In charge, Industries Department | Member |
| (7) | The Secretary In charge, Mineral Resources Department | Member |
| (8) | The Secretary In charge, Urban | Member |

- Administration
Development
Department
- (9) The Engineer-in-Chief, Member-
Water Resources Secretary
Department
- (10) The Engineer-in-Chief, Member
Public Health
Engineering
Department
- (11) The Member- Member-
Secretary, State
Environment
Conservation Board
- (12) The Regional Director, Member
Central Ground Water
Board (NCCR), Raipur
- (13) The Principal Chief Member
Conservator of Forest
- (14) Three Subject Experts Member
having long standing
working experience of
ground water in the
State of Chhattisgarh
(to be nominated by
the State Government)
- (15) An eminent person Member
from Public/Non-
Government
organization/ Social
Sector working in the
field of ground water
(to be nominated by

the State Government)

- (3) The term of office and the manner of filling the vacancies and other conditions of services of the Subject Experts and Eminent Person from Public/Non- Government Organization /Social Sector shall be such as may be prescribed.
- (4) Engineer-in-Chief, Water Resources Department, Chhattisgarh shall be the Nodal Executive Officer on behalf of the State Ground Water Management and Regulatory Authority.
- (5) The office of the Engineer-in-Chief, Water Resources Department, Chhattisgarh, Shivnath Bhawan, Nava Raipur shall work as the Secretariat of the State Ground Water Management and Regulatory Authority.
- (6) The functions of the State Ground Water Management and Regulatory

Authority shall be,-

- (a) to notify the areas for management and regulation of ground water resources as provided under Section 8;
- (b) to de-notify the areas for management and regulation of ground water resources as provided under Section 10;
- (c) to fix ground water abstraction limits as provided under Section 13;
- (d) to grant permission for ground water abstraction for industrial/commercial/mining purposes in non-notified/notified areas;
- (e) To collect levy for ground water abstraction; and
- (f) To develop and adopt updated technology for monitoring and Management mechanism for ground water uses.
- (g) The Meetings of the state ground water management and regulatory authority shall be organised at least twice in a year

or more times as may be deemed necessary.

(7) Staff of the State Ground Water Management and Regulatory Authority, -

(a) To enable the State Ground Water Management and Regulatory Authority to perform its functions properly or exercise the powers under this Act, the State Government may appoint such number of technical personnel and other staff as it may consider necessary including all institutional support, facilities and the budget;

(b) The functions, terms and conditions of service of such employees shall be such as may be prescribed;

(c) The State Ground Water Management and Regulatory Authority shall function under the overall control and supervision of the State

Government.

- (8) Support for other Appropriate Bodies:- Provisions shall also be made for the staff and Office including all institutional support and working facilities, budgetary requirements for the District Council for smooth and proper functioning.
4. (1) District Ground Water Management Council shall be constituted and shall be an overall unit for management of ground water resources at district level, which shall consist of -
- District Ground Water Management Council.**
- (a) Chairperson - Collector
 - (b) Vice Chairperson - Chief Executive Officer, Jila Panchayat
 - (c) Member-Secretary - Executive Engineer, Water Resources Division of the District Headquarters;
 - (d) Two Members as subject Expert having longstanding working experience/knowledge in the field of Ground water, to be nominated by the Chairperson;

(e) Other Members shall be the District Level Representatives (one each), Divisional Forest Officer, Forest Assistant Geohydrologist, District Ground Water Survey Unit, Regional Officer, Chhattisgarh Environment Conservation Board, Deputy Director, Agriculture Department, Commissioner/ CMO, Nagar Nigam/Nagar Palika of District Headquarters (Local Body), General Manager/ Deputy Director, District Industry Center, Executive Engineer, Public Health Engineering Division.

- (2) The terms and conditions of the service of the nominated subject expert of ground water members shall be such as may be prescribed.
- (3) The functions of the District Ground Water Management Council shall be,-

- (a) to consolidate District Level Ground Water Security Plan, based on macro-watershed approach and as per the guidelines as may be prescribed;
- (b) implementation of District Ground Water Security Plan;
- (c) to monitor the implementation of District Ground Water Security Plan;
- (d) to conduct water awareness program;
- (e) to register all existing commercial, industrial, infrastructure and bulk users in notified and non-notified areas ;
- (f) to recommend grant of permission for ground water abstraction in notified/non-notified areas;
- (g) registration of Drilling Agencies/ Drilling Rig

Machine;

- (h) to carry out such other functions, as may be prescribed or assigned by the State Ground Water Management and Regulatory Authority;
- (i) to co-ordinate with the State Ground Water Management and Regulatory Authority.
- (j) The meetings of the district ground water council may be organised as considered necessary.

**Block Level
Ground Water User
Registration
Committee.**

5. (1) A Block Level Ground Water User Registration Committee, shall be constituted which will register all existing/new domestic and agriculture ground water users in the block, which shall consist of –

- (a) The Chairperson – Chief Executive Officer, Janpad panchayat of the block;
- (b) Member-Secretary – Sub-Divisional Officer, Water

Resources, Sub-Division of block;

- (c) Other Members shall be the Block Level Representatives (one each) from Agriculture, Panchayat and Rural Development, Industries, Public Health and Engineering and Forest;

(2) Functions of Block Level Ground Water User Registration Committee, shall be, -

- (a) to conduct water awareness program;
- (b) to register all existing / new domestic, agriculture Ground water user of non-notified and notified areas of block at the panchayat level by the procedure as may be prescribed and
- (c) to carry out such other functions, as may be prescribed or assigned by the Authority.
- (d) The meetings of the the Block level Ground Water User

Registration Committee may be organised as considered necessary.

CHAPTER-III

DUTIES AND RESPONSIBILITIES

**Duties of Water
Resources
Department.**

6. (1) The Water Resources Department shall develop a mechanism to co-ordinate with the District Ground Water Management Council.
- (2) The Water Resources Department will collect ground water related data, publish report and analyses the data.
- (3) Identification of areas for the purpose of regulating ground water:- The Water Resources Department in consultation with the State Ground Water Management and Regulatory Authority shall identify and delineate the areas, such as over-exploited and critical blocks categorized as per latest Ground Water Resource Estimation carried out by the Water Resources Department and Central Ground Water Board. It shall also identify and delineate the water

stressed Municipal/Urban areas (where significant decline of ground water levels) for taking up appropriate measures for overall management and regulation of ground water in such areas.

- (4) Ground Water Information/ Data:- All the available ground water information/data regarding over-exploited/critical blocks and water stressed urban areas shall be shared.

CHAPTER-IV

POWERS AND FUNCTIONS

7. (1) The State Ground Water Management and Regulatory Authority may delegate, by general or special order in writing, all or any of the powers or duties to such persons as may be deemed necessary. **Delegation of powers and duties.**
- (2) The power of every Appropriate body for any ground water user and drilling agencies in notified and non-notified areas shall be such as may be prescribed.

deemed necessary.

Registration of Existing Commercial, Industrial, infra structural and Bulk Users of Ground Water in Notified and Non-notified Areas.

9. (1) Registration of existing and future commercial, industrial, infrastructural and bulk users of Ground Water is mandatory and shall be done in such manner as may be prescribed.

(2) Every existing and future user of ground water other than those mentioned in sub-section (1), including domestic and agriculture users of ground water shall be registered as may be prescribed.

Ban on new well construction in notified areas.

10. There shall be Ban on new well construction in notified areas as may be prescribed except for Government schemes for drinking water supplies and tree plantations. Such ban shall continue till the area is de-notified by the State Government on advice of State Ground Water Management and Regulatory Authority as may be

specified in the notification:

Provided that,-

- (a) the date specified in the notification under this subsection shall not be earlier than the advice given by the State Ground Water Management and Regulatory Authority;
 - (b) every notification under this Section shall be widely circulated in Hindi as well as in English, in addition to its publication in the Official Gazette.
 - (c) the Procedure for Demarcation and issuance of notification of the areas referred in subsection (1) shall be such as may be prescribed.
- (2) The notification issued under subsection (1) shall be reviewed periodically as per the new Ground Water Assessment Report and according to the findings of the report, in such manner as may be

deemed necessary.

Registration of Existing Commercial, Industrial, infra structural and Bulk Users of Ground Water in Notified and Non-notified Areas.

9. (1) Registration of existing and future commercial, industrial, infrastructural and bulk users of Ground Water is mandatory and shall be done in such manner as may be prescribed.

(2) Every existing and future user of ground water other than those mentioned in sub-section (1), including domestic and agriculture users of ground water shall be registered as may be prescribed.

Ban on new well construction in notified areas.

10. There shall be Ban on new well construction in notified areas as may be prescribed except for Government schemes for drinking water supplies and tree plantations. Such ban shall continue till the area is de-notified by the State Government on advice of State Ground Water Management and Regulatory Authority as may be

prescribed.

- 11.** For ensuring and achieving sustainability of ground water resources in the notified areas. Ground Water Security Plans shall be prepared in such manner as may be prescribed. **Preparation and implementation of Ground Water Security Plans in notified areas.**
- 12.** Grant of Authorization for Ground Water abstraction in Non-notified Areas shall be regulated under the relevant rule as may be prescribed. **Grant of Authorization for Ground Water abstraction in Non-notified Areas.**
- 13. (1)** The State Ground Water Management and Regulatory Authority may limit the abstraction of ground water in consultation with the Water Resources Department. **Fixing of limit for abstraction of Ground Water for Commercial, Industrial, Infrastructural, Mining or Bulk users of ground water, and service of orders or directions, etc.**
- (2) Every order or direction issued under sub-section (1) shall be served in

such a manner as may be prescribed.

**Levy on Ground
Water Extraction /
withdrawal.**

14. (1) Commercial, industrial, infrastructural or bulk user of ground water hereinafter in this Section refer to as the said user, shall extract ground water in both the notified and non-notified areas shall be levied fee as may be prescribed.

(2) The levy referred to in sub-section (1) shall be in addition to water cess charged under the Water (Prevention and Control of Pollution) Cess Act, 1977 (No. 36 of 1977).

(3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall install meters as may be prescribed.

**Employees of the
Authority to be
Public Servants.**

15. All employees of the State Ground Water Management and Regulatory Authority shall when acting or purporting to act in pursuance of the provisions of this Act or the rules made there under be deemed to be public servants within the meaning of

Section 21 of the Indian Penal Code, 1860 (No. 45 of 1860).

- 16.** No prosecution, suit or claim any damage/compensation or other legal proceeding shall be instituted against the State Government, any appropriate body, any other officer of the Government or any member or other employees of any appropriate body for anything done or intended to be done in good faith under this Act, or the rules made thereunder. **Protection against action taken in good faith.**
- 17.** (1) Appropriate body shall undertake impact assessment of both social and environment aspects of such activities to be implemented in the area of their jurisdiction in accordance to the provisions of this Act. **Impact Assessment.**
- (2) Information on the Impact Assessment of such activities taken up under this Act in sub-section (1) shall be placed on internet for access by public.

CHAPTER-V**VIOLATION, OFFENCES AND PENALTIES**

**Registration of
drilling agencies.**

18. No person or firm, agency or company, shall perform or engage in drilling the ground for extraction of ground water without registration with appropriate body.

**Offences and
Penalties for
unlawful tubewell
drilling, ground
water abstraction,
supply, sell or
usage.**

19. (1) Whoever in contravention of this act or of any rule, notification or order made, issued or given thereunder, or of any license or permit granted under this act -

- (a) constructs any new tubewell/ dug well etc. ; or
- (b) extracts, sell or supply of raw unprocessed untreated ground water ; or
- (c) supplies ground water in any tanker, vessel, etc. ; or
- (d) Obstructs the appropriate body or any other person authorized by the State Government or State Ground Water Management and Regulatory Authority to exercise any of the powers conferred under this Act; or

(e) neglects the security arrangement for any old, incomplete, abandoned or unusefull well owned by him, in such a way that it may cause death/injury to any person or animal ;

shall subject to the provisions of sub-section (2), be punishable for every such offence with imprisonment for a term not less than three months which may extend to one Year years and fine which shall not be less than five thousand rupees but which may extend to Ten thousand rupees:

Provided that when any person is convicted under this section of any offence for a second or subsequent time, he shall be punishable for every such offence with imprisonment for a term not less than six month but which may extend to One year and with fine which shall not be less than Ten thousand rupees but which may extend to fifteen thousand rupees.

(2) Notwithstanding anything contained in sub-section (1), if the offences described in clause (a), clause (b), clause (c) or clause (d) is committed by any commercial user, industrial user, infrastructural user or any bulk user, he shall be punishable with imprisonment for a term which shall not be less than six month but which may extend to two years and with fine which shall not be less than ten thousand rupees but may extend to twenty five thousand rupees:

Provided that when any person is convicted under this Section for an offence for second or subsequent time, he shall be punishable for every such offence with imprisonment for a term which shall not be less than one year but which may extend to three years and with fine which shall not be less than twenty thousand rupees but may extend to fifty thousand rupees.

(3) When an offence covered by sub section (1) or sub section (2) proved to be committed for second or

subsequent time the permission / license issued for ground water abstraction may be cancelled with immediate effect.

- (4) When there is reason to believe that any offence under this Act has been committed, officer not below the rank of Assistant Engineer or any other officer authorised under this act by the state government in this behalf may, seize such machine, equipment, tool, vehicle, vessel or any other articles used in committing such offence under the provisions of this Act.
- (5) Any officer seizing any property under this section shall place on all such property a mark indicating that the same has been so seized and shall, as soon as may be, produce a report of seizer of the property before the Executive Engineer of the Water Resources Department;
- (6) (i) When any seizure report is produced before the Executive Engineer during any inquiry and

before filing of complaint to the court, the executive Engineer may make such order as he thinks fit for the proper custody of such property pending the conclusion of the inquiry or trial. however if in the opinion of the Executive Engineer that the order for the interim custody of such property is not appropriate, he may refer the report, before the Collector to order the confiscation of such property;

- (ii) If the Executive Engineer or any other officer authorised to do so has produced a written complaint before the magistrate, in such case for disposal of property the provisions of Chapter-XXXIV of the criminal procedure code, 1973 (No. 2 of 1974) shall be applicable.

Cognizance of offences.

20.

Notwithstanding anything contained in the Code of Criminal Procedure, 1973 (2 of 1974)—

- (a) every offence under this Act shall be non-cognizable and bailable;
- (b) no court shall take cognizance of any offence committed under this act without a written complaint by the Executive Engineer, Water Resources Department or any other officer authorised to do so by notification issued by State Government from time to time ;
- (c) when any offence is found to be committed under section 19, the Executive Engineer of the Water Resources Department shall issue a notice to the accused to be present before the Executive Engineer and compound for the offence so committed within 30 days from the notice. If the accused have not present for compounding procedure then written complaint may be made by the Executive Engineer within one month of the date on which notice has been served; Provided that the cognizance of a complaint may

be taken by the Court after the prescribed period, if the complainant satisfies the Court that he had sufficient cause for not making a complaint within such period.

(d) no court inferior to that of a Judicial Magistrate of the first class shall try any offence punishable under this Act.

**Compounding of
Offences**

21. (1) An offence punishable under this Act may be compounded on the application of the accused before or after the institution of the prosecution. It will be done by an officer not below the rank of Executive Engineer or such officer as notified by the State Government from time to time; when an application for compounding is so received by the officer authorised to do compounding may after imposing a compounding fee and depositing it in government interest, which shall not be less than

Rs 20,000/- but may not exceed Rs 10 Lakhs and 50% of the maximum fine prescribed with the water tax and other cess etc. as applicable on the quantity.

- (2) Every officer referred to in sub section (1) of Section 21 shall exercise the powers to compound an offence subject to the direction, control and supervision of the Appropriate Body.
- (3) Every application for the compounding of an offence shall be made in such form and in such manner as may be prescribed.
- (4) Where any offence is compounded before the institution of any prosecution, no prosecution shall be instituted in relation to such offence, against the offender in relation to whom the offence is so compounded.
- (5) Where the compounding of any offence is made after the institution of any prosecution, such compounding shall be brought by the officer referred to in sub-section (1) in writing to the notice of the Court in

which prosecution is pending and on such notice of the compounding of the offence being given, the person against whom the offence is so compounded shall be discharged or acquitted.

**Offence by
Companies.**

22. (1) Whenever an offence under this Act has been committed by a company, every person, who at the time of the commission of offence was in-charge of or was responsible to the company for the conduct of the business of the company, shall be deemed to be guilty of the offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence.

**Ground Water
Grievance
Redressal Officer.**

23. The District Collector shall act as District Ground Water Grievance Redressal Officer. An appeal against

the order of District Ground Water Grievance Redressal Officer shall be filed at state ground water Management and Regulatory Authority within a period of 60 days from the date of issuing order by District Ground Water Grievance Redressal officer.

CHAPTER-VI

MISCELLANEOUS

- 24.** The State Ground Water Management and Regulatory Authority and the District Ground Water Management Councils shall have the power to call for any information from any department of the State Government or any other person, which is required by it in the exercise of its powers and the performance of its duties and functions under this Act and such department or person shall be bound to furnish such information. **Power of the appropriate body to call for information.**
- 25.** (1) The Ground Water users of notified areas (Rural) shall be encouraged by the appropriate body for adopting the **Self-regulation.**

process of self regulation, Rain Water Harvesting, Ground Water Recharge, Recycling and Reuse, Prevention of Water logging.

(2) Every user of ground water in both rural and urban areas shall be encouraged to extract and use ground water in an economical and efficient way, avoid waste of water, priority use of recycled water, adopting of rain water harvesting and recharging methods.

(3) Rainwater harvesting and catchment conservation as per geological conditions shall be encouraged and be integral part of Ground Water Security Plans.

Pre-existing rights.

26. (1) Pre-existing rights of a user of ground water will continue to be valid for a period as may be prescribed.

(2) The user of ground water shall not be entitled for any compensation for any legal or other rights that become extinguished under this Act.

Ground Water Conservation

27. The State Government has created a fund known as Ground Water

Conservation Fund (Bhujal Sanrakshan Kosh) and all the receipts on account of penalties, registration fees, fee/levy on ground water abstraction, etc. shall be credited to this fund. The fund shall be utilized as may be prescribed.

- 28.** (1) The State Government may, by notification in the official Gazette, make rules for carrying out the purposes of this Act. **Power of the State Government to make rules.**
- (2) Every rule made by the State Government under this Act, after it is made shall be laid before the State Legislature as soon as may be possible.
- 29.** The State Government on recommendation of the State Ground Water Management and Regulatory Authority may exempt any user or class of users of any specified region for specified period from any provision of this Act. **Power of the State Government to exempt.**
- 30.** (1) Notwithstanding anything contained in any other law of the State for the **Effect of this Act on other Laws.**

time being in force, the provisions of this Act shall prevail.

- (2) Provisions and powers conferred by “Paiyjal parirakshan adhiniyam” to State/District authorities shall not be affected by any of the provisions made in this Act.

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छत्तीसगढ़ शासन
सामान्य प्रशासन विभाग
:: मंत्रालय ::

ANNEXURE R/3

महानदी भवन, नवा रायपुर, अटल नगर

// आदेश //

नवा रायपुर अटल नगर, दिनांक 01 अप्रैल, 2023

क्रमांक एफ 9-13/2023/1/5 :: मान0 नेशनल ग्रीन ट्रिब्यूनल, प्रिंसिपल बेंच, नई दिल्ली में विचाराधीन प्रकरण ओ.ए.कं. 392/2022 प्रसुन पंत एवं अन्य विरुद्ध युनियन ऑफ इंडिया एवं अन्य में पारित आदेश दिनांक 15.11.2022 की कंडिका-14 के परिपालन में पेयजल एवं अन्य उपयोग हेतु भू-जल प्रबंधन एवं विनियमन के लिये मानक संचालन प्रक्रिया (SOP) तैयार किये जाने हेतु राज्य शासन एतद्वारा निम्नानुसार समिति का गठन करता है :-

1	भारसाधक सचिव, छ.ग.शासन, जल संसाधन विभाग	अध्यक्ष
2	भारसाधक सचिव, छ.ग.शासन, लोक स्वास्थ्य यांत्रिकी विभाग	सदस्य
3	भारसाधक सचिव, छ.ग.शासन, नगरीय प्रशासन एवं विकास विभाग	सदस्य
4	भारसाधक सचिव, छ.ग.शासन, वाणिज्य एवं उद्योग विभाग	सदस्य
5	भारसाधक सचिव, छ.ग.शासन, पंचायत एवं ग्रामीण विकास विभाग	सदस्य
6	भारसाधक सचिव, छ.ग.शासन, कृषि विकास एवं किसान कल्याण तथा जैव प्रौद्योगिकी विभाग	सदस्य
7	भारसाधक सचिव, छ.ग.शासन, ऊर्जा विभाग	सदस्य
8	भारसाधक सचिव, छ.ग.शासन, वन, पर्यावरण एवं जलवायु परिवर्तन विभाग	सदस्य
9	भारसाधक सचिव, छ.ग.शासन, आवास एवं पर्यावरण विभाग	सदस्य सचिव

छत्तीसगढ़ के राज्यपाल के नाम से
तथा आदेशानुसार

TRUE COPY

Vinayak Sharma

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M : 9870077007

(एस.कं. सिंह)
अवर सचिव 28.4.23

छत्तीसगढ़ शासन

सामान्य प्रशासन विभाग

पृ.क्रं. एफ 9-13/2023/1/5

नवा रायपुर अटल नगर, दिनांक 01 अप्रैल, 2023

प्रतिलिपि :-

1. समिति के अध्यक्ष/सदस्य सचिव/सदस्यगण.....
2. सचिव, छ.ग.शासन, जल संसाधन विभाग, मंत्रालय, नवा रायपुर अटल नगर
3. सचिव, छ.ग.शासन, मुख्यमंत्री, मुख्यमंत्री सचिवालय, मंत्रालय, नवा रायपुर अटल नगर
4. अवर सचिव, छ.ग.शासन, मुख्य सचिव कार्यालय, मंत्रालय, नवा रायपुर अटल नगर की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित ।

अवर सचिव, 28.4.23
छत्तीसगढ़ शासन

सामान्य प्रशासन विभाग

ANNEXURE R/4

**Govt. of Chhattisgarh,
Water Resources Department
Mantralaya,
Mahanadi Bhawan, Nava Raipur-Atal Nagar**

-: NOTIFICATION :-

No. /F 4-404/S-2/31/O.M./Ground Water Act/19, Naya Raipur, Dated / / 2024

In exercise of the powers conferred under sub-section (1) of Section 28 of the Chhattisgarh Ground Water (Management and Regulation) Act, 2022 (No. 18 of 2022), the State Government, hereby, makes the following rules to regulate Ground Water extraction and conservation of Ground Water resources of the State, namely:-

RULES**CHAPTER – I
PRELIMINARY****1. Short title, extent and commencement.-**

- (1) These rules may be called the Chhattisgarh Ground Water (Management and Regulation) Rules, 2024.
- (2) It extends to the whole State of Chhattisgarh.
- (3) These rules shall come into force from the date of its publication in the Official Gazette.
- (4) Under the rules, the entire process of grant of permission shall be online through a web-based application system.

2. Definitions.-

- (1) In these rules, unless the context otherwise requires,-

- (i) "Act" means the Chhattisgarh Ground Water (Management and Regulation) Act, 2022 (No. 18 of 2022) ;
- (ii) "Aquifer" means Geological formation capable of storing and transmitting groundwater;
- (ii) "BCM" means Billion cubic metres;
- (iv) "BGL" means Below Ground Level;
- (v) "Block level Ground Water User Registration Committee" means the committee constituted under Section 5 of the Act;

- (vi) "**Challan**" means receipt of depositing fee or any amount, to be deposited in the Ground Water Conservation fund" (Bhujal Sanrakshan Kosh), created under Section 27 of the Act;
- (vii) "**Chhattisgarh Ground Water Management and Regulatory Authority (CGGWA)**" means the authority constituted under Section 3 of the Act;
- (viii) "**Cooperative Group Housing Societies/ Builder flats**" means society formed by house/flat/landowners within a residential complex/colony/gated community/apartment complex or any other similar groups called by any other name;
- (ix) "**Critical Block**" means Block categorized as CRITICAL from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State Water Resources Department;
- (x) "**Deeper Aquifer**" means in areas having multiple aquifer system, the aquifer(s) occurring below the uppermost aquifer;
- (xi) "**District Ground Water Management Council**" means the Council constituted under Section 4 of the Act;
- (xii) "**Drinking and domestic use**" means Water required for daily household activities including hygienic purposes, such as cooking food, bathing, cleaning / washing, sanitation etc. Besides drinking and domestic use of households, this category will cover drinking requirement of industries not requiring water for industrial process; but includes drinking, washing, cleaning use etc. in case of hospitals, hotels, malls & multiplexes, institutions, offices, banquet halls, fire stations, metro stations, railway stations, airports, seaports, stadium etc.;

- (xiii) “**EC^{GW}**” means Environmental compensation for drawing illegal ground water;
- (xiv) “**ECR_{GW}**” means Environmental compensation rates for drawing illegal ground water;
- (xv) “**Form**” means a Form appended with these rules;
- (xvi) “**Government Agency**” means a Central or State Government body;
- (xvii) “**Government Department**” means either Government of India or Chhattisgarh State Government-owned /run body/offices;
- (xviii) “**Ground water**” means water, which exists below the surface in the zone of saturation and can be extracted through wells or any other means or emerges as springs and base flows in streams and rivers;
- (xix) “**Ground water Abstraction structure**” means Structure used to withdraw groundwater like bore well / tube well / dug well/dug cum bore well/tunnel well;
- (xx) “**Ground Water Conservation Fund (Bhujal Sanrakshan Kosh)**” means fund created under Section 27 of the Act for deposition of the receipts on account of penalties, registration fees, fee/levy on ground water abstraction etc.;
- (xxi) “**Ground Water Draft**” means Quantum of ground water withdrawal;
- (xxii) “**Ground water pollution**” means concentration of any parameter in ground water exceeds the maximum permissible limit for drinking water prescribed by the Bureau of Indian Standards;
- (xxiii) “**Illegal Ground Water abstraction Structure**” means any ground water abstraction structure viz. bore well / tube well / dug well/dug cum bore well/tunnel well which is being used to withdraw ground water without valid Grant of permission Certificate from Chhattisgarh Ground Water Authority.

- (xxiv) “**KLD**” means Kilo Litre per day;
- (xxv) “**Mine**” means Area where mining activity / quarry is taking place, or area abandoned after mining/quarrying;
- (xxvi) “**Mining Project**” means Project which involves mining activity / quarry either open cast or underground or both;
- (xxvii) “**Municipality**” means Municipality or Municipal Corporation or Nagar Panchayat or similar body of local urban governance by any other name owned or run by Chhattisgarh Government;
- (xxviii) “**Observation well or Piezometer**” means a bore well/tube well used only for measuring the water level/piezometric head and to take water samples periodically but not used for groundwater abstraction;
- (xxix) “**Over-exploited Block**” means block categorized as OVER-EXPLOITED from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State Water Resources Department.
- (xxx) “**Rainwater Harvesting**” means the technique or system of collection and storage of rainwater, at micro watershed scale, including roof-top harvesting, for future use or for recharge of groundwater;
- (xxxi) “**Recycle/Reuse**” means using treated waste water for various purposes/ putting water to multiple uses.
- (xxxii) “**Rules**” means Chhattisgarh Ground Water (Management and Regulations) **Rules, 2024;**
- (xxxiii) “**Safe Block**” means block categorized as SAFE from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State Water Resources Department;

- (xxxiv) **“Saline Water”** means water having salinity in excess of 2500 μ siemens/cm at 25⁰C;
- (xxxv) **“Section”** means a Section of the Act;
- (xxxvi) **“Semi-critical Block”** means block categorized as SEMI-CRITICAL from the ground water resources point of view, based on the latest ground water resources assessment carried out jointly by CGWB and State Water Resources Department;
- (xxxvii) **“Supplier of Water”** means Government or Government approved Water Supply Agency;
- (xxxviii) **“Water Audit”** means A method of quantifying water use in simple or complex systems, with a view to reducing water usage and saving resources on otherwise wasteful water use;
- (xxxix) **“Water efficient technologies”** means a technologies of unique advancement have develop to make water softeners more sustainable and cost effective;
- (xl) **“Water Intensive Industries”** means industries that have high usage of water need for treatment for example - brewery and carbonated beverage water, dairy industries, sugar mills refineries, textile manufacturing, pulp and paper mill, oil and gas, steel plant, the automotive and aircraft industries etc.;
- (xli) **“Water Table Intersection”** means intersection of the water table on excavation of the overlying material due to mining or other activities;
- (xlii) **“Well”** means any structure used for the extraction of groundwater, including open wells, dug wells, bore wells, dug-cum-bore wells, tubewells, filter points, collector wells, infiltration galleries, recharge wells, tunnel well or any of their combinations or variations.
- (2) Words and expressions used but not defined in these rules shall have the same meanings as respectively assigned to them in the Act.

CHAPTER – II

Chhattisgarh Ground Water Management and Regulatory Authority

3. **Make provisions for smooth and proper functioning.**-The State Government shall make Provisions for the staff and Office including all institutional support and working facilities, budgetary requirements for State Ground Water Management and Regulatory Authority, District Ground Water Management Council and Block Level Ground Water User Registration Committee for smooth and proper functioning.

4. **(I) Functionary of Chhattisgarh Ground Water Management and Regulatory Authority.-**

(1) The State Government shall, by notification in the Gazette, constitute, with effect from such date as may be specified in the notification, a State Authority to be known as the Chhattisgarh State Ground Water Management and Regulatory Authority.

(2) The Chhattisgarh Ground Water Management and Regulatory Authority shall consist of-

1. The Chief Secretary	-Chairperson
2. The Secretary In charge, Water Resources Department	-Member
3. The Secretary In charge, Finance Department	- Member
4. The Secretary In charge, Public Health Engineering Department	-Member
5. The Secretary In charge, Agriculture Department	-Member
6. The Secretary In charge, Industries Department	-Member
7. The Secretary In charge, Mineral Resources Department	-Member
8. The Secretary In charge, Urban Administration Development	-Member
9. The Engineer-in-Chief, Water Resources Department	-Member-Secretary
10. The Engineer-in-Chief Public Health Engineering Department	-Member
11. The Member Secretary, State Environment Conservation Board	- Member
12. The Regional Director, Central Ground Water Board (NCCR) Raipur	-Member
13. The Principal Chief Conservator of Forest	-Member
14. Three Subject Experts having long standing working experience of ground water in the State of Chhattisgarh (to be nominated by the State Government)	-Member

15. An eminent person from Public/Non- Government organization/ Social Sector working in the field of ground water (to be nominated by the State Government) -Member
- (3) The term of office and the manner of filling the vacancies and other conditions of services of the Subject Experts and Eminent Persons from Public/Non-Government Organization/ Social Sector shall be such as defined in rule 9 and 10.
- (4) Engineer-in-Chief, Water Resources Department, Chhattisgarh shall be the Nodal Executive Officer on behalf of the State Ground Water Management and Regulatory Authority.
- (5) The office of the Engineer-in-Chief, Water Resources Department, Chhattisgarh, Shivnath Bhawan, Nava Raipur shall work as the Secretariat of the State Ground Water Management and Regulatory Authority.

(II) Functions of the State Ground Water Management and Regulatory Authority shall be –

- (1)(a) to notify the areas for management and regulation of ground water resources as provided under Section 8;
- (b) to de-notify the areas for management and regulation of ground water resources as provided under Section 10;
- (c) to fix ground water abstraction limits as provided under Section 13;
- (d) to grant permission for ground water abstraction for industrial/ commercial / mining purposes in non-notified/notified areas;
- (e) to collect levy for ground water abstraction;
- (f) to develop and adopt updated technology for monitoring and Management mechanism for ground water uses;
- (g) State Ground Water Management and Regulatory Authority for efficient and smooth working may delegate powers to exercise functions mentioned in this clause as it may deem fit;
- (h) to supplement (and mandate, if needed) the installation and operation of ground water measurement devices if deemed suitable, in order to measure and monitor water being withdrawn, consumed and utilized;
- (i) to supplement (and mandate, if needed) the creation of a water resource data base (focusing specifically on ground water if deemed necessary) to consolidate resource availability, usage and sustainability;
- (j) to facilitate special ground water studies using sensors and mapping tools to help in monitoring and asset management;
- (k) to prepare a Ground Water Resource Management Action Plan in coordination with District Ground Water Management Council and block-

level authorities, to plan and prepare for sustainable interventions to ensure ground water resource longevity, judicious consumption and conservation / treatment interventions;

- (l) to promote the conjunctive usage of ground water and surface water, wherever feasible;
- (m) to adjudge the quantum of ground water being used for irrigation purposes and supplement through alternate sources, wherever deemed feasible;
- (n) to converge with other Departments in order to ascertain the viability of Integrated Water Resource Management Plans, Water Security Plans, Roadmaps for Water Conservation and other sustainability measure;
- (o) to monitor land-based disputes over ground water ownership and intervene if needed.

(2) Staff of the State Ground Water Management and Regulatory Authority, -

- (a) To enable the State Ground Water Management and Regulatory Authority to perform its functions properly or exercise the powers under this Act, the State Government may appoint/depute such number of technical personnel and other staff as it may consider necessary including all institutional support, facilities and the budget;
- (b) The State Ground Water Management and Regulatory Authority shall function under the overall control and supervision of the State Government.

(III) Fund of the State Ground Water Management and Regulatory Authority,-

To enable the State Ground Water Management and Regulatory Authority to perform its functions properly or exercise the powers under this Act, the State Government shall provide necessary facilities and the budget.

5. (I) Functionary of District Ground Water Management Council- (1) District Ground Water Management Council shall be constituted and will be an overall unit for management of ground water resources at district level, which shall consist of, -

- (a) Chairperson – Collector
- (b) Vice Chairperson – Chief Executive Officer, Jila Panchayat
- (c) Member Secretary – Executive Engineer, Water Resources Division of the District HQ;
- (d) Two Members as subject Expert having longstanding working experience/knowledge in the field of Ground water, to be nominated by the Chairperson;

- (e) Other Members shall be the District Level Representatives (one each)
 Divisional Forest Officer, Forest
 Assistant Geohydrologist, District Ground Water Survey Unit,
 Regional Officer, Chhattisgarh Environment Conservation Board,
 Deputy Director, Agriculture Department,
 Commissioner / CMO Nagar Nigam/Nagar Palika of District HQ (Local
 Body),
 General Manager/ Deputy Director, District Industry Center,
 Executive Engineer, Public Health & Engineering Department.

- (2) The terms and conditions of the service of the nominated subject expert of ground water members shall be such as defined in rule 9 and 10.

- (II) Functions of the District Ground Water Management Council shall be, -**
- (a) To consolidate District level Ground Water Security Plan, based on macro- watershed approach and as per the guidelines as may be prescribed;
 - (b) Implementation of District Ground Water Security Plan;
 - (c) To monitor the implementation of District Ground Water Security Plan;
 - (d) To conduct water awareness program;
 - (e) To register all existing commercial, industrial, infrastructure and bulk users in notified and non-notified areas;
 - (f) To recommend grant of permission for ground water abstraction in notified /non-notified areas;
 - (g) Registration of Drilling Agencies / Drilling Rig Machine;
 - (h) To carry out such other functions, as may be prescribed or assigned by the State Ground Water Management and Regulatory Authority;
 - (i) District Magistrate/Chairman of District Ground Water Management Council shall constitute committee of Urban local body within the territorial jurisdiction of respective district regarding registration of all existing/ new domestic/drinking/agriculture ground water users in the concerned Urban local body and to establish monitoring network (Construction of Piezometer and installation of DWLR Telemetry) for monitoring of water level. Number of Piezometers will be decided by concerned Urban local body according to area of Urban body;
 - (j) Co-ordinate District Ground Water Management Council with the State Ground Water Management and Regulatory Authority.

(III) The fund of District Ground Water Management Council –To enable the District Ground Water Management Council to perform its functions properly or exercise the powers under this Act, the State Government/Local Administration shall provide necessary facilities and the budgetary support.

6. (I) Functionary of Block Level Ground Water User Registration Committee, – A Block-Level Ground Water User Registration Committee, shall be Constituted which will register all existing/ new domestic and agriculture ground water users in the block, which shall consist of, -

- (a) the Chairperson – Chief Executive Officer Janpad panchayat of the block ;
- (b) Member-Secretary – Sub-Divisional Officer, Water Resources Sub-Division of block;
- (c) Other Members shall be the Block Level Representatives (one each) from Agriculture, Panchayat and Rural Development, Industries, Public Health & Engineering and Forest;

This committee shall take guidance and instructions from concerning Sub- Divisional Magistrate (SDM) for smooth discharge of its functions and report to the SDM.

(II) Function of Block-Level Ground Water User Registration Committee shall be–

- (a) to conduct water awareness programs;
- (b) to register all existing / new domestic, agriculture Ground water user of non-notified and notified areas of block; and
- (c) to carry out such other functions, as may be prescribed or assigned by the Authority.

(III) Fund of Block Level Ground Water User Registration Committee – To enable the Block-Level Ground Water User Registration Committee to perform its functions properly or exercise the powers under this Act, the State Government/Local Administration shall provide necessary facilities and the budgetary support.

7. To provide support by the District/Local Administration.–For efficient and smooth discharge of duties and functions defined in Section 24 of the Act and rule 29, 31 and 33 of these rules, the CGGWA and its District, Block and Urban level bodies shall be supported by District/local administration to deal with all administrative and law and order related issues

8. Honorarium.– Honorarium , as decided / specified by State Government, will be paid to the Nominated Members of the appropriate body.

- 9. Terms of office.**-The terms of office of the Nominated members of Chhattisgarh Ground water Management and Regulatory Authority and District Ground Water Management Council shall be three years.
- 10. Minimum qualification.**-The minimum qualifications of members referred to in rule 8 shall be as appended in Appendix-A to these rules.
- 11. Meetings.**- The meetings of the appropriate body shall be at such time as may be directed by Chairperson of Body provided that the period between two consecutive meetings shall not exceed.
- (a) Thirty days, in the case of Block Level Ground water User Registration Committee,
 (b) Sixty days or as may be deemed necessary in the case of District Ground water Management council.
 (c) 180 days or as may be deemed necessary in the case of Chhattisgarh Ground water Management and Regulatory Authority:
- However, Appropriate Body may meet as many times as they deem fit.

CHAPTER – III

IDENTIFICATION AND DEMARCATION OF NOTIFIED AREAS

- 12. Manner of identification and demarcation of areas to be declared as Notified areas.-**
- (1) **Rural areas:-** Under the provisions of the Act, for the purpose of demarcation of the Notified areas, the over-exploited and critical blocks shall be considered. The Water Resources Department, therefore, shall identify and prepare the district-wise list of blocks categorized as over-exploited and critical blocks, based on the latest ground water resource assessment report.
- (2) **Urban areas:** In the Urban area, as provided in the Act, the stressed area where ground water levels have depleted to critical/alarming level shall be considered for the purpose of declaring such area as Notified areas. The Urban local body shall identify and delineate those urban areas as stressed, where ground water level has recorded a significant decline of more than 20 cm per year during the last five years as mentioned under rules 5(II)(i). The Water Resources Department shall approve Notified Areas, as identified and delineated by committee of urban local body.
- (3) The Water Resources Department shall submit the list of over exploited and critical blocks and the stressed urban area to the Chhattisgarh Ground water Management and Regulatory Authority for notifying the said areas, as provided in the Act.

13. Issuance of Notification. -

- (1) The State Ground Water Management and Regulatory Authority shall have necessary consultation on the inputs provided by the Water Resources Department related to over exploited and critical blocks categorized as per the latest Ground Water Resource Assessment and the stressed Urban areas identified by the Department on the basis of analysis of Ground Water depletion.
- (2) The Authority, thereafter, shall advise the State Government to declare by notification such areas as notified areas for the purpose of implementation of different provisions of the act. On the basis of recommendation of Water Resources Department, the Chhattisgarh Ground water Management and Regulatory Authority shall also advise State Government to discontinue or redesign such Government schemes which are directly dependent on Ground Water extraction.
- (3) The State Government shall duly consider the recommendation and advice of Chhattisgarh Ground water Management and Regulatory Authority for declaration of such areas as Notified areas by Notification, in the Gazette.
- (4) The notification referred to in sub rule (3) shall be uploaded on the websites of all concerned departments and shall also be publicized widely in public interest.

CHAPTER – IV**REGISTRATION OF WELLS AND BAN ON NEW WELL IN NOTIFIED AND NON-NOTIFIED AREAS****14. Procedure for application for registration of well. -**

- (1) Any existing Commercial or Industrial or Infrastructural or bulk user, who has sunk a well for extracting or using ground water in notified area or non-notified area before the date of coming into force of the Act, shall make an application in **Form 1(A)**, referred to in sub section (1) of Section 9 of Act, within a period of 180 days from the date of coming into force of the Rules, to the District Ground water Management council and any future commercial or Industrial or Infrastructural or bulk user in non-notified area shall also make, an application in **Form 1(A)**, referred to in sub-section (1) of Section 9 of Act.
- (2) Any existing Commercial or Industrial or Infrastructural or bulk user, who has sunk a well for extracting or using ground water in a notified area or a non-notified area before the date of coming into force of the Act, and having valid No Objection Certificate issued by Central Ground Water Authority for extracting or using Ground

Water, shall make an application, in **Form 1(B)**, referred to in sub-section (1) of section 9 of Act, within a period of ninety days from the date of coming into force of the rules, to the District Ground water Management council.

- (3) Every existing user of Ground water, other than those mentioned in sub-rule (1) of 13, including domestic and agricultural users and tube wells of urban administration (local body) of Ground water, who have sunk well or boring in his or her premises or agricultural land holdings, shall make an application, in **Form 1(C)**, referred to in sub-section (2) of Section 9 of Act, within a period of six months from the date of coming into force of these rules, to the Block-level Ground Water User Registration Committee. In the Urban areas, similar procedure will be adopted by committee of urban local body as mentioned under rules 5(II)(i) for every existing drinking/domestic/agriculture Ground Water user of Urban area.
- (4) Every future user of Ground Water, other than those mentioned in sub-rule (1) of rule 14, including domestic and agriculture users of Ground Water, who desires to sink well or boring in his or her premises or Agricultural land holdings, shall make an application, in **Form 1(D)**, referred to in sub-section (2) of Section 9 of Act to the Block-level Ground Water User Registration Committee, prior to sinking of such well, in the Urban area similar procedure will be adopted by committee of urban local body as mentioned under rule 5(II)(i) for every future drinking/domestic/agriculture Ground Water user of Urban area:

Provided that a user who has sunk more than one well for extracting or using Ground Water in the area shall be required to submit separate application Forms for each well.

- (5) Form 1(A,B,C,D) shall be downloaded free of cost from the online web portal of Authority.
- (6) Improper filling up of form, and failure to annex all necessary documents specified in, Form 1(A,B,C,D) shall make the application liable to be rejected.
- (7) All applications as mentioned in above sub-rules shall be submitted online at web portal of Authority.

15. Procedure of modification or alteration in registered well.-

- (1) If any registered Commercial or Industrial or Infrastructural or bulk user of Ground Water in notified area, having certificate of registration, wants to carry out any modification or alteration in registered well, he or she or a group of persons or an agency (as the case may be) shall obtain clearance for the same from State Ground

Water Management and Regulatory Authority by submitting **Form 2(A)** to respective District Ground Water Management Council. For this, concerning user shall pay fee as prescribed in Table 9.2 of Schedule-IX.

- (2) If any registered commercial or Industrial or Infrastructural or bulk user of Ground Water wants to carry out any modification or alteration in registered well in non-notified area, he or she or a group of persons or agency (as the case may be) shall obtain clearance for the same from Chhattisgarh Ground Water Management and Regulatory Authority by submitting **Form 2(B)** to respective District Ground Water Management Council. For this, concerning user shall pay fee as prescribed in sub table 9.2 of Schedule IX.

16. Disposal of application for certificate of registration by District Ground Water Management Council or Block/Urban Level Ground water User Registration Committee. –

- (1) On receipt of the application under sub-rule (1) of rule 14, if the District Ground Water Management Council considered that the application is for issuance of a certificate of registration under sub-section (1) of Section 9 of the Act, it shall, after being satisfied in its meeting, approve the case and grant certificate of registration in **Form 3(A)** to the user and if the concerned District Ground Water Management Council is not satisfied with the case, it shall refuse to grant certificate of registration after giving substantial reason and shall intimate accordingly to the user in **Form 4(A)**.
- (2) On receipt of the application under sub-rule (2) of rule 14, existing Commercial or Industrial or Infrastructural or bulk users, who submit a copy of valid No Objection Certificate issued by Central Ground Water Authority shall automatically be registered. Such users shall get electronically generated certificate of registration in **Form 3(B)**, within 15 days of online submission of proper application.
- (3) On receipt of the application under sub rule (3) and sub rule (4) of rule 14, Agricultural and domestic users of Ground Water shall automatically be registered. Such users shall get electronically generated certificates of registration in **Form 3(C)**, within 15 days from online submission of proper application.
- (4) Users, whose application for grant of registration have been rejected under sub rule (1), may apply to Chhattisgarh Ground Water Management and Regulatory Authority through Secretary of the Authority, for disposal of application. Decision

of State Ground Water Management and Regulatory Authority in such cases shall be final.

- (5) Any decision taken by the concerned District Ground Water Management Council or Block-level Ground Water User Registration Committee, under this rule regarding grant or refusal of certificate or registration shall be intimated to the user electronically, within a period of one month from the date of receipt of such application.
- (6) Users may also receive a duly signed copy of registration certificate from office of the District Ground Water Management Council or Block-level Ground Water User Registration Committee, as the case may be.

17. Registers for certificate of Registration.-

- (1) For every registration certificate issued in Form 3(A) or 3(B), an e-register shall be maintained at online web portal of Authority.
- (2) Each District Ground Water Management Council shall also maintain a separate register of duly signed copies of registration certificate issued in Form 3(A) and 3(B).
- (3) Each Block level Ground Water User Registration Committee shall also maintain a separate register of duly signed copies of registration certificate issued in Form 3(C).

18. Application Fee. –

- (1) A Commercial or Industrial or Infrastructural or bulk users shall deposit such amount of fee as decided by Chhattisgarh Ground Water Management and Regulatory Authority for filling application for registration of well as stated in sub-rule (1) and (2) of rule 14. Please refer Schedule-IV.B for application fee. Chhattisgarh Ground Water Management and Regulatory Authority may periodically review the amount of fee for different category of users of Ground Water.
- (2) There shall be no fee for filling application under sub-rule (3) and (4) of rule 14.
- (3) The application fee referred to in sub-rule (1) and (2) shall be paid online and shall be deposited in Ground Water Conservation Fund (Bhujal Sanrakshan Kosh), created by State Government.

19. Ban on Construction of new well in notified area. - On submission of the list of Over-exploited, Critical block and the stressed urban area by Water Resources Department, Chhattisgarh Ground Water Management and Regulatory Authority shall advise State Government to ban on Construction of new well except for Government

schemes for drinking water supply and tree plantation in notified area as provided in Section 10 of the Act. Such ban shall continue till the area is de-notified.

20. Preparation and Implementation of Ground Water Security Plan in notified area.— For ensuring and achieving sustainability of Ground Water stress in notified areas, District Ground Water Management Council shall prepare Ground Water Security Plan, based upon macro- watershed approach and input Ground Water data base and shall be responsible for implementation and monitoring of the District Ground Water Security Plan.

21. Process for registration of drilling agencies.-

- (1) Any person including firm, agency or company, who desires to perform drilling work for Ground Water extraction shall make, in **Form 5(A)**, an application referred to Section 18 of the Act, to the District Ground Water Management Council. Separate registration for drilling shall be required for each district;
- (2) Any person including firm, agency or company, who is engaged in drilling work for Ground Water extraction prior to commencement of Rule, shall make, in **Form 5(B)**, an application referred to Section 18 of the Act, within a period of 180 days from the date of coming into force of the Rule, to the District Ground Water Management Council;
- (3) On receipt of the application under sub rule (1) of rule 21, if the District Ground Water Management Council considers that the application is for issuance of a certificate of registration under Section 18, it shall, after being satisfied in its meeting, approve the case and grant certificate of registration in **Form 6(A)** to such drilling agency and if the concerned District Ground Water Management Council is not satisfied with the case, it shall refuse to grant certificate of registration and shall intimate accordingly to such person in **Form 7(A)**;
- (4) On receipt of the application under sub-rule (2) of rule 21, the District Ground Water Management Council shall issue certificate of registration in **Form-6(B)** to such drilling agency;
- (5) If any person including firm, agency or company, desires to perform drilling work in more than one District, he or she or as the case may be, shall be required to submit separate application for each District;
- (6) If any person including firm, agency or company, who has already obtained registration certificate for drilling work in one district and also wants to register in another District, he or she shall make, in **Form 5(A)** an application. He or she shall also have to up-load a copy of registration already obtained with the Form;

- (7) On receipt of the application under sub-rule (6) of rule 21, the District Ground Water Management Council shall issue certificate of registration in Form 6(B) to such drilling agency within seven days of receiving the application;
- (8) District Ground Water Management Council shall also ensure that drilling agency registered under sub-rule (3), sub-rule (4) and sub-rule (7) shall not execute drilling work in notified area.
- (9) Registered drilling agencies shall also provide details of drilling work executed in every month online.
- (10) Any decision taken by the concerned District Ground Water Management Council, under this rule regarding grant or refusal of certificate of registration shall be intimated to the user electronically, within a period of one month from the date of receipt of such applications.
- (11) User may also receive a duly signed copy of registration from office of the District Ground Water Management Council.
- (12) Separate registers for issuance of registration certificate to drilling agencies shall be maintained by District Ground Water Management Council.
- (13) It will be mandatory for all registered drilling agencies to equip their drilling rig machine with GPS System.

22. Application Fee.-

- (1) Any applicant under rule 21(1)(2)(6) shall deposit such amount of fee as prescribed in Schedule-V.
- (2) The application fee referred to in sub-rule (1) above, shall be paid online and shall be deposited in Ground Water Conservation Fund (Bhujal Sanrakshan Kosh).

CHAPTER – V GRANT OF PERMISSION

23. Exemption.- Following categories of users/persons shall be exempted from seeking Permission for Ground Water Abstraction.-

- (i) Individual domestic consumers in both rural and urban areas for drinking water and domestic uses where public water supplies do not exist;
- (ii) Rural drinking water supply schemes;
- (iii) Armed Forces Establishments and Central Armed Police Forces establishments in both rural and urban areas;

- (iv) Agricultural Consumers for agriculture activities including fishery culture, dairy, horticulture and veterinary uses;
- (v) Micro and small Enterprises drawing ground water less than 10 cum/day;
- (vi) All industries/ mining projects/ infrastructure projects drawing ground water only for drinking/ domestic purposes up to 5 Cum /day in all assessment units;
- (vii) Residential Apartments and Group Housing Societies:-
 - (a) For drinking water and domestic uses, drawing ground water up to 20 m³ /day subject to the conditions mentioned in **Schedule-VI** of the rule.
 - (b) Dwelling units for Economically Weaker Sections (EWS) under Government schemes:

However, above all ground water users shall get themselves registered with the appropriate body as the case may be.

- 24. Procedure for issuance of permission certificate for users.-** (1) Any future or existing user, under sub-clause (1) of rule 14, who does not have No Objection Certificate issued by Central Ground Water Authority or by Water Resources Department, Chhattisgarh shall make, in **Form 4(B)**, an application to the Chhattisgarh Ground Water Management and Regulatory Authority for issuance of grant of Permission.
- (2) **Form 4(B)** shall be downloaded free of cost from the online web portal of Authority.
- (3) Such forms not duly filled and enclosed with required documents in **Form 4(B)**, shall be liable to be rejected.
- (4) All new/existing industries, industries seeking expansion, infrastructure projects and mining projects abstracting ground water, unless specifically exempted as mentioned in Chapter-V of these rules, will now be required to seek permission from Chhattisgarh Ground Water Authority.
- 25. Procedure for renewal of no objection certificate.-** (1) Any existing Commercial or Industrial or Infrastructural or bulk user, who has sunk a well for extracting or using Ground Water in notified or non-notified areas, and having valid No-Objection Certificate issued by the Central Ground Water Authority before the date of

commencement of the Act, and desires to continue extraction of Ground Water, shall make an application in **Form 4(C)**.

(2) A user, having pre-existing right of Ground Water, shall apply for renewal of No-Objection on or before the expiry of the validity of existing No-Objection Certificate.

26. Disposal of application for grant of permission by Chhattisgarh Ground Water Management and Regulatory Authority.-

- (1) Application as received above shall be Scrutinized by District Ground Water Management Council in accordance to the provisions of Rules and shall be forwarded to Chhattisgarh Ground Water Management and Regulatory Authority.
- (2) On receipt of the application under rule 24, if, the Chhattisgarh Ground Water Management and Regulatory Authority considers that the application is for issuance of grant of Permission under Section 12 of Act, it may grant Permission in **Form 4(D)** to the user and if the Chhattisgarh Ground Water Management and Regulatory Authority is not satisfied with the case, it shall refuse to issue Permission and shall intimate accordingly in **Form 4(F)**.
- (3) Permission issued under sub-rule (2) shall be valid for a period as prescribed in Schedule-IV (A). In case of violation of any of the condition of Permission Certificate or change in Ground Water status of the area, Chhattisgarh Ground water Management and Regulatory Authority shall have the right to either cancel Permission or impose restriction as the Authority finds appropriate.
- (4) On receipt of the application under rule 25, District Ground Water Management Council forwards the application to the Chhattisgarh Ground Water Management and Regulatory Authority after scrutiny with comments. On recommendation of District Ground Water Management Council, Chhattisgarh Ground Water Management and Regulatory Authority, may renew Permission in **Form 4(E)** for a period as prescribed in Schedule-IV(A).
- (5) Any decision taken by the Chhattisgarh Ground Water Management and Regulatory Authority, under this rule regarding grant or refusal of Permission shall be intimated to the user electronically, within a period of ninety days from the date of receipt of such application:

Provided that the user may receive the copy of the intimation by hand from the office of the Chhattisgarh Ground Water Management and Regulatory Authority.

27. Register for grant of permission.- Chhattisgarh Ground Water Management and Regulatory Authority shall maintain separate register for issuing certificate of Permission in prescribed form.

28. Application fee for grant of permission certificate and fee for ground water extraction/drawl.-

- (1) A Commercial or Industrial or Infrastructural or bulk user seeking permission to extract Ground Water shall deposit such amount of fee as may be prescribed in Schedule-IV(A). The Chhattisgarh Ground water Management and Regulatory Authority may review the amount of fee for different category of users of Ground Water from time to time.
- (2) After grant of Permission on an application referred to in sub-rule (1) of rule 24, an annual amount of fee/Levy for Ground Water extraction, as prescribed in Schedule-VIII shall be deposited annually by such user. The Chhattisgarh Ground water Management and Regulatory Authority may review the amount of fee of extraction for different category of users of ground water, from time to time.
- (3) The fee referred to in sub-rule (1) and sub-rule (2) shall be paid in such manner as prescribed in **Form 4(B)** and shall be deposited in Ground Water Conservation Fund (Bhujal Sanrakshan Kosh).

CHAPTER – VI

**FIXING LIMIT OF ABSTRACTION OF GROUND WATER FOR
COMMERCIAL, INDUSTRIAL, INFRASTRUCTURAL OR BULK USER**

29.Procedure for fixing limit.-

- (1) For fixing Ground Water abstraction limit for all the existing Commercial, Industrial, Infrastructural or bulk users of Ground Water, the Water Resources Department, in consultation with stakeholders, shall submit a proposal to the Chhattisgarh Ground water Management and Regulatory Authority.
- (2) On the basis of proposal submitted by Water Resources Department, the Chhattisgarh Ground water Management and Regulatory Authority may fix Ground Water Abstraction limits for all the Commercial, Industrial, Infrastructural or bulk users of Ground Water.
- (3) Ground Water Abstraction limits fixed under sub-rule (2) shall be written in the registration or grant of Permission Certificate for wells of existing Commercial, Industrial, Infrastructural or bulk users of Ground Water in notified as well as non notified areas and for all the new Commercial, Industrial, Infrastructural or bulk user of Ground Water in notified areas, as the case may be.

CHAPTER – VII**USE OF APPROPRIATE TECHNOLOGY FOR MONITORING OF GROUND WATER USAGE****30. Use of technology for monitoring of machinery system.-**

- (1) For Monitoring of exploitation of Ground Water, appropriate technology shall be used to monitor and collect the required data for various categories of ground Water users and power to use such technology shall be vested with appropriate authority.
- (2) It will be mandatory for all users of Ground Water to provide and share information and to abide by such instructions of the appropriate authority on the use of specific software, applications, tools and smart meters etc.
- (3) The appropriate Authority shall make use of available technology to collect real-time information/data of the Ground Water exploitation/usage.
- (4) Use of technology such as Geo-tagging of Ground Water Abstraction structure, GPS technology for rig machine, Water supply tanker, IoT-based sensors and such other technology available in future may be used.

CHAPTER–VIII**VIOLATION, OFFENCES, PENALTIES AND COMPOUNDING OF OFFENCES****31. Process of compounding of offences.-**

- (1) The violation and offences defined in Section 18 and 19 of the Act shall be dealt with and penalized as per Schedule-IX and provisions made under respective sections of the Act.
- (2) The application for compounding of an offence shall be made in the form appended as Appendix-B to these rules.
- (3) The compounding fee shall be applicable as per provisions of the section 21 of the Act read with Table-9.1, 9.3, 9.4 and 9.5 of Schedule-IX of this rule.
- (4) Information and data regarding the security arrangement for any old, incomplete, defunct, abandoned or un useful tube/bore well as described in Section 19(1)(e) of the Act shall be dealt and maintained as per I.B of Schedule-IX.

- 32. Delegate of the powers.-** CGGWA/ District Ground Water Management Council may delegate powers to any person/group of persons to inspect any premises, ask for records, to enter into any premises, inspect installation of tools & equipments and call for records and seizure of equipments/premises etc. in case of violation. Such person/group of persons shall be deemed to be public servants within the meaning of Section 21 of the Indian Penal Code.
- 33. Employees of the Authority to be Public Servants. -** All employees of the State Ground Water Management and Regulatory Authority and other authorized persons when acting or purporting to act in pursuance of the provisions of this Rule shall deemed to be public servants within the meaning of Section 21 of the Indian Penal Code.
- 34. Introduced of the scheme.-**The State Government/CGGWA may introduce one-time settlement schemes or any other schemes for regularization of existing irregular Ground Water usages.

CHAPTER – IX GRIEVANCE REDRESSAL

35. Procedure for grievance redressal.-

- (1) Any aggrieved person may submit his or her grievance with sufficient justification online at web portal of Authority on issues referred to Section 23 of the Act.
- (2) The District Ground Water Grievance Redressal Officer may, if require, issue notice to the alleged user to submit his or her explanation within a period of thirty days from the receipt of Grievance application.
- (3) The alleged person shall submit his or her explanation to District Ground Water Grievance Redressal Officer, within a period of thirty days of receiving notice.
- (4) District Ground Water Grievance Redressal Officer shall decide the grievance and communicate his or her decision to the aggrieved person within thirty days of receiving of explanation of alleged user:

Provided that the aggrieved person may prefer an appeal against the decision of the District Ground Water Grievance Redressal Officer to the State Ground water Management and Regulatory Authority within sixty days from the date of receipt of the decision of the District Ground Water Grievance Redressal Officer.

CHAPTER –X

**PROCESS FOR FIXING STANDARDS OF TREATED WASTE WATER,
INSTALLATION OF THE TREATMENT PLANT AND RAIN WATER
HARVESTING**

- 36. Power of the appropriate body to call for information.-** An Appropriate body may call any information from any Government Department or any other person which is required for efficient discharge of its duties and functions and the said Department and person shall be bound to furnish such information within a reasonable time.
- 37. Process for fixing standards of treated waste water.-**
- (1) On the direction of the Chhattisgarh Ground water Management and Regulatory Authority, the Water Resources Department, in consultation with Central Ground Water Board, Central and State pollution control boards, Department of Urban Administration / Public Health Engineering Chhattisgarh shall submit a proposal to it for approval of standards for treated waste within such time as may be directed by the said Authority.
 - (2) On the basis of proposal submitted by Water Resources Department, State Ground water Management and Regulatory Authority shall approve standards for treated waste water.
 - (3) Chhattisgarh Ground water Management and Regulatory Authority shall issue direction to Ground Water user for compliance of approved standard while granting grant of Permission Certificate.
- 38. Procedure for installation of treatment plant.-**
- (1) The Chhattisgarh Ground water Management and Regulatory Authority shall ensure through District Ground Water Management Councils that all Commercial, Industrial, Infrastructural or bulk users of Ground Water that pollute Ground Water or Surface water, will install treatment plants within a period of one year from the date of commencement of these rules.
 - (2) Each District Ground Water Management Council shall conduct physical verification of all industries in the district thereof, within two months from the date of commencement of these rules.
 - (3) On the basis of report of physical verification, the District Ground Water Management Council shall prepare a list of those industries, which have not constructed appropriate treatment plant. No user, whatsoever shall directly discharge polluted effluents in any water body/Nala/River/underground source of water.

- (4) List of each district as prepared under sub-rule (3) shall be submitted to the Chhattisgarh Ground water Management and Regulatory Authority.
- (5) The Chhattisgarh Ground water Management and Regulatory Authority shall direct the industries referred to in sub-rule (4) that the industries which have not installed appropriate treatment plants shall install the said plant within a period of six months from the date issuance of direction.
- (6) After end of six-month period of direction under sub-rule (5), each District Ground Water Management Council shall conduct physical verification of all industries in concerning districts in a two-month period. On the basis of report of physical verification, District Ground Water Management Council shall again prepare a list of those industries, which have not complied to the direction issued by Chhattisgarh Ground Water Management and Regulatory Authority under sub-rule (5)
- (7) List of each district as prepared under sub-rule (6) shall again be submitted to Chhattisgarh Ground water Management and Regulatory Authority.
- (8) Chhattisgarh Ground water Management and Regulatory Authority shall take action against such user of ground water, who still fails to set up treatment plant within the said period by,-
 - (i) issuing order for constructions of necessary treatment plant at such user cost by the agency identified by the Chhattisgarh Ground water Management and Regulatory Authority.
 - (ii) directing District Ground Water Management Council of concerning district, to issue order for start of prosecution under the provisions of Section 19 of the Act.

39. Procedure for restriction for discharging untreated effluent into ground water or surface water.-

- (1) Chhattisgarh Ground water Management and Regulatory Authority shall monitor through appropriate Authorities that –
 - (a) No Government department/undertaking/corporations/Urban body/ Panchayat and private organization or private user etc. discharges untreated effluents into Ground Water or Surface Water.
 - (b) No untreated Nala or sewer, etc. are directly discharged into rivers/ponds/lakes or any Ground Water or Surface Water.
- (2) Each District Ground Water Management Council shall conduct physical verification for process of effluent discharge adopted by such Government bodies as provided under sub-rule (1), within two months from the date of commencement from these rules.

- (3) On the basis of report of physical verification, District Ground Water Management Council shall prepare a list of the Government bodies referred to in sub-rule (1), which have not adopted appropriate process for treating effluent and are directly discharging untreated effluent into Ground Water or Surface Water.
- (4) List of each district as prepared under sub-rule (3) shall be submitted to State Ground water Management and Regulatory Authority.
- (5) The Chhattisgarh Ground water Management and Regulatory Authority shall issue such instructions to government bodies referred to in sub-rule (4), so as to ensure,-
 - (a) the construction of appropriate treatment plants within one year from the date of issuance of the said instructions, or
 - (b) to make functional the existing treatment plant within six months from the date of issuance of the said instruction.
- (6) At the end of period specified under sub-rule (5), each District Ground Water Management Council shall again conduct physical verification of those Government departments/undertakings/corporations/bodies, etc. which have not yet adopted appropriate processes for treating effluents and/or still directly discharging untreated effluents into Ground Water or Surface Water, within two months.
- (7) List of those Government bodies who have not complied to the advisory issued by Chhattisgarh Ground water Management and Regulatory Authority under sub-rule (6) shall be submitted to Chhattisgarh Ground Water Management and Regulatory Authority for action.

40. Process of imposing provisions for Rain Water Harvesting.-

- (1) Appropriate body shall ensure that Rain Water Harvesting structures have been properly constructed by all users having plot area of 300 square meters or more. Installation of Rain Water Harvesting structures shall be made compulsory for different users:

Provided that in first phases, installation of Rain Water Harvesting structures shall be made compulsory for every such user, who have submersible pump or any similar ground water extracting device for extraction of ground water in his or her premises.
- (2) In first phase every Government Department/Semi-Government Department/ Authorities/Aided Institution/Public sector Undertaking (either fully or partially funded by Government) Private Institutions or Organizations, having plot area of 300 square meter or more, or who are extracting ground water through submersible pumps or similar device, shall also ensure that Rain Water Harvesting structures have been properly constructed in their premises within one year of date of commencement of Rule.

- (3) In second phase (after one year of first phase), every user other than those mentioned in sub-rule (2), having plot area of 300 square meter or more, or who are extracting ground water through submersible pumps or similar device, shall also ensure Rain Water Harvesting structures have been properly constructed in their premises, within one year of end of first phase.
- (4) After installation of Rain Water Harvesting structures, every user shall inform online on web portal of Authority.
- (5) If such user under sub-rule (2) and sub-rule (3), fails to do so, he or she or concerning body shall be punished in such manner and with such penalty as may be determined by the State Ground water Management and Regulatory Authority.
- (6) Besides penalty referred to in sub-rule (5), submersible pump or any other ground water extracting device shall immediately be disconnected, sealed and seized by the District Ground Water Management Council.
- (7) Area-specific design of Rain Water Harvesting structures and quantum of recharge shall be decided by Chhattisgarh Ground water Management and Regulatory Authority. Such designs shall also be made available online.
- (8) Water resources department/Urban Administration Department/Public Health Engineering Department shall also assist for competent technical persons, who shall provide necessary technical assistance for installation of appropriate Rain Water Harvesting structures.
- (9) Appropriate Authorities shall organize training programs for demonstrating Rain Water Harvesting techniques. Appropriate Authorities shall also invite different non-government organizations to participate in such training programs.
- (10) Appropriate Authorities shall also conduct awareness campaign to sensitize different users for Rain Water Harvesting.
- (11) All National/State level institutions like, 'All India Council of Technical Education', 'National Medical Commission', 'University Grants Commission', or other similar bodies shall also ensure compliances required as per these Rule including Installation of appropriate Rain Water Harvesting structures, smart meter etc. into premises.
- (12) District Ground Water Management Council shall also issue direction to concerning implementing department to rejuvenate the defunct wells for water harvesting work.

- (13) Appropriate Authorities shall also issue direction to concerning implementing department to take appropriate actions for water harvesting, viz, reuse the surplus drawl water from hand pumps, etc. in urban and rural areas.

CHAPTER – XI

GROUND WATER CONSERVATION FUND

41. Ground Water Conservation Fund.-

- (1) The State Government has created a fund known as Ground Water Conservation Fund (Bhujal Sanrakshan Kosh) and all the receipts on account of penalties, registration fees, fee/levy on ground water abstraction, etc. shall be credited to this fund.
- (2) Ground Water Conservation Fund shall be utilized for Conservation and Recharge of Ground Water. This fund shall also be used for development of monitoring mechanism of ground water abstraction, infrastructure development of appropriate Body, for usage of appropriate technology including Software & Hardware, hiring of consultants & experts and other personnel as may be required.

CHAPTER – XII

MISCELLANEOUS

42. Identification of the running schemes.-

- (1) District Ground Water Management Council shall identify such existing either Government or privately run schemes which either encourage excessive Ground Water drawl or have adverse impact on water quality of that area.
- (2) District Ground Water Management Council shall submit proposal for revisiting such schemes to State Ground water Management and Regulatory Authority.
- (3) Chhattisgarh Ground water Management and Regulatory Authority shall take immediate action and will issue direction to concerned departments/owners to change or redesign their existing policies or schemes. All concerned departments/owner shall have to change or redesign their existing policies or schemes in such delineated zones.

43. Norms prescribed.- The diameter and depth of the bore well used/to be used for drinking water purposes shall be as per the norms prescribed by Public Health Engineering /Urban Administration Department.

44. Decision to the Cases.- Anything, which has not been provided in these rules shall be put before Chhattisgarh Ground water Management and Regulatory Authority. Decisions, in such cases shall be taken in consonance with the provisions of Act, and communicated accordingly.

**By order and in the name of the
Governor of Chhattisgarh,**

**(Rajesh Sukumar Toppo)
Special Secretary (Indpt. Charge)
Govt. of C.G.
Water Resources Department**

SCHEDULE-I

Industrial Use: -In Over-exploited assessment units, permission shall not be granted for ground water abstraction to any new industry except those falling in the category of Micro, Small and Medium Enterprises (MSME). However, permission for drinking/ domestic use for work force, green belt use by these new industries shall be permitted. Expansion of existing industries involving increase in quantum of ground water abstraction in over-exploited assessment units shall not be permitted. Permission shall not be granted to new packaged water industries or water intensive industries (Annexure-IX) in Overexploited areas, even if they belong to MSME category.

Permission for ground water extraction by industries shall be granted subject to the following specific conditions:-

- (i) Permission shall be granted only in such cases where local government water supply agencies are not able to supply the desired quantity of water.
- (ii) All industries shall be required to adopt latest water efficient technologies so as to reduce dependence on ground water resources.
- (iii) All industries abstracting ground water in excess of 100 m³ /day shall be required to undertake biennial (once in two years) water audit through certified auditors of agencies as approved by CGGWA and submit audit reports within three months of completion of the same to CGGWA. Compliance of the earlier given reports may be checked by certified water auditors after one year and the report in this regard may be shared with CGGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- (iv) In industrial areas (as designated or, notified by Central/State Government), Central Ground Water Board (CGWB) shall construct need-based piezometers as per local hydro-geological conditions and further monitor water levels.
In other than industrial areas as mentioned above, construction of observation well(s)/(piezometer)(s) within the premises and installation of appropriate water level monitoring mechanism as mentioned in **Schedule-IX(VI)** shall be mandatory for industries/Infrastructure drawing/ proposing to draw more than 100 m³ /day of ground water for Hard rock aquifer type and more than 500 m³ /day of ground water for Alluvium aquifer type. Monitoring of water levels in these areas shall be done by the project proponents. Minimum distance between the abstraction structure and piezometer will be 15 m if the aquifer tapped is hard rock and 50 m if the aquifer is alluvium. Depth and aquifer zone tapped in the piezometer shall be the same as that of the pumping well/wells. Detailed guidelines for design and construction of piezometers are given in **Annexure-II**. Monthly water level data shall be submitted to the CGGWA through the web portal.
- (v) The proponent shall be required to adopt roof top rain water harvesting/ recharge in the project premises. Industries which are likely to pollute ground water (chemical, pharmaceutical, dyes, pigments, paints, textiles, tannery, pesticides/ insecticides, fertilizers, slaughterhouse, explosives etc.) shall store the harvested rain water in surface storage tanks for use in the industry and accordingly reduce their abstraction of ground water requirement.
- (vi) Injection of treated/ untreated waste water into aquifer system is strictly prohibited.
- (vii) Industries which are likely to cause ground water pollution e.g., Tanning, Slaughterhouses, Dye, Chemical/ Petrochemical, Coal washeries, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution (**Annexure-III**).
- (viii) All industries drawing ground water in safe, semi-critical and critical assessment units shall be required to pay ground water abstraction charges as applicable as per Tables 8.2A and 8.3A. of **Schedule-VIII**.
- (ix) All existing industries drawing ground water in over-exploited assessment units shall be liable to pay ground water restoration charges as applicable as per Tables 8.2 B and 8.3 B. of **Schedule-VIII**.

- (x) It will be mandatory for every Industrial ground water user to have equipped their ground water abstraction structure with digital flow meter

Documents to be submitted with the application

- (a) An affidavit on non judicial stamp paper of Rs. 100.00 (Rs. One Hundred only) regarding non availability of water supply from local government agencies in cases where ground water requirement is up to 10 m³/day.
- (b) Certificate regarding non/ partial availability of fresh water/ treated waste water supply from the local government water supply agency, where such agency is responsible to supply water for industrial purpose, in cases where requirement of ground water is more than 10 m³/day.
- (c) In case of saline ground water extraction, ground water quality data of existing bore well/ tube well/ dug well from any NABL accredited laboratory or Government approved laboratory.

Note: In case of new projects, water quality data / report of nearby existing wells from above-mentioned laboratories may be submitted for saline ground water extraction

- (d) For all new projects, document as proof of new establishment / commencement of operation i.e. Consent to Establish/ Environmental Clearance/ any other document from a statutory agency.
- (e) Copy of Rain Water Harvesting Plan submitted to Government agency by the applicant or a proposal for rain water harvesting/ recharge in the project premises as per the prevailing Model Building Bye Laws issued by Ministry of Housing & Urban Affairs, Government of India..
- (f) **Impact Assessment report:** All projects extracting/proposing to extract ground water in excess of 100 m³ /day in Over-exploited, Critical and Semi-critical areas and in excess of 500 m³ /day in areas underlain by non-alluvium and 2000 m³ /day in areas underlain by alluvium in Safe assessment units shall have to mandatorily submit impact assessment report and ground water modeling study of existing/ proposed ground water withdrawal on the ground water regime covering 5 KM radius area around the project site prepared by accredited consultants. Pro-forma for the report is given in **Annexure-IV**

SCHEDULE-II

MINING PROJECTS:-

All existing as well as new mining projects will be required to obtain permission for ground water abstraction. Since mining projects are location-specific, there will be no ban on grant of Permission for abstraction of ground water for such projects in over-exploited assessment units.

Permission for mining projects shall be granted subject to the following specific conditions:

- (i) It shall be mandatory for all the mining industries to ensure that water available from dewatering operations is properly treated and should be gainfully utilized for supply for irrigation, dust suppression, mining process, recharge in downstream and for maintaining e-flows in the river system.
- (ii) Construction of observation well(s) (piezometers) along the periphery in the premises, for monthly ground water level monitoring, shall be mandatory for mines drawing/ proposing to draw more than 100 m³ /day of ground water. Depth and aquifer zone tapped in the piezometer shall be commensurate with aquifer used for irrigation/drinking water in the buffer area. Detailed guidelines for design and construction of piezometers are given in Annexure-II.
- (iii) In addition, the proponent shall monitor ground water levels by establishing observation wells (piezometers) in the core and buffer zones as specified in the Permission.
- (iv) In case of coal and other base metal mining the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- (v) In addition to this, all mining units shall also monitor the water quality of mine seepage and mine discharge through NABL accredited/ Govt. approved laboratories and the same shall be submitted at the time of self compliance.
- (vi) All mining projects drawing ground water in safe, semi-critical and critical assessment units shall be required to pay ground water abstraction charges as applicable as per Tables 8.4 A. of Schedule-VIII.
- (vii) All mining projects drawing ground water in over-exploited assessment units shall be liable to pay ground water restoration charges as per Table 8.4 B. of Schedule-VIII
- (viii) All the mining projects purchasing ground water from the irrigation tube wells through tankers shall be liable to pay ground water restoration charges as per the table 8.4A and 8.4 B. of Schedule-VIII.

Documents to be submitted with the application

- (a) Mining plan approved by the concerned Govt. agency/ department.
- (b) Copy of Rain Water Harvesting Plan submitted to Government agency by the applicant or a proposal for rain water harvesting/ recharge in the project premises as per the prevailing Model Building Bye Laws issued by Ministry of Housing & Urban Affairs, Government of India or as feasible in the mine premises and as approved by CGGWA/State agencies.
- (c) Comprehensive report prepared by accredited consultant on ground water conditions in both core and buffer zones of the mine, depth wise and year wise mine seepage calculations, impact assessment of mining and dewatering on ground water regime and its socio-economic impact, details of recycling, reuse and recharge, reduction of pumping with use of technology for mining and water management to minimize and mitigate the adverse impact on ground water, based on local conditions. Format for report is given in **Annexure-V**
- (d) For all new projects, document as proof of new project commencement operation i.e. Consent to Establish/ Environmental Clearance / any other document from a statutory agency.

SCHEDULE-III

INFRASTRUCTURE PROJECTS: Since infrastructure projects are location specific, grant of Permission to such projects located in over-exploited assessment units shall not be banned. New infrastructure projects/ residential buildings may require dewatering during construction activity and/ or use ground water for construction. In both cases, applicants shall seek Permission from CGGWA before commencement of work. However, in over-exploited assessment units, use of ground water for construction activity shall be permitted only if no treated sewage water, or Surface water is available within 10 km. radius of the site. New as well as existing Infrastructure projects shall also be required to seek Permission for abstraction of ground water.

No Permission shall be granted for extraction of groundwater for Water Parks, Theme Parks and Amusement Parks in over-exploited assessment units.

Commercial infrastructure projects requiring ground water for drinking /domestic use shall also be covered under this category. Further, the Indicative list of location-specific Infrastructure projects is given in **Annexure-VI**.

The Permission for ground water abstraction will be granted subject to the following specific conditions :

- (i) In case of infrastructure projects that require dewatering, proponent shall be required to carry out regular monitoring of dewatering discharge rate (using a digital water flow meter) and submit the data through the web portal to CGGWA as applicable. Monitoring records and results should be retained by the proponent for two years, for inspection or reporting as required by CGGWA.
- (ii) Installation of Sewage Treatment Plants (STP) shall be mandatory for new projects, where ground water requirement is more than 50 m³/day. The water from STP shall be utilized for toilet flushing, car washing, gardening etc.
- (iii) For infrastructure dewatering/ construction activity, Permission shall be valid for specific period as per the detailed proposal submitted by the project proponent.
- (iv) All infrastructure projects drawing ground water in safe, semi-critical and critical assessment units shall be required to pay ground water abstraction charges as applicable as per Table 8.3 A. of Schedule-VIII.
- (v) All infrastructure projects (new/ existing) drawing ground water in over-exploited assessment units shall be liable to pay ground water restoration charges as per Table 8.3 B. of Schedule-VIII.
- (vi) All stadiums, cricket grounds, and other sports grounds/courts, golf courses etc shall construct/install appropriate mechanism for artificial recharge of ground water / rain water harvesting
- (vii) It will be mandatory for every infrastructure ground water user to have equipped their ground water abstraction structure with digital flow meter.

Documents to be submitted with the application:-

- (a) In cases where dewatering is involved, submission of impact assessment report along with groundwater modelling in 5 km radius prepared by an accredited consultant on the ground water situation in the area giving detailed plan of pumping, proposed usage of pumped water and comprehensive impact assessment of the same on the ground water regime shall be mandatory. The report should highlight environmental risks and proposed management strategies to overcome any significant environmental issues such as ground water level decline, land subsidence etc.
- (b) An affidavit on non-judicial stamp paper of Rs. 100.00 (Rs. One Hundred only) regarding non availability of water from any other source in case water is required for construction in safe and semi critical areas.

- (c) Certificate from a government agency regarding non availability of treated sewage water or surface water for construction within 10 km. radius of the site in critical and over-exploited areas.
- (d) Certificate of non-availability of water from local government water supply agency in respect of all categories of assessments units for commercial use.
- (e) Copy of Rain Water Harvesting Plan submitted to Government agency by the applicant or a proposal for rain water harvesting/ recharge in the project premises as per the prevailing Model Building Bye Laws issued by Ministry of Housing & Urban Affairs, Government of India.
- (f) Details of water requirement computed as per National Building Code, 2016 (**Annexure-I**), taking into account recycling/ reuse of treated water for flushing, irrigating green areas etc. (in case of completed infrastructure projects for commercial use).
- (g) Completion certificate from the concerned agency for infrastructure projects requiring water for commercial use.
- (h) For all new projects, building plan approval or any other relevant document as proof of new project from a statutory agency.

SCHEDULE- IV**Application Fee: -****A. Application Fee (in Rupees) to be deposited along with the online application for seeking Permissions for Ground Water Abstraction.**

1. **For Industrial use:**
- | | |
|------------------------|------------|
| A. 10-100 cum/day : | - 5000/- |
| B. >100 – 500 cum/day: | - 10,000/- |
| C. >500-1000 cum/day: | - 20,000/- |
| D. >1000 cum/day : | - 25,000/- |

In case of renewal, the application fee shall be deposited at the half of the above rates.

2. **For Infrastructure use:**
- | | |
|-------------------------------------|----------|
| A. Government /PSU/Semi-Government: | 10,000/- |
| B. Others than above: | 15,000/- |

In case of renewal, the application fee shall be deposited at the half of the above rates

3. **For Mining use:**
- | | |
|-------------------|------------|
| A. Direct users | : 25,000/- |
| B. Indirect users | : 10,000/- |

In case of renewal, the application fee shall be deposited at the half of the above rates.

B. Application fee (in Rupee) to be deposited along with the online application for Registration of Commercial or Industrial or Infrastructural or bulk user of Ground Water

1. **For Industrial use:**
- | | |
|------------------------|--------|
| A. 10-100 cum/day : | 1000/- |
| B. >100 – 500 cum/day: | 2500/- |
| C. >500-1000 cum/day: | 4000/- |
| D. >1000 cum/day : | 5000/- |
2. **For Infrastructure use:**
- | | |
|-------------------------------------|--------|
| A. Government /PSU/Semi-Government: | 1000/- |
| B. Others than above: | 5000/- |
3. **For Commercial Use**
- | | |
|-----------------------|--------|
| All commercial users: | 5000/- |
|-----------------------|--------|
4. **For Bulk User**
- | | |
|-----------------|--------|
| All bulk users: | 5000/- |
|-----------------|--------|
5. **For Mining use:**
- | | |
|---------------------|-----------|
| A. Direct users | : 5,000/- |
| B. Indirect users : | 2500/- |

Application Fee shall be deposited by the applicant online through link provided in the web portal of the Authority.

IV A – Validity/Renewal of Permission of Ground water abstraction

Permission of Ground water abstraction shall be renewed periodically, subject to the compliance of the conditions mentioned therein:

- (i) The applicant shall apply for renewal of Permission of Ground water abstraction at least ninety days prior to expiry of its validity.
- (ii) Application for renewal of Permission of Ground water abstraction shall be accompanied by the Compliance Report.
- (iii) Before granting renewal, Chhattisgarh Ground Water Authority shall satisfy itself that the conditions of Permission of Ground water abstraction have been complied with.
- (iv) In case of change in category of the assessment unit, renewals would be granted with conditions as laid down for new category.

- (v) Permission of Ground water abstraction will be renewed for the terms specified for various uses as follows:-

Category	Use	Validity of Permission	Renewal Period
Critical, Semi-critical and Safe	Infrastructure projects for drinking & domestic use and urban Water Supply Agencies	3 years	3 years
	Industries	3 years	3 years
	Mines	2 years	2 years
Over exploited	All users in 'Over-exploited areas'	2 years	2 years

- (vi) If the application for renewal is submitted in time and the CGGWA unable to process the application in time, Permission of Ground water abstraction shall be deemed to be extended till the date of renewal of Permission of Ground water abstraction.
- (vii) If the proponent fails to apply for renewal within 3 months from the date of expiry of Permission of Ground water abstraction, the proponent shall be liable to pay **Environmental Compensation as mentioned in Serial number IV under Schedule IX for the period starting from the date of expiry** of Permission of Ground water abstraction till Permission of Ground water abstraction is renewed by the competent authority.

IV B - Extension of Permission of Ground Water Abstraction-

If the proponent is unable to construct the well(s) during the validity period of Permission of Ground Water Abstraction for genuine reasons, the proponent will have to apply for extension of Permission of Ground Water Abstraction. Application for extension should be supported by documents justifying the reasons for delay. Other conditions for grant of extension of Permission of Ground Water Abstraction will be the same as that for fresh Permission of Ground Water Abstraction.

Extension of Permission of Ground Water Abstraction shall be granted for a maximum period of two years. Beyond two years the applicant will have to apply a fresh for grant of Permission of Ground Water Abstraction.

SCHEDULE-V**Registration of Drilling Rigs:**

District Ground Water Management Council will be responsible for registering drilling rigs operating within their District and for maintaining the database of wells drilled by them. Appropriate link shall be provided in CGGWA portal for making the data available to CGGWA.

No person including firm, agency or company shall perform or engage in drilling the ground for extraction of ground water without registration with District Ground Water Management Council concerned.

It will be mandatory for all registered drilling agency to equip their drilling rig machine with GPS System.

Registered drilling agencies shall also online provide details of drilling work executed in every three months in appropriate link/ web portal.

Fee for Registration of Drilling Rigs:

Rs. 5000 Per Rig Per District for one Year

Non compliance of Registration shall be liable for penalty as per **serial number III under SCHEDULE-IX**

SCHEDULE-VI

Drinking & Domestic use for Residential apartments/ Group Housing Societies/ Government water supply agencies in urban areas;-

For grant of Permission for ground water extraction, the project proponent has to furnish the details as per the guidelines issued by the CGGWA in proper format as available in CGGWA website as per Annexure VIII. Permission for new /existing wells shall be granted only in such cases where the local Government water supply agency is unable to supply requisite amount of water in the area.

Installation of digital water flow meter (conforming to BIS/ IS standards) in all abstraction structure(s) shall be mandatory for all Residential Apartments and Group Housing Societies. All Residential Apartments and Group Housing Societies having swimming pools drawing ground water shall be mandatorily required to seek Permission.

Permission shall be granted subject to the following specific conditions:

- (i) Installation of Sewage Treatment Plants shall be mandatory for all residential apartments/ Group Housing Societies where ground water requirement is more than 20 m³/day. The water from Sewage Treatment Plants shall be utilized for toilet flushing, car washing, gardening etc.
- (ii) The Permission shall be valid for a period of five years from the date of issue or till such time local Government water supply is provided to the project area, whichever is earlier. In case the project proponent receives water supply from the concerned local Government Water Supply Agency during the validity of the Permission, intimation regarding availability of public water supply shall be sent by the project proponent to CGGWA and Permission will be cancelled by the Authority. In other cases, the project proponent will apply for renewal of Permission, ninety days before the expiry of Permission.
- (iii) Proponents shall be liable to pay ground water abstraction charges for the quantum of ground water proposed to be extracted, as per rates mentioned in Table 5.1.
- (iv) It will be mandatory for every ground water user to equip their ground water abstraction structure with digital flow meter.
- (v) Non compliance of condition iv above shall be liable for penalty as per **serial number III under SCHEDULE IX**

Documents to be submitted with the application

- (a) Details of water requirement computed as per National Building Code, 2016 (**Annexure-I**), taking into account recycling/ reuse of treated water for flushing etc.
- (b) Affidavit on non-judicial stamp paper of Rs. 100.00 (Rs. One Hundred only) by the applicant, confirming non/ inadequate availability of public water supply in case of users requiring ground water up to 10 m³/ day for drinking/ domestic use.
- (c) Certificate of non-availability of water from local government water supply agency in cases requiring groundwater in excess of 10 m³/ day for drinking/

domestic use. Government water supply agencies applying permission shall submit copy of government approval of the scheme/ project proposed to be implemented.

- (d) In case of saline ground water extraction, ground water quality data of existing bore well/ tube well/ dug well from any National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited laboratory or Government approved laboratory.

Note: In case of new projects, water quality data/report of nearby existing wells from above-mentioned laboratories may be submitted for saline ground water extraction

- (e) Copy of Rain Water Harvesting Plan submitted to Government agency by the applicant or a proposal for rain water harvesting/ recharge in the project premises as per the prevailing Model Building Bye Laws issued by Ministry of Housing & Urban Affairs, Government of India.
- (f) For all New projects, a self declaration/ affidavit (duly notarized) indicating date of completion of project shall be required.

SCHEDULE-VII**Commercial Use:**

No new major industries (all industries other than MSME) shall be granted Permission in over-exploited assessment areas except as per the policy guidelines.

Availability of ground water shall be duly considered while granting Permission for commercial use.

Commercial entities extracting ground water shall be required to submit online water audit report including an audit of water use as mentioned in the relevant sections. State Ground Water Authority (CGGWA) shall publish all such audit reports online.

CGGWA will engage independent agencies to verify the compliance of Permission conditions periodically.

It will be mandatory for every commercial ground water user to have equipped their ground water abstraction structure with digital flow meter.

SCHEDULE-VIII

Ground water abstraction/ restoration charges

All residential apartments/ group housing societies/ Government water supply agencies in urban areas shall be required to pay ground water abstraction charges.

All industries/mining/ infrastructure projects drawing ground water in safe, semi-critical and critical assessment units will have to pay ground water abstraction charges based on quantum of ground water extraction and category of assessment unit as per details given in this guideline.

All existing mining/ infrastructure projects and existing industries including MSME drawing ground water in over- exploited assessment units will have to pay ground water restoration charges based on quantum of ground water extraction. Further, new MSME, new infrastructure and new Mining projects in over exploited areas shall also be required to pay ground water restoration charges.

Existing industries, infrastructure units and mining projects which have installed/constructed artificial recharge structures in compliance of the conditions prescribed in the groundwater guidelines prevailing at the time of grant of Permission or its renewal shall be eligible for a rebate of 50% (fifty percent) in the ground water abstraction charges/groundwater restoration charges, subject to their satisfactory performance and verification.

The revenue generated from the proposed water abstraction/ restoration charges shall be kept in a separate fund for implementation of site-specific suitable demand/ supply side interventions.

8.1 Rates of Ground water abstraction /restoration charges

I. Drinking and domestic use for residential apartments/ group housing societies/ Government water supply agencies in Urban areas

All residential apartments/ Group Housing Societies requiring water only for drinking/domestic use requiring Permission would pay ground water abstraction charges as per rates given below in **Table 8.1**.

Table 8.1 Ground Water Abstraction charges for Drinking & Domestic use.

Quantum of Groundwater withdrawal (m ³ /day)	Rate of ground water abstraction charges (Rs. per m ³)
0-25	No charge
> 25- < 200	1.00
200 and above	2.00

Government/ Government-authorized agencies supplying water for drinking/ domestic use and Government infrastructure projects shall pay ground water abstraction charges @ Rs. 0.50 per m³ irrespective of quantum of ground water abstraction.

II. Packaged Drinking Water units

Rates of ground water abstraction charges for packaged drinking water units in safe, semi-critical and critical assessment units are given in Table 8.2 A and those for ground water restoration charges in over-exploited assessment units are given in Table 8.2 B.

Table 8.2 A: Rates of ground water abstraction charges for packaged drinking water units (Rs. per m³)

S. No.	Category of area ↓ Groundwater use →	Quantum of ground water withdrawal				
		Up to 50m ³ /day	51 to <200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	3.00	5.00	8.00	10.00

2.	Semi-critical	2.00	5.00	10.00	15.00	20.00
3.	Critical	4.00	10.00	20.00	40.00	60.00

Table 8.2 B: Rates of ground water restoration charges for packaged drinking water units (Rs. per m³)

S. No.	Category of area ↓ Groundwater use	Quantum of ground water withdrawal				
		Up to 50 m ³ /day	51 to <200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited (existing industries only)	8.00	20.00	40.00	80.00	120.00

III. Other Industries & infrastructure projects

Rates of ground water abstraction charges for other industries and infrastructure projects in safe, semi-critical and critical assessment units are given in Table 8.3 A and those for ground water restoration charges in over- exploited assessment units are given in Table 8.3 B.

Table 8.3 A: Rates of Ground Water abstraction charges for other industries & infrastructure projects (Rs. per m³)

S. No.	Category of area ↓ Groundwater use	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe →	1.00	2.00	3.00	5.00
2.	Semi-critical	2.00	3.00	5.00	8.00
3.	Critical	4.00	6.00	8.00	10.00

Table 8.3 B: Rates of ground water restoration charges for other industries & infrastructure projects (Rs. per m³)

S. No.	Category of area ↓ Groundwater use	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited (existing industries /new Industries as per the present Guidelines)	6.00	10.00	16.00	20.00

IV Mining projects

Rates of ground water abstraction charges for mining, which are drawing ground water in safe, semi-critical and critical assessment units are given in Table 8.4 A and those for ground water restoration charges in case of projects drawing ground water in over-exploited assessment units are given in Table 8.4 B.

Table 8.4 A: Rates of ground water abstraction charges for mining (Rs. per m³)

S. No.	Category of area ↓ Groundwater use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	2.00	2.50	3.00
2.	Semi-critical	2.00	2.50	3.00	4.00
3.	Critical	3.00	4.00	5.00	6.00

Table 8.4 B: Rates of ground water restoration charges for mining (Rs. per m³)

S. No.	Category of area ↓ Groundwater use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited	4.00	5.00	6.00	7.00

Water Abstraction and Restoration charges set-off Scheme.

Ground water charges shall be volumetric and shall be based on actual consumption. The initial quantity (up to 10 m³/day) shall be charged at the lowest applicable rate of the charges above and if the usage is exceeded the permitted quantities, the entire usage of water during the billing period shall be charged at higher rates mentioned in the said table.

The consumer will get due credit for conservation of water. The quantity of water conserved and/or recharged to ground water will be set-off with the usage of water consumed. The set-off water used and conserved and/or recharged shall be done at the end of the year.

V. Bulk Water Supply

All private tankers abstracting ground water and use it for supply as bulk water suppliers will now mandatorily seek Permission for ground water abstraction. The bulk water suppliers through tankers drawing ground water in safe, semi-critical and critical assessment units shall pay groundwater abstraction charges as per the **Table-8.5 A**. The bulk water suppliers drawing ground water in over- exploited assessment units shall pay the groundwater restoration charges as per the **Table-8.5 B**.

All those users abstracting ground water and using it for supply as bulk water supplies through private tankers shall mandatorily seek Permission for ground water abstraction as per Rules for Bulk water suppliers as issued and updated by CGGWA from time to time.

All tankers will have to install **GPS based system** for their monitoring of movement/area of operation.

Table-8.5A: Groundwater abstraction charges for Bulk/Tanker water supplies	
Category	Rate per m ³ (in Rs.)
Safe	10
Semi Critical	20
Critical	40

Table-8.5 B: Groundwater restoration charges for Bulk/Tanker water supplies	
Category	Rate per m ³ (in Rs.)
Over Exploited	60

VI. Abstraction of Saline ground water

Abstraction of saline ground water in areas having either saline ground water at all depths or pockets of saline ground water in an otherwise fresh water area for use by industries/ dewatering by infrastructure/ mining projects including those located in over-exploited areas would be encouraged. Such industries shall be exempted from paying ground water abstraction charges.

The list of such assessment units having saline ground water at all depths as per the latest assessment of dynamic ground water resources will be made available by the CGGWA in their website. However, due care shall be taken in respect of disposal of effluents by the units so as to protect the water bodies and the aquifers from pollution.

Abstraction of saline ground water shall be according to the Guidelines for Saline Ground Water Abstraction as issued and updated by CGGWA from time to time.

VII. Protection of Wetland Areas

The wet land areas in the State are very crucial as they are direct reflection of the presence of ground water in such areas. The protection of the wetland areas is being separately handled by the Wetland Authorities. Since ground water is very crucial for the survival of the wetland area, any excessive ground water development within the zone of wetland area would affect the volume of water in that wetland.

Projects falling within 500 m from the periphery of demarcated wetland areas shall mandatorily submit a detailed proposal indicating that any ground water abstraction by the project proponent does not affect the protected wetland areas. Furthermore, before seeking permission from CGGWA, the projects shall take consent/approval from the appropriate Wetland Authority/ State Authority or any other appropriate local government authority to establish their projects in the area.

VIII. ALL USERS EXTRACTING GROUNDWATER FOR SWIMMING POOLS

(New provision made as per public notice issued by CGWA on dated 20th July 2021)

Although individual domestic consumers are exempted from seeking Permission for ground water extraction in both rural and urban areas, all such users, whether existing or new, extracting ground water for swimming pools, shall be required to seek Permission from Chhattisgarh Ground Water Management and Regulatory Authority. The users extracting ground water for swimming pools shall include Residential Apartments, Group Housing Societies, Townships, Bungalows/Villas, Farmhouses, Clubs, Hotels, Resorts, Sports/Swimming Complexes, Swimming Academies, Schools and other such Institutions. No Permission shall be granted for ground water abstraction for swimming pools for new users in over-exploited areas.

The entire process of grant of Permission shall be online through a web based application system and the applications for Permission can be submitted through online portal of CGGWA.

Permission shall be granted subject to the following specific conditions:

1. Permission for the extraction of ground water for swimming pools shall be granted only in such cases where the local Government water supply agency is unable to supply requisite amount of water in the area.
2. All such users shall be required to pay ground water abstraction/ restoration charges for the quantum of ground water proposed to be extracted, as per rates mentioned in the Table 8.3A & 8.3B, clause 3 of Schedule VIII of the Rule.
3. Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all such users seeking Permission for the extraction of ground water for swimming pools and intimation regarding their installation shall be communicated to the CGGWA within 30 days of grant of Permission through the web-portal. The users shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
4. All such users extracting ground water shall install roof top rain water harvesting & recharge systems in the premises as per the prevailing building bye laws in the State. Users will have to ensure that water from the swimming pools is not used for ground water recharge.
5. Extraction of ground water for swimming pools without a valid Permission from appropriate authority shall be considered illegal and such users shall be liable to pay Environmental Compensation for the quantum of ground water so extracted as per Table 9.4 of serial number IV of Schedule-IX of the Rule.
6. In case of violation of any of the Permission conditions, the proponents shall be liable to pay the penalties as per serial number III of Schedule-IX of the Rule.
7. To monitor the compliance of Permission conditions, District Collectors/Deputy Commissioners (DCs) /District Magistrates (DMs) are authorized to take enforcement measures like sealing of illegal wells, disconnection of electricity, launching of prosecution against those violating the Permission conditions and taking action for imposition of Environmental Compensation. Technical officers of CGGWA and State Water Resources Department are authorized to take actions with respect to monitoring and periodic inspections with the approval of competent authority.

SCHEDULE- IX

I A. General Compliance Conditions in Permission of Ground water abstraction

- (i) Installation of tamper proof digital water flow meter/ Pre-Paid Meter (s) (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking Permission and intimation regarding their installation shall be communicated to the CGGWA within 30 days of grant of Permission through the web-portal.

In case the ground water extraction is from multiple bore/tube wells within the same premises, tamper-proof digital water flow meter(s)/Pre-Paid Meter (s) with telemetry can be installed at common outlet point(s).
- (ii) Proponents shall mandatorily get water flow meter calibrated on from an authorized agency once in a year.
- (iii) Proponents shall install roof top rain water harvesting & recharge systems in the project area.
- (iv) Proponents shall pay ground water abstraction/ restoration charges based on quantum of ground water extraction as applicable as per the rates given in Schedule-VIII.
- (v) Purpose-built observation wells (piezometers) for ground water level monitoring shall be installed as per **Schedule IX(VI)**. Water level data shall be made available to CGGWA through web portal. Detailed guidelines for construction of piezometers are given in **Annexure-II**.
- (vi) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analyzed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGGWA through the web portal.
- (vii) If the existing well becomes defunct due to mechanical/other failure within the validity period of Permission, the user can construct a replacement well under intimation to CGGWA on web portal. The defunct well shall be properly sealed (Refer I.B under Schedule-IX). The user will be required to submit documentary proof in this regard. However, if the existing abstraction structures fails to yield water and the proponent desires to drill another tube well in the same premises, prior permission of the Authority shall be required. If the replacement well is to be drilled in some different place, the proponent shall obtain fresh Permission.
- (viii) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- (ix) In case of change of ownership, new owner of the premises will have to apply for incorporation of necessary changes in the Permission with documentary proof within 60 days of taking over possession of the premises.

I.B Safety Measures for prevention of fatal accidents of small children due to their falling into abandoned bore wells and tube wells

- (i) The owner of the land/ premises, before taking any steps for constructing bore well/ tube well shall inform in writing to the concerned District Ground Water Management Council about the construction of bore well/ tube well (refer Form 8A) .
- (ii) Registration of all the drilling agencies, namely Government/ Semi Government, Private etc.

shall be mandatory with the District Ground Water Management Council.

- (iii) Following safety measures shall be taken by the owner and drilling agency of the tube/bore well
 - (a) There shall be a signboard near the tube/bore well with complete address of the user agency/owner of the well and address of the drilling agency at the time of construction/ rehabilitation of well as per Annexure-X .
 - (b) Erection of barbed wire fencing or any other suitable barrier around the tube/bore well.
 - (c) Construction of cement/ concrete platform measuring 0.50x0.50x0.60 meter (0.30 meter aboveground level and 0.30 meter below ground level) around the well casing.
 - (d) Capping of well assembly by welding steel plate or by providing a strong cap to be fixed to the casing pipe with bolts & nuts.
 - (e) In case of pump repair, the tube well should not be left uncovered.
 - (f) Filling of mud pits and channels after completion of works.
 - (g) Filling up abandoned bore wells by clay/sand/boulders/pebbles/drill cuttings etc. from bottom to ground level.
 - (h) On completion of the drilling operations at a particular location, the ground conditions are to be restored as before the start of drilling.
- (iv) District Collector shall have power to verify the compliance of the above safety measures and proper monitoring check through the District Ground Water Management Council.
- (v) District/ Block/ Village wise status of bore wells/tube wells drilled viz. No. of wells in use, No. of abandoned bore wells/ tube wells found open, No. of abandoned bore wells/ tube wells properly filled up to ground level and balance number of abandoned bore wells/ tube wells to be filled up to ground level is to be maintained at District Ground Water Management Council as per Annexure-XI.
 - (a) In rural areas, the monitoring of the above is to be done through Village Sarpanch and the Executive from the Agriculture Department.
 - (b) In case of urban areas, the monitoring of the above is to be done through Junior Engineer and the Executive from the concerned Water Resources Department /Public Health/ Municipal Corporation etc.
 - (c) Owner of the tube well and drilling agency of the tube well shall be responsible for reporting and uploading the above details as per Annexure XII on designated web portal.
- (vi) Random inspection of the abandoned wells shall be done by the Executive of the concerned agency/ department. Information on all such data on the above are to be maintained in the District Ground Water Management Council.

II. Monitoring of compliance of Permission of Ground Water Abstraction Conditions

To monitor the compliance of Permission of Ground Water Abstraction conditions, Chhattisgarh Ground Water Authority shall take the following steps:

- (a) Suitable MIS will be developed for compliance monitoring.
- (b) District Collectors/District Magistrates (DMs) are authorized to take enforcement measures like sealing of unauthorized ground water abstraction structures, disconnection of electricity, launching of prosecution against those violating the Permission of Ground Water Abstraction conditions and taking action for imposition of Environmental Compensation as per **serial number IV under Schedule-IX**.

- (c) Technical officers of CGGWA and Water Resources Department, State groundwater organizations are authorized to take actions with respect to monitoring and periodic inspections with the approval of competent authority.
- (d) In case of violation of any of the Permission of Ground Water Abstraction conditions, the proponents shall be liable to pay the penalties as per **serial number III under Schedule-IX**

III. Provision of Penalty and Charges for correction/modifications in Permission.

Penalty shall be imposed on the proponents for non-compliance of Permission of Ground Water Abstraction conditions issued by the appropriate authority. Rates of penalty proposed for non-compliance of various conditions of Permission of Ground Water Abstraction are given in Table 9.1. The rates of the penalty shall be reviewed periodically with the approval of competent authority.

Table 9.1: Penalty provision for non Compliance of Permission of Ground Water Abstraction conditions

S. No.	Items	Charges in Rs.
1	Non installation/faulty Digital water Flow meter with telemetry system.	2,00,000
2	Non disclosure/ construction of additional groundwater abstraction structures a) Functional / Non-functional Structures. b) Defunct/Abandoned Note: Given rates are for unit Functional/non-functional/ defunct/ abandoned structures. This shall be multiplied with total such structures to arrive at consolidated penalty.	2,00,000 1,00,000
3	Reporting of fresh water zones as Brackish / Saline zones in application.	2,00,000
4	Non Installation of Piezometer.	2,00,000
5	Non Installation/faulty DWLR/Telemetry system	1,00,000
6	Non Construction/Inadequate capacity of Recharge / Water conservation structures.	5,00,000
7	Non maintenance of water conservation structures/ recharge structures.	2,00,000
8	Injection of treated/untreated water into the aquifer system. Note: In addition to penalty, the proponent shall bear the cost of aquifer remediation as per the provisions of Environment (Protection) Act, 1986.	10,00,000
9	Non Submission of Water level/Water quality Data.	50,000
10	Non-maintenance of log book of daily withdrawal/non submission of Groundwater abstraction data.	50,000
11	Non submission of photograph of recharge structure(s).	50,000
12	Non Submission of Self Compliance report.	1,00,000
13	Construction of groundwater abstraction structures by unauthorized/unregistered Drilling Rigs (per structures).	1,00,000
14	Non registration of water supply tankers.	5,00,000
15	Submission of false information/ undertaking.	1,00,000
16	Non registration of Rig Machine	1,00,000

Application fee for fresh/ renewal of Permission shall be charged as per the rates prescribed by CCGWA from time to time and intimated through the official web portal. Fee shall also be payable for correction/ modification in the existing issued Permission. The details of such charges are given in [Table 9.2](#)

Table 9.2: Charges/Fee for correction/Modification or alteration in the existing issued Permission of Ground Water Abstraction

S. No.	Items	Charges in Rs.
1	Change in User ID	5,000
2	Change in firm Name	5,000
3	Extension of Permission of Ground Water Abstraction	5,000
4	Issuance of duplicate Permission of Ground Water Abstraction	5,000
5	Issuance of corrigendum to Permission of Ground Water Abstraction	5,000
6	Any other items/corrections etc	5,000

IV. Environmental Compensation

Extraction of ground water for commercial use by industries, infrastructure units and mining projects without a valid Permission of Ground Water Abstraction from appropriate authority shall be considered illegal and such entities shall be liable to pay Environmental Compensation for the quantum of ground water so extracted. The norms prescribed by Central Pollution Control Board (CPCB) shall be utilized for calculating the Environmental compensation as mentioned below:

$$EC_{GW} = \text{Ground water consumption per day} \times \text{Environmental Compensation rate} \\ (\text{ECR}_{GW}) \times \text{No. of days} \times \text{Deterrence factor}$$

where ground water consumption is in m³/day and ECR_{GW} in Rs./ cum

A. Rates of Environmental Compensation:

Rates of Environmental Compensation (ECR_{GW}) for various types of users in different categories of assessment units are given in Table 9.3 to 9.5.

Table 9.3 : ECR_{GW} for Packaged Drinking Water units

S.No.	Area Category	Water Consumption (cum/day)			
		<200/	200 to <1000	1000 to <5000	5000 & above
Environmental Compensation Rate (ECR _{GW}) in Rs./m ³					
1	Safe	12	18	24	30
2	Semi critical	24	36	48	60
3	Critical	36	48	66	90
4	Over- exploited	48	72	96	120

Note :-Minimum EC_{GW} shall not be less than Rs 1,00,000/-

Table 9.4: ECR_{GW} for Mining/ infrastructure dewatering projects

S.No.	Area Category	Water Consumption (cum/day)			
		<200	200 to <1000	1000 to <5000	5000 & above
		Environmental Compensation Rate (ECRGW) in Rs./m ³			
1	Safe	15	21	30	40
2	Semi critical	30	45	60	75
3	Critical	45	60	85	115
4	Over- exploited	60	90	120	150

Note :-Minimum EC_{GW} shall not be less than Rs 1,00,000/-

Table 9.5: ECR_{GW} for Industrial units

S.No.	Area Category	Water Consumption (cum/day)			
		<200	200 to <1000	1000 to <5000	5000 & above
		Environmental Compensation Rate (ECRGW) in Rs./m ³			
1	Safe	20	30	40	50
2	Semi critical	40	60	80	100
3	Critical	60	80	110	150
4	Over- exploited	80	120	160	200

Note :-Minimum EC_{GW} shall not be less than Rs 1,00,000/-

B. Deterrent Factors to compensate losses and environmental damage (for packaged drinking waterunits, mining, industries and infrastructural dewatering projects)

The following deterrent factors based on the duration of illegal ground water extraction shall be levied to compensate for the losses and environmental damages as detailed in Table 9.6..

Table 9.6 : Deterrent factor based on quantum of ground water withdrawal and number of years of illegal withdrawal

S.No.	Water Consumption	Deterrence Factor		
		< 2 years	2-5 years	>5 years
1	<1000 KLD	1.00	1.00	1.25
2	1000-5000 KLD	1.00	1.00	1.50
3	>5000 KLD	1.00	1.25	2.00

Note: KLD – Kिलोलिटर per day

V. Other important Conditions (Applicable to all):

- (i) Sale of ground water by a person/ agency not having valid Permission of Ground Water Abstraction from CGGWA is not permitted.

- (ii) In infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- (iii) In case of Infrastructure projects, the firm/entity shall ensure implementation of dual water supply system in the projects. Compliance of the same shall be submitted through the web portal.
- (iv) Non-compliance of conditions mentioned in the Permission of Ground Water Abstraction may be taken as sufficient reason for cancellation of Permission of Ground Water Abstraction accorded/ non-renewal of Permission of Ground Water Abstraction.
- (v) No application shall be entertained without supporting documents as specified in relevant sections.
- (vi) Abstraction structure(s) should be located inside the premises of project property.
- (vii) Self compliance of conditions laid down in the Permission of Ground Water Abstraction shall be reported by the useronline in the web portal of Chhattisgarh Ground Water Authority Processing fee prescribed from time to time shall be charged for various services.

VI . Ground Water Level Monitoring

In other than industrial areas as mentioned hereafter, all the project proponents (drawing ground water more than 100 m³ /day of ground water) for Hard rock aquifer type and more than 500 m³ /day of ground water for Alluvium aquifer type have to mandatorily construct Piezometers (observation wells) within their premises for monitoring of the ground water levels. Further, in industrial areas (as designated or notified by Central/State Government), **Central Ground Water Board (CGWB)** shall construct need-based piezometers as per local hydro-geological conditions and further monitor water levels. Such a mechanism of compliance conditions has been made to ensure regular monitoring of ground water level in the project area. In this regard the necessary criteria for monitoring of water levels through piezometers by the project proponents is given in Table 9.7.

Table 9.7 No. of Piezometers with Digital Water Level Recorder (DWLR) and telemetry to be constructed & Type of Water Level Monitoring Mechanism		
Sl. No.	Quantum of Ground water withdrawal (cum/day)	No. of piezometer(s) (with DWLR and telemetry required)
1.	0-100	0
2.	>100 (Hard rock aquifer type in other than industrial areas)	1
3.	>500 (Alluvium aquifer type in other than industrial areas)	1

The piezometer shall be suitably located to ensure that zone of aquifer tapped in the piezometer is the same as that of the pumping well.

Appendix-A

[See rule 10]

Qualification of non-official members of Appropriate Authorities

S.NO.	Members referred to in Rule 3	Qualification
1	Two subject experts as member of District Ground Water Management Council as mentioned in clause (d) of sub-section (2) of Section 4.	District Magistrate shall nominate two subject expert (Ground Water Expert) having Master Degree in Applied Geology / Geology with ground water subject as well as minimum ten years of working experience in ground water in the State of Chhattisgarh.
2.	Three subject experts as members of State Ground water Management and Regulatory Authority as referred to in serial no. 14 of sub-section (2) of Section 3.	State Government shall nominate three subject experts (Ground Water Expert) having Master degree in Applied Geology / Geology with ground water subject as well as minimum fifteen years longstanding working experience in the field of ground water Management related to different Hydrogeological conditions of Chhattisgarh.
3.	One eminent person from Public/Non Government Organization/Social sector as referred to in serial no. 15 of sub-section (2) of Section 3.	State Government shall nominate one eminent person from Public/Non-Government Organization/Social sector.

Appendix-B

Application form for Compounding of an Offence

(Under sub-section (3) of Section 21 of the Chhattisgarh Ground Water Management
And Regulation Act, 2022)

S. No.	Particulars	Remarks
1	Name of the applicant	
2	Offences committed u/s *	
3	Status of case (i.e. whether contemplated/pending in Court/ convicted/ acquitted)	
4	Particulars of offences along-with justification for compounding (separate sheet)	
5	Whether the applicant has paid the Amount of penalty and any other sum due relating to the offence?	
6	Whether the applicant undertakes to pay the compounding charges as shall be intimated by the compounding officer?	
7	Whether similar offences in the case of the applicant has been compounded earlier. If yes, how many times?	
8	Whether the application is for compounding of first offence referred to in Section 41?	
9	Whether the applicant was convicted by a court of law for the offence sought to be compounded	

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished herein above are correct and true. I understand that in case any of the information and particulars is found to be in correct at any stage of scrutiny and investigation or thereafter, my application is liable to be rejected / cancelled.

I agree

Note:

- 1. Separate application form should be filled for every offence.
- 2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
- 3. In case any of the particulars/information is found to be incorrect at any stage of verification / Scrutiny, the application is liable for rejection.
- 4. Please attach the following documents along with the application:
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
 - (c) Notice issued by District Ground Water Management Council against offence committed by the applicant.
- 5. The compounding Officer reserves the right to demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

Place
Date

Signature.....

Current address.....
.....
.....

* Offence for which compounding is sought

OFFICE SEAL

..

Annexure-I

Estimation of Water Requirements for drinking and domestic use (Source: National Building Code 2016, BIS)

(a) Residential Buildings:

Accommodations	Population
1 Bedroom dwelling unit	4
2 Bedroom dwelling unit	5
3 Bedroom dwelling unit	6
4 Bedroom dwelling unit and above	7

Notes:

- (1) The above figures consider a domestic household including support personnel, wherever applicable.
- (2) For plotted development, the population may be arrived at after due consideration of the expected number and type of domestic household units.
- (3) Dwelling unit under EWS category shall have population requirement of 4 and studio apartment shall have population requirement of 2.

As a general rule the following rates per capita per day may be considered for domestic and non-domestic needs :

(a) For communities with populations up to 20,000 :

(1)	Water supply through stand post:	40 lphd (Min)
(2)	Water supply through house service: connection	70 to 100 lphd

(b) For communities with : 100 to 135 lphd
population 20,000 to 100,000 together with
full flushing system

(c) For communities with population : 150 to 200 lphd
above 100,000 together with
full flushing system

Note—The value of water supply given as 150 to 200 litre per head per day may be reduced to 135 litre per head per day for houses for Medium Income Group (MIG) and Low Income Groups (LIG) and Economically Weaker Section of Society (EWS), depending upon prevailing conditions and availability of water.

Out of the 150 to 200 litre per head per day, 45 litre per head per day may be taken for flushing requirements and the remaining quantity for other domestic purposes.

B. Water Requirements for Buildings Other than Residences

Sl. No.	Type of Building	Domestic litres per head/ day	Flushing Litres per head/ day	Total Consumption Litres per head/ day
1.	Factories including canteen where bath rooms are required to be provided	30	15	45
2.	Factories including canteen where no bath rooms are required to be provided	20	10	30
3.	Hospital (excluding laundry and kitchen): (a) Number of beds not exceeding 100	230	110	340

Sl. No.	Type of Building	Domestic litres per head/ day	Flushing Litres per head/ day	Total Consumption Litres per head/ day
	(b) Number of beds exceeding 100	300	150	450
	(c) Out Patient Department (OPD)	10	5	15
4.	Nurses' homes and medical quarters	90	45	135
5.	Hostels	90	45	135
6.	Hotels (up to 3 star) excluding laundry, kitchen, staff and water bodies	120	60	180
7.	Hotels (4 star and above) excluding laundry, kitchen, staff and water bodies	260	60	320
8.	Offices (including canteen)	25	20	45
9.	Restaurants and food court including water requirement for kitchen:			
	a) Restaurants	55 per seat	15 per seat	70 per seat
	b) Food Court	25 per seat	10 per seat	35 per seat
10.	Clubhouse	25	20	45
11.	Stadiums	4	6	10
12.	Cinemas, concert halls and theatres and multiplex	5 per seat	10 per seat	15 per seat
13.	Schools/Educational institutions:			
	a) Without boarding facilities	25	20	45
	b) With boarding facilities	90	45	135
14.	Shopping and retail (mall)			
	a) Staff	25	20	45
	b) Visitors	5	10	15
15.	Traffic Terminal stations			
	(a) Airports	40	30	70
	(b) Railway stations (Junction) with bathing facility	40	30	70
	(c) Railway stations (Junction) without bathing facility	30	15	45
	(d) Railway stations (Intermediate) with bathing facility	25	20	45
	(e) Railway stations (Intermediate) without bathing facility	15	10	25
	(f) Interstate bus terminals	25	20	45
	(g) Intrastate Bus Terminals/ Metro Stations	10	5	15

Notes:

1. For calculating water demand for visitors, consumption of 15 liter per head per day may be taken.
2. The water demand includes requirement of patients, attendants, visitors and staff. Additional water demand for kitchen, laundry and clinical water shall be computed as per actual requirements.
3. The number of persons shall be determined by average number of passengers handled by stations, with due considerations given to the staff and vendors who are using these facilities.
4. Consideration should be given for seasonal average peak requirements.
5. The hospitals may be categorized as Category A (25 to 50 beds), Category B (51 to 100 beds), Category C (101 to 300 beds), Category D (301 to 500) and Category E (501 to 750 beds).

Annexure-II

Guidelines for Construction of Piezometers and monitoring of Ground Water Levels and Quality

Piezometer is a borewell / tubewell used only for measuring the water level by lowering a tape/sounder or automatic / digital water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows :

- The piezometer is to be installed / constructed at the minimum distance of 15 m if the aquifer tapped is hard rock and 50 m if the aquifer is alluvium from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about four inches to six inches.
- The depth of the piezometer should be the same as that of the pumping well from which ground water is being abstracted. If, more than one pumping wells are constructed tapping aquifers at different depths, more than one piezometers shall be required to be constructed tapping different aquifers as in the pumping wells.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tubewells has been stopped for about four to six hours.
- The ground water quality has to be monitored once in a year during pre-monsoon (April/ May) period by industries and mines drawing ground water. Samples of ground water should be analyzed from NABL accredited laboratory.
- A permanent display board should be installed at Piezometer/ Tubewell site for providing the location, piezometer/ tubewell number, depth and zone tapped of piezometer/tubewell for standard referencing and identification.
- Any other site-specific requirement regarding safety and access for measurement may be taken care off.

Annexur-III**Measures to be adopted to ensure prevention from pollution in the plant premises of polluting industries/projects**

It has been observed that ground water in and around polluting industries like Tannery, Slaughter Houses, Dye, Chemical, Coal washery, other hazardous units, etc., is polluted. In order to prevent further deterioration of ground water quality, it is essential to take all necessary measures for well head protection. All industries/projects falling under this category are hereby directed to follow the under mentioned procedure both for existing and new category.

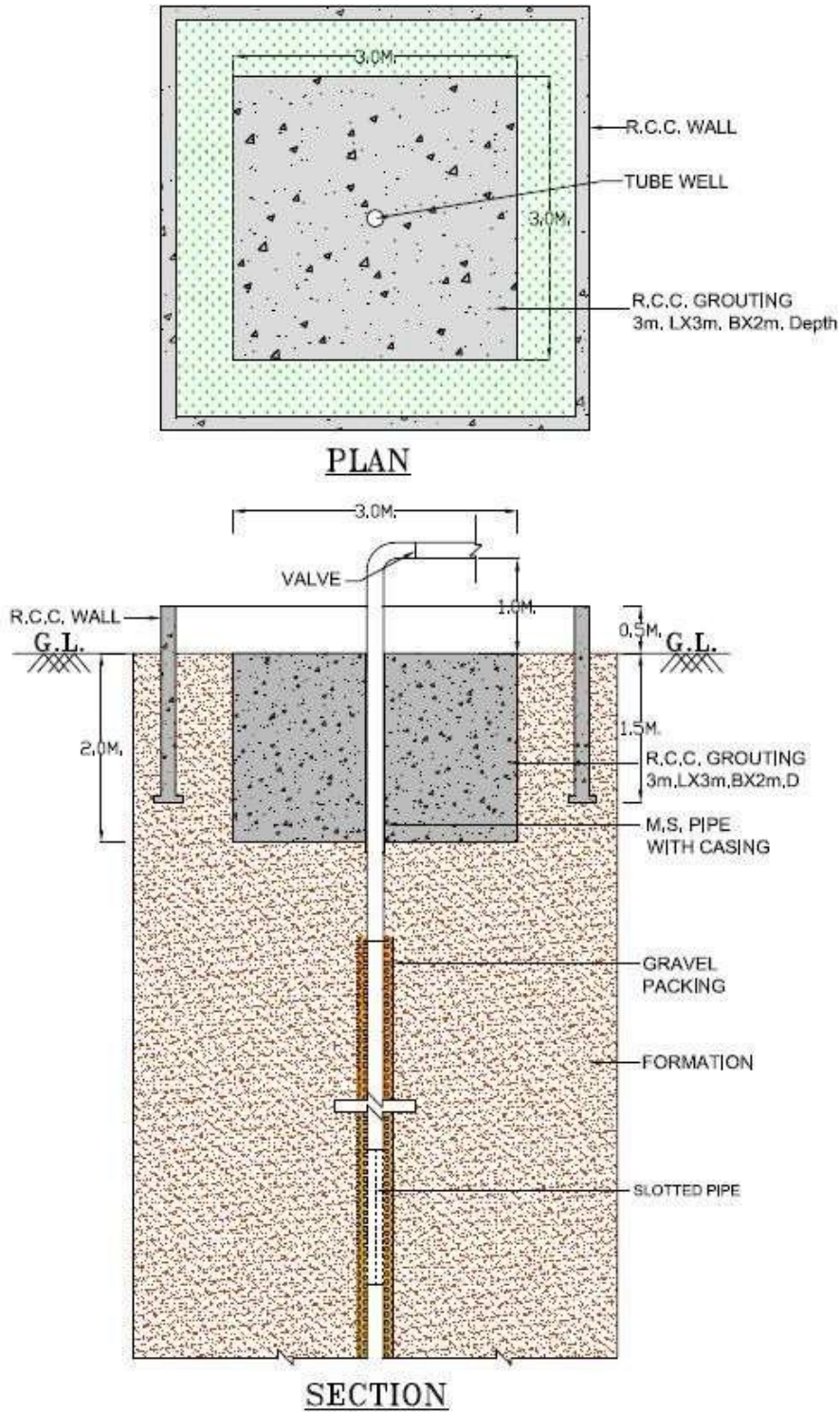
1. No tube well/ bore well / dug well should be constructed in the vicinity of the processing unit. Tube well/ bore well should be constructed at the place which is hygienically maintained.
2. Only Mild Steel pipe should be used for assembly/ casing and PVC (Poly Vinyl Chloride) or similar pipes should not be used. The tube well/ bore well having PVC or similar pipes should be abandoned and filled back.
3. Around the tube well/ bore well, RCC (Reinforced Concrete Cement) grouting of 3 meters (length) x 3 meters (width) x 2 meters (depth) must be provided. The pipe of the tube well/ bore well must be raised 1 meter aboveground level (1 magl). The tube well/ bore well must be surrounded by RCC wall of 0.5 meter height and 1.5 meter depth to prevent any surface contamination to enter the constructed tube well/ bore well.

Plan/Sectional diagram is enclosed for reference.

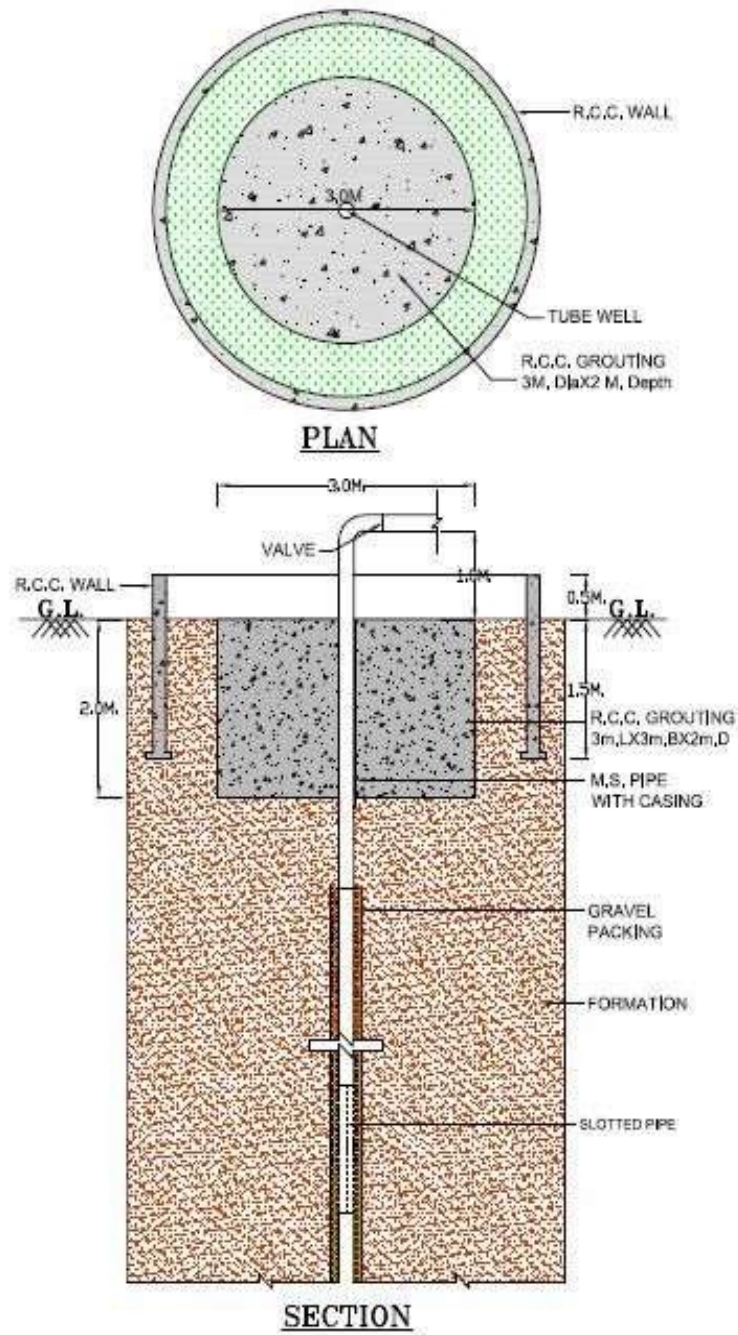
4. The tube well/ bore well must be fitted with NRV (Non-Return Valve) in order to ensure that the constructed tube well/ bore well is exclusively used for abstraction of ground water only.
5. At no point of time there should be any injection of any water or fluid into the constructed tube well/bore well/ Piezometer.
6. The industries/ projects under this category should not implement any recharge measures within the plant premises.
7. Any tube well/ bore well located/ constructed in the vicinity of STP (Sewage Treatment Plant) or ETP (Effluent Treatment Plant) should be abandoned and filled back.

The piezometer to be constructed for monitoring purpose should follow the same procedure as that for tube well/ bore well for such industries/ projects.

Plan/ Sectional diagram showing well head protection



Plan/ Sectional diagram showing well head protection



Annexure-IV

Outline of Hydro-Geological Report for obtaining Permission to abstract Ground Water for industries

1. Brief about the proposed project giving location details, coordinates, google/ toposheet maps, etc. demarcating the project area.
2. Ground water situation in and around the project area including water level and quality data and maps along with quality issues, if any. In case of mines, ground water conditions in both core and buffer zone should be described.
3. Details of the tubewells/ borewells proposed to be constructed. This includes the drilling depth, diameter, tentative lithological log, details of pump to be lowered, H.P. of pump, tentative discharge of tubewells/ borewells, etc. Locations to be marked on the site plan/ map. Location of proposed piezometers.
4. Approved Mine plan in case of mines and detailed dewatering plan in case of mine/ infrastructure dewatering projects.
5. Proposed usage of pumped water in case of mining/ infrastructure dewatering projects.
6. Comprehensive assessment of the impact on the ground water regime in and around the project area highlighting the risks and proposed management strategies proposed to overcome any significant environmental issues.
7. Proposed measures for disposal of waste water by industries drawing saline water.
8. Measures to be adopted for water conservation which include recycling, reuse, treatment, etc. This includes the water balance chart being adopted by the firm along with details of water conservation methods to be adopted.
 - Brief write up along with capacity and flow chart of Sewage Treatment Plants / Effluent Treatment Plants / Combined Effluent Treatment Plants existing/ proposed within the project.
 - Details of water conservation measures to be adopted to reduce/ save the ground water.
 - Total water balance chart showing the usage of water for various processes.
9. Any other details pertaining to the project.

Annexure-V

Format of the Report on ground water conditions (for mining projects)

Introduction

Project Description

Background

Objectives and scope

Regional Setting

 Location

 Land Use

 Climate

 Topography and Drainage

 Geology-Regional and Local

General Hydrogeology (aquifer types, aquifer depth, zone tapped etc.)

Ground water condition (In core and buffer zones)

Spatial and temporal variations in water levels Ground-Water Quality (shallow and deep aquifer)

Impact of groundwater extraction on local groundwater

Hydrograph of water level/piezometer in monitoring wells

Trend analysis of historical water levels Flow net analysis (groundwater flow direction) Year wise/ bench wise mine dewatering computation as per approved mine plan Conclusion.

Annexure-VI**Indicative list of Infrastructure projects**

Residential townships including commercial buildings
Office building
School
College
University
Special Economic Zone
Metro Station
Railway Station
Bus Depot
Airport
Seaport
Highway infrastructure
Fire station
Warehouse
Business Plaza
Malls & Multiplex
Hospitals
Nursing Homes
Resort
Hotel/ Restaurant / Food Plaza
Holiday home / Guest house/ Hostels
Banquet Hall / Marriage Gardens
IT Complex
Logistics & Cargo
Clubs
Trade Centre/ Agri Markets

Indicative list of location-specific Infrastructure Projects

Sl. No.	Infrastructure Projects
1.	Special Economic Zone
2.	Metro Station/Railway Station & Bus Depot
3.	Airport, Seaport, Logistics, Cargo & Warehouse
4.	Highway Infrastructure
5.	Fire station
6.	Hospitals & Nursing Homes
7.	Educational Institutions including schools, colleges, universities, coaching institutes, Training Centres/ Skill development centres

Note:- 1.The requirement of Permission for Groundwater use may include the water requirement for drinking water/domestic uses also.

2. Location specific refers for Semi-critical, Critical & Over-exploited area.

Annexure -VII

**Supreme Court Order in Civil Writ petition 36 of
2009 regarding measures for prevention of fatal
accidents of small children due to their falling into
abandoned bore wells and tube wells**

In Re: *Measures for prevention of fatal accidents of small children due to their falling into abandoned bore wells and tube wells*

Union of India and Ors.

Respondents(s)

ORDER

With this Court issuing requisite guidelines vide order dated 11th February, 2010, subject to slight modifications, nothing survives in the present writ petition.

That modification is as follows:

- (vii) The owner of the land/ premises, before taking any steps for constructing bore well/ tube well must inform in writing to the concerned authorities in the area, i.e., District Collector/ District Magistrate/ Sarpanch of the Gram Panchayat/ any other Statutory Authority/ concerned officers of the Department of Ground Water/ Public Health/ Municipal Corporation, as the case may be, about the construction of bore well/ tube well.
- (viii) Registration of all the drilling agencies, namely, Government/ Semi Government, Private etc. should be mandatory with the district administration/ Statutory Authority wherever applicable.
- (ix) Erection of signboard at the time of construction near the well with the following details:-
 - (a) Complete address of the drilling agency at the time of construction/ rehabilitation of well.
 - (b) Complete address of the user agency/owner of the well.
- (x) Erection of barbed wire fencing or any other suitable barrier around the well during construction.
- (xi) Construction of cement/ concrete platform measuring 0.50x0.50x0.60 meter (0.30 meter above ground level and 0.30 meter below ground level) around the well casing.
- (xii) Capping of well assembly by welding steel plate or by providing a strong cap to be fixed to the casing pipe with bolts & nuts.
- (xiii) In case of pump repair, the tube well should not be left uncovered.
- (xiv) Filling of mud pits and channels after completion of works.
- (xv) Filling up abandoned bore wells by clay/sand/boulders/pebbles/drill cuttings etc. from bottom to ground level.
- (xvi) On completion of the drilling operations at a particular location, the ground conditions are to be restored as before the start of drilling.
- (xvii) District Collector should be empowered to verify that the above guidelines are being followed and proper monitoring check about the status of bore holes/ tube wells are being taken care through the concerned state/ Central Government agencies.
- (xviii) District/ Block/ Village wise status of bore wells/tube wells drilled viz. No. of wells in use, No. of abandoned bore wells/ tube wells found open, No. of abandoned bore wells/ tube wells properly filled up to ground level and balance number of abandoned bore wells/ tube wells to be filled up to ground level is to be maintained at District Level.

In rural areas, the monitoring of the above is to be done through Village Sarpanch and the Executive from the Agriculture Department.

In case of urban areas, the monitoring of the above is to be done through Junior Engineer and the Executive from the concerned Department of Ground Water/Public Health/ Municipal Corporation etc.

- (xix) If a bore well/ tube well is 'Abandoned' at any stage, a certificate from the concerned department of Ground Water/ Public Health/ Municipal Corporation/ Private Contractor etc. must be obtained by the aforesaid agencies that the 'Abandoned' bore well/tube well is properly filled up to the ground level. Random inspection of the abandoned wells is also to be done by the Executive of the concerned agency/ department. Information on all such data on the above are to be maintained in the District Collector/ Block Development Office of the State.

We are informed that the last paragraph of the earlier order dated 11th February, 2010, concerning publicity has been duly complied with.

Subject to the above, the writ petition is disposed of.

.....CJI

[S.H. KAPADIA]

.....J

[K.S. RADHAKRISHNANA]

.....J

[SWATANTER KUMAR]

New Delhi,

Annexure-VIII**Water audits by the industries (Source – CII)**

Water audit is a systematic process of objectively obtaining a water balance by measuring flow of water from the site of water withdrawal or treatment, through the distribution system, and into areas where it is used and finally discharged. Conducting a water audit involves calculating water balance, water use and identifying ways for saving water.

Water audit involves preliminary water survey and detailed water audit. Preliminary water survey is conducted to collect background information regarding plant activities, water consumption and water discharge pattern and water billing, rates and water cess. After the analysis of the secondary data collected from the industry, detailed water audit is conducted, which involves the following steps:

- On site training and discussion with facility manager and personnel
- Water system analysis
- Quantification of baseline water map
- Monitoring and measurements using pressure and flow meters and various other devices
- Quantification of inefficiencies and leaks
- Quantification of water quality loads and discharges
- Quantification of variability in flows and quality parameters
- Strategies for water treatment and reuse or direct use

A detailed water balance is finally developed. Water quality requirement at various user areas is mapped, which helps in developing 'recycle' and 'reuse' opportunities.

The detailed water audit report contains the following:

- Water consumption and wastewater generation pattern
- Specific water use and conservation
- Complete water balance of the facility
- Water saving opportunities
- Method of implementing the proposals
- Full description and figures
- Investment required

Industries can undertake following measures for water conservation:

- Setting up of norms for water budgeting
- Modernization of industrial process to reduce water consumption
- Recycling water with a re-circulating cooling system
- Ozonation cooling water approach which can result in five fold reduction in blow down when compared to traditional chemical treatment
- Reduction in reuse of de-ionized water by eliminating some plenum flushes, converting from a continuous flow to an intermittent flow system and improving control on the use
- Use of waste water for gardening
- Proper processing of effluents to adhere to the norms of disposal.

List of Water Intensive Industries

Packaged Drinking Water
Mineral Water Plant
Tannery
Distillery
Brewery
Soft Drink
Paper & Pulp
Fertilizer
Textile Dyeing
Textile Printing
Textile Spinning
Sugar
Dairy Product
Water park & amusement Center
Ice Manufacturing Units
Hollow Bricks & Tiles Manufacturing
Crusher Units & Sand Manufacturing
Ready Mix Concrete
Clay Processing Units
Vehicle Service Stations

Standard Formate for the signboard near the Tube/Bore well

- 1) Name of Owner - -----
- 2) Contact Number – -----
- 3) Address – Village -----
Block - ----- District -----
- 4) Khasra No./ Patwari Halka No. -----
- 5) Name of Drilling Agency - -----
- 6) Contact Number – -----
- 7) Drilling Date – -----
- 8) Details of Tube/Bore well
 - a) Total Depth- -----
 - b) Dia- -----
 - c) Status of Tube/Bore well – Active / Defunct / Abandoned

Annexure –XI

Standard Formate for District/ Block/ Village wise status of bore wells/tube wells Resister

S. No.	Dstrict/ Block/ Village	No. of bore wells/tube wells drilled	No. of bore wells/tube wells in use	No. of abandoned bore wells/ tube wells found open	No. of abandoned bore wells/ tube wells properly filled up to ground level	balance number of abandoned bore wells/ tube wells to be filled up to ground level

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Annexure–XII

Standard Formate for Reporting & uploading Tube/Bore well details

- 1) Name of Owner - -----
- 2) Contact Number – -----
- 3) Address – Village -----
 Block - ----- District -----(CG)
- 4) Khasra No./ Patwari Halka No. -----
- 5) Name of Drilling Agency - -----
- 6) Contact Number – -----
- 7) Drilling Date – -----
- 8) Details of Tube/Bore well
 - a) Total Depth- -----
 - b) Dia- -----
 - c) Status of Tube/Bore well – Active / Defunct / Abandoned

DECLARATION BY OWNER

I do hereby declare that the particulars furnished here in above are correct and true and uploaded in designated web portal. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, I will be responsible.

Date : -----

Signature & Name of Owner

S.No.	Forms	Types of Applications/Subject
1	Form 1 (A)	Form of Application for Registration of Existing Well (Commercial or Industrial or Infrastructural or Bulk User)
2	Form 1 (B)	Form of Application for Registration of Well (Commercial or Industrial or Infrastructural or Bulk user having N.O.C. issued by CentralGround Water Authority)
3	Form 1 (C)	Form of Application for Registration of Existing Well (Domestic or Agricultural User of Ground Water)
4	Form 1 (D)	Form of Application for Registration of Well (Future User of ground Water for Domestic or Agricultural Use)
5	Form 2 (A)	Form of Application for Modification or Alteration in Registered Well (Modification or alteration in registered well of commercial or Industrial or Infrastructural or Bulk user in notified area)
6	Form 2 (B)	Form of Application for Modification or Alteration in Registered Well (Modification or alteration in registered well of Commercial or Industrial or Infrastructural or Bulk user in non-notified area.)
7	Form 3 (A)	Certificate of Registration of Existing/New Well (Commercial or Industrial or Infrastructural or bulk user.)
8	Form 3 (B)	Certificate of Registration of Existing/New Well (Commercial or Industrial or Infrastructural or Bulk user having N.O.C. / Permission issued by Central Ground Water Authority or by Water Resources Department.)
9	Form 3 (C)	Certificate of Registration of Existing/New Well (Domestic and Agricultural user.)
10	Form 4 (A)	Letter of Rejection of Application for Registration of Well.
11	Form 4 (B)	Application for Obtaining Grant of Permission for sinking of new well for any Commercial or Industrial or Infrastructural or Bulk User.
12	Form 4 (C)	Application for Renewal of Permission for Sinking of well for any Commercial or Industrial or Infrastructural or Bulk User in Notified and Non-Notified Area.
13	Form 4 (D)	Permission/N.O.C. for Sinking of New Well for Industrial/Commercial/Infrastructural or Bulk User of Ground Water.
14	Form 4 (E)	Application for renewal of Permission/N.O.C. for Sinking of New well for Industrial/Commercial/Infrastructural or Bulk User of Ground Water.
15	Form 4 (F)	Letter of Rejection of Application for Grant of Permission for sinking of Well.
16	Form 5 (A)	Form of Application for Registration of New Drilling Agencies (Registration of New Drilling Agencies)
17	Form 5 (B)	Form of Application for Registration of Existing Drilling Agencies (Registration of Existing Drilling Agencies)
18	Form 6 (A)	Certificate of Registration of New Drilling Agency
19	Form 6 (B)	Certificate of Registration of Existing Drilling Agency
20	Form 7	Letter of Rejection of Application for Registration of Drilling Agency.

(c) Plot No/ Khasra No. (Please attach Aadhar Card/ Electricity Bill/ Any other document as address proof for ownership of land):

(d) Municipality/Corporation, Ward No./ Holding No.

3. Particulars of the existing/ proposed well:

(a) Date of construction /sinking of the well:

(b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)

(c) Approx. depth of the well (m) :

(d) In case of Tube Well :

(i) Approx. length (m) & diameter (mm) of the housing pipe (if any)

(ii) Approx. length (m) & diameter (mm) of the strainer

(iii) Material of the housing pipe & blank pipe :(PVC/ Iron/ Galvanized Iron)

(iv) Material of the strainer: (PVC/ Iron/ Galvanized Iron)

(e) In case of Dug Well:

(i) Diameter of the Dug Well (m):

(ii) Type of structure of the Dug Well (Please tick): Kuchcha /Pucca

(f) Whether there has been any adverse report regarding water quality of the well.

Y	N
---	---

If 'Yes', give particulars.

4. Particulars of existing/ proposed pumping device:

(a) Type of pump to be used (Please tick): (Centrifugal /Submersible / Turbine /Ejecto pump, etc.)

(b) Length of column pipe (In case of submersible / turbine pump):

(c) Pump Capacity (m³ / hr.);:

(d) H.P.

(e) Operational device (Please tick): Electric Motor / Diesel Engine.

(f) Date of Energization (in case of electricity driven pump):

5. Particulars of usefulness of well:

(a) Purpose of the proposed well

(Industrial / Commercial / Infrastructural / Bulk use / others (Please tick))

(b) Annual running hours

(c) Daily running hours:

(d) Whether the area receives supply through piped water supply: YES / NO(Please tick one)

6. Please submit mode of treatment of waste water/ effluent (for industries), if,-

(a) applies, please mention whether obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water:

(b) YES / NO (Please tick)

If YES, attach copy of same.

Note: If applicant has not obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water, application shall be liable for rejection.

7. Whether rain water harvesting structure has been constructed within the premises
YES / NO (Please tick)

8. **Details of payment of application fee:**

(a) Amount of Application Fee paid –

(i) Rs:

(ii) Voucher No:

(iii) Date:

(b) Name of Treasury/Sub-Treasury/ P.S.U. Bank where Application Fee
has been paid-

(c) Name of Bank Branch (if payment has been made in a Bank)-

9. **Any other information which the applicant would like to furnish :**

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application / registration is liable to be rejected /cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars/information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage even after issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application:
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
 - (c) Map showing location of the existing well, the command area and the existing wells which have been referred to in item no.2 (a), (b) and(c).
7. The concerned Authority reserves the right to demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

- (c) Plot No/ Khasra No. (Please attach Aadhaar Card/ Electricity Bill/ Any other documentas address proof for ownership of land):
- (d) Municipality/Corporation, Ward No./ Holding No.

3. Particulars of the existing well:

- (a) Date of construction / sinking of the well:
- (b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)
- (c) Approx. depth of the well (m) :
- (d) In case of Tube Well:
- (i) Approx. length (m) & diameter (mm) of the housing pipe (if any)
- (ii) Approx. length (m) & diameter (mm) of the strainer
- (iii) Material of the housing pipe & blank pipe: (PVC/ Iron/ Galvanized Iron)
- (iv) Material of the strainer: (PVC/ Iron/ Galvanized Iron)
- (e) In case of Dug Well:
- (i) Diameter of the Dug Well (m):
- (ii) Type of structure of the Dug Well (Please tick): Kuchcha / Pucca
- (f) Whether there has been any adverse report regarding water quality: of the well.
- If Yes', give particulars.

Y	N
---	---

4. Particulars of existing pumping device:

- (a) Type of pump to be used (Please tick) : (Centrifugal / Submersible / Turbine / Ejecto pump, etc.)
- (b) Length of column pipe (in case of submersible /turbine pump):
- (c) Pump Capacity (m³/ hr.):
- (d) H.P.:
- (e) Operational device (Please tick): Electric Motor / Diesel Engine.
- (f) Date of energization (in case of electricity driven pump):

5. Particulars of usefulness of well:

- (a) Purpose of the proposed well
(Industrial / Commercial / Infrastructural / Bulk use / others (Please tick))
- (b) Annual running hours
- (c) Daily running hours
- (d) Whether the area receives supply through piped water supply: YES / NO
(Please tick one)

6. Please submit details of N.O.C. issued by Central Ground Water Authority or permission by WaterResources Department:
N.O.C. issued by (Please tick one)

Central Ground Water Authority

by Water Resources Department

Date of issue of

N.O.C/Permission.

Date of expiry of N.O.C/ permission.

7. Whether rain water harvesting structure has been constructed within the premises

YES /NO (Please tick)

8. Please submit mode of treatment of waste water/ effluent (for industries),if,-

(a) applies, please mention whether obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water:

(b) YES / NO (Please tick)

If YES, attach copy of same.

Note: If applicant has not obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water, application shall be liable for rejection.

9. **Details of payment of application fee:**

(a) Amount of Application Fee paid –

(i) Rs:

(ii) Voucher No:

(iii) date:

(b) Name of Treasury/Sub-Treasury /P.S.U. Bank where Application Fee has been paid-

(c) Name of Bank Branch (if payment has been made in a Bank)-

9. **Any other information which the applicant would like to furnish:**

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application / registration is liable to be rejected / cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars / information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage even after issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application:
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
 - (c) Map showing location of the existing well, the command area and the existing wells which have been referred to in item no.2(a),(b) and (c).
7. The concerned Authority reserves the right to demand for any other document(s) from the ownerapplicant for examination of the merit of the case.

I agree

- (a) Date of construction / sinking of the well:
 (b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)
 (c) Approx. depth of the well (m) :
 (d) In case of Tube Well:
 (i) Approx. length (m) & diameter (mm) of the housing pipe (if any)
 (ii) Approx. length (m) & diameter (mm) of the strainer
 (iii) Material of the housing pipe & blank pipe: (PVC/ Iron/ Galvanized Iron)
 (iv) Material of the strainer: (PVC/ Iron/ Galvanized Iron)
- (e) In case of Dug Well:
 (i) Diameter of the Dug Well (m):
 (ii) Type of structure of the Dug Well (Please tick): Kuchcha /Pucca
- (f) Whether there has been any adverse report regarding water quality: of the well.
- If Yes', give particulars.

Y	N
---	---

4. Particulars of existing pumping device:

- (a) Type of pump to be used (Please tick): (Centrifugal/ Submersible/ Turbine/ Ejecto pump, etc.)
 (b) Length of column pipe (in case of submersible/ turbine pump):
 (c) Pump Capacity (m³ / hr.):;
 (d) H.P.:
 (e) Operational device (Please tick): Electric Motor / Diesel Engine.
 (f) Date of energization (in case of electricity driven pump):

5. Particulars of usefulness of well:

- (a) Purpose of the existing well: Irrigation / Domestic / Others (Please specify)
 (b) Cultural command area in hec. (for irrigation well):
 (c) Owner's land within the command area indicate in 5. (b) above:
 (d) Out of the area indicated in 5 (b) above, area irrigated by the well in different crop seasons
 (i) Kharif- ha;
 (ii) Rabi- ha;
 (iii) Zayad- ha;
 (e) Total annual running hours (in case of irrigation well):
 (f) Daily running hours in case of domestic use :

6. Is plot size of residential premises is more than 300 square meters?
 (for domestic user only)

Y	N
---	---

7. Whether rain water harvesting structure has been constructed within the premises (for domestic user only)

Y	N
---	---

8. **Any other information which the applicant would like to furnish :**

DECLARATION BY THE APPLICANT

I do here by declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application/ registration is liable to be rejected / cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars / information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage even after issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application:
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card /any other proof of identification
7. The concerned Authority reserves the right to demand for any other document(s) from theowner applicant for examination of the merit of the case.

I agree

- (a) Proposed date of construction / sinking of the well:
 (b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)
 (c) Approx. depth of the well (m) :
 (d) In case of Tube Well:
 (i) Approx. length (m) & diameter (mm) of the housing pipe (if any)
 (ii) Approx. length (m) & diameter (mm) of the strainer
 (iii) Material of the housing pipe & blank pipe: (PVC/ Iron/ Galvanized Iron)
 (iv) Material of the strainer: (PVC/ Iron/ Galvanized Iron)
- (e) In case of Dug Well:
 (i) Diameter of the Dug Well (m):
 (ii) Type of structure of the Dug Well (Please tick): Kuchcha / Pucca
- (f) Whether there has been any adverse report regarding water quality: of the well.
- If 'Yes', give particulars.

Y	N
---	---

4. **Particulars of proposed pumping device:**

- (a) Type of pump to be used (Please tick) :(Centrifugal / Submersible / Turbine / Ejecto pump,etc.)
 (b) Length of column pipe (in case of submersible / turbine pump):
 (c) Pump Capacity (m³ / hr.):
 (d) H.P.:
 (e) Operational device (Please tick): Electric Motor / Diesel Engine.
 (f) Date of energization (in case of electricity driven pump):

5. **Particulars of usefulness of proposed well:**

- (a) Purpose of the existing well: Irrigation/Domestic / Others (Please specify)
 (b) Cultural command area in hec. (for irrigation well):
 (c) Owner's share of land within the command area indicate in 5. (b) above:
 (d) Out of the area indicated in 5(b) above, area irrigated by the well in different crop seasons
 (i) Kharif- ha;
 (ii) Rabi- ha;
 (iii) Zayad- ha;
 (e) Total annual running hours (in case of irrigation well):
 (f) Daily running hours in case of domestic use :

6. Is plot size of residential premises is more than 300square meters? (for domestic user only)

Y	N
---	---

7. Whether rain water harvesting structure has been constructed within the premises (for domestic user only)

Y	N
---	---

8. **Any other information which the applicant would like to furnish:**

DECLARATION BY THE APPLICANT

I do here by declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application/ registration is liable to be rejected /cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alterations shall be duly authenticated.
3. In case any of the particulars/information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage even after issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application:
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
7. The concerned Authority reserves the right to demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

- (a) District;
- (b) Block;
- (c) Plot No/ Khasra No. (Please attach Aadhaar Card/ Electricity Bill/ Any other document as address proof for ownership of land):
- (d) Municipality/Corporation, Ward No./ Holding No.

4. Particulars of the existing registered well:

- (a) Date of construction / sinking of the well:
- (b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)
- (c) Approx. depth of the well (m) :
- (d) In case of Tube Well:
 - (i) Approx. length (m) & diameter (mm) of the housing pipe (if any)
 - (ii) Approx. length (m) & diameter (mm) of the strainer
 - (iii) Material of the housing pipe & blank pipe: (PVC/ Iron/ Galvanized Iron)
 - (iv) Material of the strainer: (PVC/ Iron/ Galvanized Iron)
- (e) In case of Dug Well:
 - (i) Diameter of the Dug Well (m):
 - (ii) Type of structure of the Dug Well (Please tick): Kuchcha /Pucca
- (f) Whether there has been any adverse report regarding water quality: of the well.

Y	N
---	---

If 'Yes', give particulars.

5. Particulars of existing pumping device:

- (a) Type of pump to be used (Please tick): (Centrifugal /Submersible / Turbine / Ejecto pump, etc.)
- (b) Length of column pipe (in case of submersible / turbine pump):
- (c) Pump Capacity (m³ / hr.);:
- (d) H.P.:
- (e) Operational device (Please tick): Electric Motor / Diesel Engine.
- (f) Date of energization (in case of electricity driven pump):

6. Particulars of use fulness of well:

- (a) Purpose of the proposed well
(Industrial / Commercial / Infrastructural / Bulk use / others (Please tick))
- (b) Annual running hours
- (c) Daily running hours
- (d) Whether the area receives supply through piped water supply: YES / NO (Please tick one)

7. Details of modification or alteration in registered well:

8. Reason of modification or alteration in registered well:

9. Whether rain water harvesting structure has been constructed within the premise

YES / NO (Please tick)

10. Please submit mode of treatment of waste water/ effluent (for industries), if,-

(a) applies, please mention whether obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water:

(b) YES / NO (Please tick)

If YES, attach copy of same.

Note: If applicant has not obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water, application shall be liable for rejection.

11. Details of payment of application fee:

(a) Amount of Application Fee paid –

(i) Rs:

(ii) Voucher No:

(iii) date:

(b) Name of Treasury /Sub-Treasury / P.S.U. Bank where Application Fee has been paid-

(c) Name of Bank Branch (if payment has been made in a Bank)-

12. Any other information which the applicant would like to furnish :

DECLARATION BY THE APPLICANT

I do here by declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application / registration is liable to be rejected / cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars / information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars / information furnished is found to be incorrect at any stage even after issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application:
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
 - (c) Map showing location of the existing well, the command area and the existing wells which have been referred to in item no.3 (a), (b) and (c).
7. The concerned Authority reserves the right to demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

- (a) District;
- (b) Block;
- (c) Plot No/ Khasra No. (Please attach Aadhaar Card/ Electricity Bill/ Any other document as address proof for ownership of land):
- (d) Municipality/Corporation, Ward No. / Holding No.

4. Particulars of the existing registered well:

- (a) Date of construction / sinking of the well:
- (b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)
- (c) Approx. depth of the well (m) :
- (d) In case of Tube Well :
 - (i) Approx. length (m) & diameter (mm) of the housing pipe (if any)
 - (ii) Approx. length (m) & diameter (mm) of the strainer
 - (iii) Material of the housing pipe & blank pipe : (PVC/ Iron/ Galvanized Iron)
 - (iv) Material of the strainer : (PVC/ Iron/ Galvanized Iron)
- (e) In case of Dug Well:
 - (i) Diameter of the Dug Well (m):
 - (ii) Type of structure of the Dug Well (Please tick): Kuchcha / Pucca
- (f) Whether there has been any adverse report regarding water quality: of the well.

Y	N
---	---

If Yes give particulars.

5. Particulars of existing pumping device:

- (a) Type of pump to be used (Please tick): (Centrifugal /Submersible/ Turbine / Ejecto pump, etc.)
- (b) Length of column pipe (in case of submersible/I turbine pump):
- (c) Pump Capacity (m³ / hr.);:
- (d) H.P.:
- (e) Operational device (Please tick): Electric Motor / Diesel Engine.
- (f) Date of energization (in case of electricity driven pump):

6. Particulars of usefulness of well:

- (a) Purpose of the proposed well
(Industrial / Commercial / Infrastructural / Bulk use / others (Please tick))
- (b) Annual running hours
- (c) Daily running hours
- (d) Whether the area receives supply through piped water supply:

YES / NO (Pleasetick one)

- 7. Details of modification or alteration in registered well:
- 8. Reason of modification or alteration in registered well:

9. Whether rain water harvesting structure has been constructed within the premises

YES / NO(Please tick)

10. Please submit mode of treatment of waste water/ effluent (for industries), if ,-

(a) applies, please mention whether obtained NOC from Chhattisgarh Pollution ControlBoard for discharge of effluent or waste water:

(b) YES / NO (Please tick)

If YES, attach copy of same.

Note: If applicant has not obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water, application shall be liable for rejection.

11. **Details of payment of application fee:**

(a) Amount of Application Fee paid –

(i) Rs:

(ii) Voucher No:

(iii) date:

(b) Name of Treasury / Sub-Treasury /P.S.U. Bank where Application Fee has been paid-

(c) Name of Bank Branch (if payment has been made in a Bank)-

12. Any other information which the applicant would like to furnish :

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application / registration is liable to be rejected / cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars/information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage even after issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application :
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID /ration card/ any other proof of identification
 - (c) Map showing location of the existing well, the command area and the existing wells which have been referred to in item no3 (a), (b) and (c).
7. The concerned Authority reserves the right to demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

Form-3 (A)**CERTIFICATE OF REGISTRATION OF EXISTING/NEW WELL
(Commercial or Industrial or Infrastructural or bulk user)**

(EMBLEM OR HOLOGRAM OF THE
DISTRICT GROUND WATER MANAGEMENT COUNCIL)

{Under Section 9(1) of the Chhattisgarh Ground Water Management and Regulation Act, 2022}

REGISTRATION NO...

1. (a) Name of the owner applicant: Shri /Smt.
(b) Son / Daughter of:
(c) Address of the applicant:
(d) Application Form Serial No. and date of submission:
(e) Specimen signature:
2. Location particulars:
 - (a) District:
 - (b) Block:
 - (c) Plot No.:
 - (d) Municipality / Corporation, Ward No.:
3. Particulars of the existing well and pumping device:
 - (a) Date of construction / sinking of the well
 - (b) Type of the well:
 - (c) Depth of the well (m):
 - (d) Purpose of the well:
 - (e) Assembly size (for tube well) :
 - (f) Strainer position(for tube well)
 - (g) Diameter (for dug well):
 - (h) Type of pump used
 - (i) H.P. of the pump:
 - (j) Operational device
 - (k) Rate of withdrawal (m³/ hr.):
 - (l) Date of energization (in case of electric pump):

This certificate of registration is issue on the basis of the information furnished by the applicant subject to the conditions state do overleaf.

Place:
Date:

Yours faithfully,
Signature of the issuing authority And Designatio

CONDITIONS-

- (1) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix water meters, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as showing in serial number 3 (k) shall not exceed to the recorded rate from water meters.
- (2) The District Ground Water Management Council reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (3) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (4) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at serial number 2 and 3 of this certificate shall be made without prior permission of the District Ground Water Management Council . Any deviation in this regard shall lead to cancellation of this registration.
- (5) In case, any of the particulars / information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage; this registration is liable for cancellation.
- (6) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (7) It will be mandatory for every ground water user to equipped their ground water abstraction structure with digital flow meter

(8) Guidelines for Installation of Piezometers and their Monitoring

Piezometer is a bore well / tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows:

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimal.

- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
 - The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
 - All the details regarding coordinates, reduced level (with respect to mean level), depth, zone tapped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for **Water Resource Department, Chhattisgarh, and for its validation.**
 - The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, **Water Resource Department**, Chhattisgarh, for chemical analysis.
 - A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer /tube well for standard referencing and identification.
 - Any other site-specific requirement regarding safety and access for measurement maybe taken care off.
- (9) Any other condition(s) that may be imposed by the District Ground Water Management Council.

OFFICE SEAL

Form-3 (B)

**CERTIFICATE OF REGISTRATION OF EXISTING/NEW WELL
(Commercial or Industrial or Infrastructural or Bulk user having N.O.C. / Permission issued
by Central Ground Water Authority or by Water Resources Department)**

(EMBLEM OR HOLOGRAM OF

THE

DISTRICT GROUND WATER MANAGEMENT COUNCIL)

{Under Section 9(1) of the Chhattisgarh Ground Water Management and Regulation Act, 2022}

REGISTRATION NO...

1. (a) Name of the owner applicant: Shri/Smt.
(b) Son / Daughter of:
(c) Address of the applicant:
(d) Application Form Serial No. and date of submission:
(e) Specimen signature:
2. Location particulars:
 - (a) District:
 - (b) Block:
 - (c) Plot No.:
 - (d) Municipality / Corporation, Ward No.:
3. Particulars of the existing well and pumping device:
 - (a) Date of construction / sinking of the well
 - (b) Type of the well:
 - (c) Depth of the well (m):
 - (d) Purpose of the well:
 - (e) Assembly size (for tube well) :
 - (f) Strainer position (for tube well)
 - (g) Diameter (for dug well):
 - (h) Type of pump used
 - (i) H.P. of the pump:
 - (j) Operational device
 - (k) Rate of withdrawal (m³/ hr.):
 - (l) Date of energization (in case of electric pump):

This certificate of registration is issued on the basis of the information furnished by the applicant subject to the conditions state do overleaf.

Place:

Date:

Yours faithfully,
Signature of the issuing authority and Designation

CONDITIONS

- (1) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix water meters, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in serial number 3 (k) shall not exceed to the recorded rate from water meters.
- (2) The District Ground Water Management Council reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (3) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (4) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at Serial number 2 and 3 of this certificate shall be made without prior permission of the District Ground Water Management Council. Any deviation in this regard shall lead to cancellation of this registration.
- (5) In case, any of the particulars / information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (6) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (7) It will be mandatory for every ground water user to equipped their ground water abstraction structure with digital flow meter

(8) **Guidelines for Installation of Piezometers and their Monitoring**

Piezometer is a bore well / tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows:

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometer is installed, the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimal.
- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.

- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
 - All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for **Water Resource Department**, Chhattisgarh, and for its validation.
 - The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt. capacity bottle) to the concerned Director, **Water Resource Department**, Chhattisgarh, for chemical analysis.
 - A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
 - Any other site-specific requirement regarding safety and access for measurement maybe taken care off.
- (9) Any other condition(s) that may be imposed by the District Ground Water Management Council.

OFFICE SEAL

Form-3 (C)**CERTIFICATE OF REGISTRATION OF EXISTING/NEW WELL
(Domestic and Agricultural user)**

(EMBLEM OR HOLOGRAM OF
THE
(COMMITTEE OF URBAN LOCAL BODY / BLOCK LEVEL GROUND WATER USER
REGISTRATION COMMITTEE)

{Under Section 9(2) of the Chhattisgarh Ground Water Management and Regulation Act, 2022}

REGISTRATION NO...

1. (a) Name of the owner applicant: Shri /Smt.
 (b) Son / Daughter of:
 (c) Address of the applicant:
 (d) Application Form Serial No. and date of submission:
 (e) Specimen signature:
2. Location particulars:
 (a) District:
 (b) Block:
 (c) Plot No.:
 (c) Municipality / Corporation, Ward No./:
3. Particulars of the existing well and pumping device:
 (a) Date of construction / sinking of the well
 (b) Type of the well:
 (c) Depth of the well (m):
 (d) Purpose of the well:
 (e) Assembly size (for tube well) :
 (f) Strainer position (for tube well)
 (g) Diameter(for dug well):
 (h) Type of pump used
 (i) **H.P. of the pump**:
 (j) Operational device
 (k) Rate of withdrawal (m³/ hr.):
 (l) Date of energization (in case of electric pump):

This certificate of registration is issued on the basis of the information furnished by the applicant subject to the conditions state do overleaf.

Place:

Date:

Yours faithfully,
Signature of the issuing authority and Designation

CONDITIONS

- (1) The District Ground Water Management Council reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (2) In case of any change of ownership of the existing well, fresh registration has to be obtained.
- (3) No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at serial number 2 and 3 of this certificate shall be made without prior permission of the Appropriate Authority. Any deviation in this regard shall lead to cancellation of this registration.
- (4) In case, any of the particulars Information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (5) Any other condition (s) that may be imposed by the Appropriate Authority.

OFFICE SEAL

Form-4 (A)**LETTER OF REJECTION OF APPLICATION FOR REGISTRATION OF WELL**

(EMBLEM OR HOLOGRAM OF THE

DISTRICT GROUND WATER MANAGEMENT COUNCIL)

{Under Section 9 (1) of the Chhattisgarh Ground Water Management and Regulation Act, 2022}

No.

Dated

To

Shri /Smt. -

Sub: Rejection of your application for grant of registration of well.

Ref: Your Application No submitted on

Sir / Madam,

This is to inform you regretfully that your Application Nodated.....
Submitted for grant of registration of well has been rejected because of the following reason (s):

- (1) Incomplete application
- (2) Non-submission of requisite documents
- (3) Shortfall in payment of requisite Application Fee
- (4) Incorrect Head of A/C for deposition of Application Fee
- (5) Others:

Yours faithfully,
Signature of the issuing authority

- (a) District
- (b) Block:
- (c) Plot No/ Khasra No. (Please attach Aadhaar Card/ Electricity Bill/ Any other document as address proof for ownership of land):
- (d) Municipality/Corporation, Ward No./ Holding No.
3. **Particulars of the proposed well:**
- (a) Date of construction / sinking of the well:
- (b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)
- (c) Approx. depth of the well (m) :
- (d) In case of Tube Well :
- (i) Approx. length (m) & diameter (mm) of the housing pipe (if any)
- (ii) Approx. length (m) & diameter (mm) of the strainer
- (iii) Material of the housing pipe & blank pipe : (PVC/ Iron/ Galvanized Iron)
- (iv) Material of the strainer : (PVC/ Iron/ Galvanized Iron)
- (e) In case of Dug Well:
- (i) Diameter of the Dug Well (m):
- (ii) Type of structure of the Dug Well (Please tick): Kuchcha / Pucca
- (f) Whether there has been any adverse report regarding water quality of the well.

Y	N
---	---
- If 'Yes', give particulars.
4. **Particulars of proposed pumping device:**
- (a) Type of pump to be used (Please tick): (Centrifugal / Submersible / Turbine/ Ejecto pump, etc.)
- (b) Length of column pipe (in case of submersible / turbine pump):
- (c) Pump Capacity (m³ / hr.):;
- (d) H.P.
- (e) Operational device (Please tick) : Electric Motor / Diesel Engine.
- (f) Date of energization (in case of electricity driven pump):
5. **Particulars of usefulness of well:**
- (a) Purpose of the proposed well
(Industrial / Commercial / Infrastructural / Bulk use / others (Please tick))
- (b) Annual running hours
- (c) Daily running hours:
- (d) Whether the area receives supply through piped water supply:
YES / NO(Please tick one)
7. Please submit mode of treatment of waste water/ effluent (for industries) If,-

(a) applies, please mention whether obtained NOC from Chhattisgarh Pollution Control

Board for discharge of effluent or waste water:

(b) YES / NO (Please tick)

If YES, attach copy of same.

Note: If applicant has not obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water, application shall be liable for rejection.

7. Whether rain water harvesting structure has been constructed within the premises

YES /NO (Please tick)

8. Details of payment of application fee:

(a) Amount of Application Fee paid –

(i) Rs:

(ii) Voucher No:

(iii) date:

(b) Name of Treasury / Sub-Treasury / P.S.U. Bank where Application Fee has been paid-

(c) Name of Bank Branch (if payment has been made in a Bank)-

9. Any other information which the applicant would like to furnish :

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application / registration is liable to be rejected / cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars/information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage even after issue of the grant of permission for sinking of new well, the same shall be liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application :
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
 - (c) Map showing location of the proposed well, which have been referred to in item No. 2 (a), (b) and (c).
7. The State Ground Water Management Regulatory Authority reserves the right demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

- (a) District;
- (b) Block;
- (c) Plot No/ Khasra No. (Please attach Aadhaar Card/ Electricity Bill/ Any other document as address proof for ownership of land):
- (d) Municipality/Corporation, Ward No./,Holding No.

3. Particulars of the proposed well:

- (a) Date of construction /sinking of the well:
- (b) Type of the well viz. Dug Well/Tube Well/Boring: Others (Please specify)
- (c) Approx. depth of the well (m) :
- (d) In case of Tube Well :
 - (i) Approx. length (m) & diameter (mm) of the housing pipe (if any)
 - (ii) Approx. length (m) & diameter (mm) of the strainer
 - (iii) Material of the housing pipe & blank pipe : (PVC/ Iron/ Galvanized Iron)
 - (iv) Material of the strainer : (PVC/ Iron/ Galvanized Iron)
- (e) In case of Dug Well:
 - (i) Diameter of the Dug Well (m):
 - (ii) Type of structure of the Dug Well (Please tick):Kuchcha / Pucca
- (f) Whether there has been any adverse report regarding water quality: of the well.

Y	N
---	---

If Yes', give particulars.

4. Particulars of proposed pumping device:

- (a) Type of pump to be used (Please tick): (Centrifugal / Submersible / Turbine /Ejecto pump,etc.)
- (b) Length of column pipe (in case of submersible / turbine pump):
- (c) Pump Capacity (m³ / hr.)
- (d) H.P.
- (e) Operational device (Please tick): Electric Motor / Diesel Engine.
- (f) Date of energization (in case of electricity driven pump):

5. Particulars of usefulness of well:

- (a) Purpose of the proposed well
(Industrial / Commercial / Infrastructural / Bulk use / others (Please tick))
- (b) Annual running hours
- (c) Daily running hours:
- (d) Whether the area receives supply through piped water supply: YES / NO
(Please tick one)

6. Please submit mode of treatment of waste water/ effluent (for industries) If,-
- (a) applies, please mention whether obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water:
- (b) YES / NO (Please tick)
- If YES, attach copy of same.

Note: If applicant has not obtained NOC from Chhattisgarh Pollution Control Board for discharge of effluent or waste water, application shall be liable for rejection.

7. Whether rain water harvesting structure has been constructed within the premises
- YES /NO (Please tick)

8. Details of payment of application fee:

- (a) Amount of Application Fee paid –

(i) Rs:

(ii) Voucher No:

(iii) date:

- (b) Name of Treasury / Sub-Treasury / P.S.U. Bank where Application Fee has been paid-

- (c) Name of Bank Branch (if payment has been made in a Bank)-

- 9. Any other information which the applicant would like to furnish:**

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application / registration is liable to be rejected / cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars/information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage evenafter issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application :
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
 - (c) Map showing location of the proposed well, which have been referred to in itemNo 2 (a), (b) and (c).
7. The State Ground Water Management Regulatory Authority reserves the right to demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

Form-4 (D)**PERMISSION/N.O.C. FOR SINKING OF NEW WELL FOR INDUSTRIAL/
COMMERCIAL/INFRASTRUCTURAL OR BULK USER OF GROUND WATER****(EMBLEM OR HOLOGRAM OF CHHATTISGARH GROUND WATER MANAGEMENT
REGULATORY AUTHORITY)**

**[Under Clause (d) of sub-section (6) of Section 3 and U/S Section 12 of the Chhattisgarh Ground
Water Management and Regulation Act, 2022.]**

PERMISSION/N.O.C.

NO: VALID UP

TO:.....

- I. (a) Name of the applicant (user): Shri/Smt. Son / Daughter of:
- (b) Address of the applicant:
- (c) Category of farmer (Please tick): Small Farmer / Marginal Farmer / Others
- (d) Serial No. of application Form and date of submission:
- (e) Specimen signature of the user:
2. Location particulars:
- (a) District
- (b) Block Plot No.:
- (c) Municipality /
Corporation Ward
No. /Holding
No.:
3. Particulars of the proposed well and pumping device:
- (a) Type of the well:
- (b) Approx. depth of the well (m):
- (c) Purpose of the well:
- (d) Assembly size (for tube well): mm. X mm.
- (e) Approx. strainer length (for tube well): m.
- (f) Diameter (for dug well) :m.
- (g) Type of pump to be used:
- (h) H.P. of the pump:
- (i) Operational device:
- (j) Maximum allowable rate of withdrawal (m³/hr.):
- (k) Maximum allowable running hours per day:
- (l) Maximum allowable annual extraction of ground water:

This Grant of Permission/N.O.C. authorizes the owner applicant (user) to sink a well in the location specified at SI. (2) for extraction of ground water at a rate not exceeding that as shown at serial number (3 j), for running hours / day and for maximum allowable annual extraction of ground water as shown at serial number (3k) and is valid subject to the observance of the conditions stated overleaf.

Place:

Yours faithfully,

Signature of the issuing authority and Designation

OFFICE SEAL

CONDITIONS:-

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at serial number 2 and 3 of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix water meters, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in serial number 3(j) shall not exceed to the recorded rate from water meters.
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case, any of the particulars Information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (6) **The Grant of Permission shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.**
- (7) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (8) **It will be mandatory for every ground water user to equipped their ground water abstraction structure with digital flow meter**
- (9) **Guidelines for Installation of Piezometers and their Monitoring**
 Piezometer is a bore well /tube well used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:
 - The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".

- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
 - The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimal.
 - For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
 - The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
 - All the details regarding coordinates, reduced level (with respect to mean level), depth, zone tapped and assembly lowered should be provided for bringing the piezometer into the Water Resource Department, Chhattisgarh, and for its validation.
 - The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Water Resource Department, Chhattisgarh, for chemical analysis.
 - A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
 - Any other site-specific requirement regarding safety and access for measurement maybe taken care off.
- (10) Any other condition(s) that may be imposed by the concerned Authority.
- (11) In case, any of the particulars information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.

OFFICE SEAL

Form-4 (E)**APPLICATION FOR RENEWAL OF PERMISSION/N.O.C. FOR SINKING OF NEW WELL FOR INDUSTRIAL/ COMMERCIAL/INFRASTRUCTURAL OR BULK USER OF GROUND WATER****(EMBLEM OR HOLOGRAM OF THE DISTRICT GROUND WATER MANAGEMENT COUNCIL)****PERMISSION NO:****VALID UP TO:.....**

1. (a) Name of the applicant (user): Shri/Smt. Son / Daughter of:
 - (b) Address of the applicant:
 - (c) Category of farmer(Please tick): Small Farmer / Marginal Farmer / Others
 - (d) Serial No. of application Form and date of submission:
 - (e) Specimen signature of the user:
2. Please submit details of N.O.C. issued by Central Ground Water Authority or by Ground Water Department:
N.O.C. issued by (Please tick one)

Central Ground Water Authority	<input type="checkbox"/>
By Ground Water Department	<input type="checkbox"/>
- Date of issue of N.O.C.
- Date of expiry of N.O.C.
3. Location particulars:
 - (a) District
 - (b) Block, J.L. No., Plot No.:
 - (c) Municipality /
Corporation Ward
No. / Holding
No.:
4. Particulars of the well and pumping device:
 - (a) Type of the well:
 - (b) Approx depth of the well (m):
 - (c) Purpose of the well:
 - (d) Assembly size (for tube well): mm. X
 - (e) Approx strainer length (for tube well): m.
 - (f) Diameter (for dug well): m.

- (g) Type of pump to be used: mm.
- (h) H.P. of the pump:
- (i) Operational device:
- (j) Maximum allowable rate of withdrawal (m³/hr.):
- (k) Maximum allowable running hours per day:
- (l) Maximum allowable annual extraction of ground water:

This No-Objection certificate authorizes the owner applicant (user) to sink a well in the location specified at SI. (3) for extraction of ground water at a rate not exceeding that as shown at serial number (3 j), for running hours / day and for maximum allowable annual extraction of ground water as shown at serial number. (3j) and is valid subject to the observance of the conditions stated overleaf.

Place:

Date:

Yours faithfully,

Signature of the issuing authority.
And Designation

OFFICE SEAL

CONDITIONS:-

- (1) In case of any change of ownership of the proposed well, fresh authorization has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at serial number 2 and 3 of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this authorization.
- (3) For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix water meters, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in serial number 3(j) shall not exceed to the recorded rate from water meters.
- (4) The concerned Authority reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- (5) In case, any of the particulars / information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- (6) **The Grant of Permission shall be valid for a period of three years from the date of issue. The applicant shall have to apply for renewal through a fresh application, at least ninety days prior to expiry of its validity.**
- (7) Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- (8) **It will be mandatory for every ground water user to equipped their ground water abstraction structure with digital flow meter**
- (9) **Guidelines for Installation of Piezometers and their Monitoring**

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of Permission:

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".

- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
 - The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter up to two decimal.
 - For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
 - The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
 - All the details regarding coordinates, reduced level (with respect to mean level), depth, zone tapped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for **Water Resource Department**, Chhattisgarh and for its validation.
 - The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 liter capacity bottle) to the concerned Director, **Water Resource Department**, Chhattisgarh, for chemical analysis.
 - A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
 - Any other site-specific requirement regarding safety and access for measurement maybe taken care off.
- (10) Any other condition(s) that may be imposed by the concerned Authority.
- (11) In case, any of the particulars information furnished by the applicant in his application for issuance of this permit is found to be in correct during verification at any subsequent stage; this permit is liable for cancellation.

OFFICE SEAL

Form-4 (F)

**LETTER OF REJECTION OF APPLICATION FOR GRANT
OF PERMISSION FOR SINKING OF WELL
(EMBLEM OR HOLOGRAM OF CHHATTISGARH GROUND WATER MANAGEMENT
REGULATORY AUTHORITY)**

{Under Clause (d) of sub-section(6) of Section 3 and under Section 12 of the Chhattisgarh Ground
Water Management and Regulation Act, 2022}

No.

Dated

To

Shri/Smt.

Sub: Rejection of your application for grant of authorization of well.

Ref: Your Application No

submitted on

Sir / Madam,

This is to inform you regretfully that your Application Nodated.....
submitted for grant of authorization of well has been rejected because of the following reason(s):

- (1) Incomplete application
- (2) Non-submission of requisite documents
- (3) Shortfall in payment of requisite Application Fee
- (4) Incorrect Head of A/C for deposition of Application Fee
- (5) Others:

Yours faithfully,

Signature of the issuing authority

OFFICE SEA

- (a) Government Work: YES/NO
- (b) Private Work: YES/ NO
- (c) Both: YES/ NO

5. Details of payment of application fee:

- (a) Amount of Application Fee paid –
 - (i) Rs:
 - (ii) Voucher No:
 - (iii) date:

(b) Name of Treasury / Sub-Treasury / P.S.U. Bank where Application Fee has been paid-

(c) Name of Bank Branch (if payment has been made in a Bank)-

6. Any other information which the applicant would like to furnish

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished herein above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application / registration is liable to be rejected / cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars / information is found to be incorrect at any stage of verification /scrutiny, the application is liable for rejection.
4. In case any of the particulars / information furnished is found to be in correct at any stage even after issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application :
 - (a) Photocopy of Aadhaar card / voter ID /ration card, as proof of identification.
 - (c) Photocopy of PAN card.
 - (d) Photocopy of GST number.
7. The concerned Authority reserves the right to demand for any other document(s)fromthe owner applicant for examination of the merit of the case.

I agree

(b) Private Work: YES/ NO

(c) Both: YES/ NO

5. Details of payment of application fee:

(a) Amount of Application Fee paid –

(i) Rs:

(ii) Voucher No:

(iii) date:

(b) Name of Treasury / Sub-Treasury / P.S.U. Bank where Application Fee has been paid-

(c) Name of Bank Branch (if payment has been made in a Bank)-

6. Any other information which the applicant would like to furnish :

DECLARATION BY THE APPLICANT

I do hereby declare that the particulars furnished here in above are correct and true. I understand that in case any of the information and particulars is found to be incorrect at any stage of scrutiny and investigation or thereafter, my application/ registration is liable to be rejected/cancelled.

I agree

Note:

1. Separate application form should be used for registration of each individual well.
2. The application form should be completed in all respect before submission. Incomplete applications are liable for rejection. Any correction / alteration shall be duly authenticated.
3. In case any of the particulars/information is found to be incorrect at any stage of verification / scrutiny, the application is liable for rejection.
4. In case any of the particulars/ information furnished is found to be incorrect at any stage evenafter issue of the registration, the registration is liable for cancellation.
5. Please write 'N.A.' against those items which are not applicable.
6. Please attach the following documents along with the application :
 - (a) Document showing proof of ownership of land;
 - (b) Photocopy of Aadhaar card / voter ID / ration card / any other proof of identification
7. The District Ground Water Management Council reserves the right to demand for any other document(s) from the owner applicant for examination of the merit of the case.

I agree

Form-6 (A)**CERTIFICATE OF REGISTRATION OF NEW DRILLING AGENCY**

(EMBLEM OR HOLOGRAM OF

THE

DISTRICT GROUND WATER MANAGEMENT COUNCIL)

(Under clause(g) of sub-section (3) of Section 4 and Section 18 of the Chhattisgarh Ground Water Management and Regulation Act, 2022)

REGISTRATION NO...

1. (a) Name of Firm:
(b) Name of the owner applicant: Shri/Smt.
(c) Son / Daughter of:
(d) Address of the applicant:
(e) Application Form Serial No. and date of submission:
2. Name of district in which agency is registered for drilling:

This certificate of registration is issued on the basis of the information furnished by the applicant subject to the conditions stated overleaf.

Place:

Date:

Yours faithfully,

Signature of the issuing authority and Designation

OFFICE SEAL

CONDITIONS

- (1) Drilling Agency shall not do any drilling work in notified areas. List of notified areas can be downloaded from web portal [www. in](http://www.in).
- (2) Drilling Agency shall not do any drilling work in areas identified as ground water quality sensitive zones. List of ground water quality sensitive zones can be downloaded from web portal [www. in](http://www.in).
- (3) For more than one district, firm have to applied separately to concerning District Ground Water Management Council
- (4) Any other condition(s) that may be imposed by the District Ground Water Management Council.

Form-6 (B)**CERTIFICATE OF REGISTRATION OF EXISTING DRILLING AGENCY**

(EMBLEM OR HOLOGRAM OF

THE

DISTRICT GROUND WATER MANAGEMENT COUNCIL)

(Under Clause(g) of sub section (3) of Section 4 and Section 18 of the Chhattisgarh Ground Water Management and Regulation Act, 2022)

REGISTRATION NO...

1. (a) Name of Firm:
 - (b) Name of the owner applicant: Shri/Smt.
 - (c) Son / Daughter of:
 - (c) Address of the applicant:
 - (e) Application Form Serial No. and date of submission:
2. Name of district in which agency is registered for drilling:

This certificate of registration is issued on the basis of the information furnished by the applicant subject to the conditions state do overleaf.

Place:

Date:

Yours faithfully,

Signature of the issuing authority and Designation

CONDITIONS

- (1) Drilling Agency shall not do any drilling work in notified areas. List of notified areas can be downloaded from **web portal [www.in.](#)**
- (2) Drilling Agency shall not do any drilling work in areas identified as ground water quality sensitive zones. List of ground water quality sensitive zones can be downloaded from **web portal [www.in.](#)**
- (3) For more than one district, firm have to applied separately to concerning District Ground Water Management Council.
- (4) Any other condition(s) that may be imposed by the District Ground Water Management Council.
- (5) **It will be mandatory for all registered drilling agency to equipped their drilling rig machine with GPS System.**
- (6) **Registered drilling agencies shall also online provide details of drilling work executed in every threemonths in appropriate link/ web porta**

Form-7**LETTER OF REJECTION OF APPLICATION FOR REGISTRATION OF
DRILLING AGENCY****(EMBLEM OR HOLOGRAM OF****THE****DISTRICT GROUND WATER MANAGEMENT COUNCIL)**

(Under Clause (g) of sub-section (3) of Section 4 and 18 of the Chhattisgarh Ground Water Management and Regulation Act, 2022)

No.

Dated

To

Shri / Smt. / M/s.

Sub: Rejection of your application for grant of registration of drilling.

Ref: Your Application No submitted on

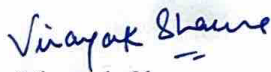
Sir / Madam,

This is to inform you regretfully that your Application Nodated.....
Submitted for grant of registration of drilling agency has been rejected because of the following reason(s):

- (1) Incomplete application
- (2) Non-submission of requisite documents
- (3) Shortfall in payment of requisite Application Fee
- (4) Incorrect Head of A/C for deposition of Application Fee
- (5) Others:

Yours faithfully,
Signature of the issuing authority

OFFICE SEAL

TRUE COPY


VINAYAK SHARMA
LLM. England U.K.
Standing Counsel, Govt. of Chhattisgarh
Supreme Court of India
O : A-52, Ground Floor, Defence Colony, New Delhi-24
M : 9670077007



भारत सरकार / Government of India

जल शक्ति मंत्रालय / Ministry of Jal Shakti

जल संसाधन, नदी विकास और गंगा संरक्षण विभाग

Dept. of Water Resources, River Development & Ganga Rejuvenation

केंद्रीय भूजल प्राधिकरण / Central Ground Water Authority

उत्तर मध्य छत्तीसगढ़ क्षेत्र / North Central Chhattisgarh Region

ANNEXURE R/5

1545

307



Date- 20/08/2024

20 AUG 2024

File no- 35-1/NCCR/CGWA/Vol-XI - 215

To

The Secretary

Water Resources Department

Government of Chhattisgarh,

Mahanadi Bhavan, Mantralaya,

Naya Raipur, Chhattisgarh- 492002.

Sub- "UN predicts groundwater level in India will reduce to low by 2025" Reply of Para-19

Ref- Before the NGT Principal Bench, New Delhi, Original Application no.694/2023

Para 19 - All respondents shall also explain by filing reply/additional reply, as the case may be, placing on record as to what considerations are taken in to account while granting permission for extraction of ground water particularly for commercial or Industrial purposes in OCS areas, i.e., Over exploited areas, Critical and Semi- Critical.

Reply- The Authority has been regulating ground water development and management by way of issuing 'No Objection Certificates' for ground water extraction to industries or infrastructure projects or Mining Project. All new and existing industries and industries seeking expansion, infrastructure projects, and mining projects that are abstracting groundwater require to seek a No Objection Certificate from the Central Ground Water Authority. The entire process for granting this No Objection Certificate is being conducted online through a web-based application system. Currently for state Chhattisgarh, the Central Ground water Authority (CGWA), Raipur is granting permission of NOC for extraction of groundwater particularly for commercial or industrial purpose in (OCS areas) overexploited, Critical and semi critical area.

In over-exploited assessment units, the No Objection Certificate (NOC) for groundwater abstraction will not be granted to new industries, except those classified as Micro, Small, and Medium Enterprises (MSMEs). Additionally, the expansion of existing industries, which would result in an increased quantum of groundwater abstraction, will not be permitted in these areas.

2nd Floor, L. K. Corporates Tower, Dhamtari Road, Dumartarai, Raipur-492015 (Chhattisgarh)

दूसरी मंजिल, एल.के. कार्पोरेट्स टॉवर, धमतरी रोड, डुमरतराई, रायपुर-492015 (छत्तीसगढ़)

Email : rdncr-cgwb@nic.in

Website : <http://cgwa-noc.gov.in>



New packaged water industries will not receive an NOC in over-exploited areas, regardless of whether they are MSMEs.

For projects proposing to extract groundwater exceeding 100 cubic meters per day in over-exploited, critical, and semi-critical areas, or exceeding 500 cubic meters per day in areas underlain by non-alluvium, it is mandatory to submit an impact assessment report and groundwater modeling study. This study must be conducted by accredited consultants and should cover the impact of the proposed groundwater withdrawal on the groundwater regime within a 5 to 10 kilometres radius of the project site.

Furthermore, industries, mining operations, and infrastructure projects drawing groundwater from safe, semi-critical, and critical assessment units are required to pay groundwater abstraction charges based on the volume of groundwater extracted. It is important to note that the categorization of areas into safe, semicritical, critical and Over-exploited is based on the assessment of groundwater availability and the extent of its ground water extraction. As the sensitivity of the area increases from Safe to semicritical, critical and over exploited- the charges of groundwater abstraction correspondingly increase. It is a deliberate measure to discourage excessive withdrawal in region where groundwater resources are at risk. Detailed calculation tables outlining these charges are provided below.

I. Packaged Drinking Water units

Rates of ground water abstraction charges for packaged drinking water units in safe, semi-critical and critical assessment units are given in Table 1 A and those for ground water restoration charges in over-exploited assessment units are given in Table 1 B.



Table 2 A: Rates of Ground Water abstraction charges for other industries & infrastructure projects (Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	2.00	3.00	5.00
2.	Semi-critical	2.00	3.00	5.00	8.00
3.	Critical	4.00	6.00	8.00	10.00

Table 2 B: Rates of ground water restoration charges for other industries & infrastructure projects (Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited (existing industries / new Industries as per the present Guidelines)	6.00	10.00	16.00	20.00

III. Mining projects

Rates of ground water abstraction charges for mining, which are drawing ground water in safe, semi-critical and critical assessment units are given in Table 3 A and those for ground water restoration charges in case of projects drawing ground water in over-exploited assessment units are given in Table 3 B.



Table 1 A: Rates of ground water abstraction charges for packaged drinking water units (Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal				
		Up to 50m ³ /day	51 to <200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	3.00	5.00	8.00	10.00
2.	Semi-critical	2.00	5.00	10.00	15.00	20.00
3.	Critical	4.00	10.00	20.00	40.00	60.00

Table 1 B: Rates of ground water restoration charges for packaged drinking water units(Rs per m³)

S.No.	Category of area ↓ Ground water use →	Quantum of ground water withdrawal				
		Up to 50 m ³ /day	51 to <200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited (existing industries only)	8.00	20.00	40.00	80.00	120.00

II. Industries & infrastructure projects

Rates of ground water abstraction charges for other industries and infrastructure projects in safe, semi- critical and critical assessment units are given in Table 2 A and those for ground water restoration charges in over-exploited assessment units are given in Table 2 B.



Table 3 A: Rates of ground water abstraction charges for mining (Rs. per m³)

S.No	Category of area ↓ Ground wateruse →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Safe	1.00	2.00	2.50	3.00
2.	Semi-critical	2.00	2.50	3.00	4.00
3.	Critical	3.00	4.00	5.00	6.00

Table 3 B: Rates of ground water restoration charges for mining (Rs. per m³)

S.No.	Category of area ↓ Ground wateruse →	Quantum of ground water withdrawal			
		< 200 m ³ /day	200 to <1000 m ³ /day	1000 to <5000 m ³ /day	5000 m ³ /day and above
1.	Over-exploited	4.00	5.00	6.00	7.00

Vinayak Sharma

TRUE COPY

VINAYAK SHARMA
LLM. England U.K.
Standing Counsel, Govt. of Chhattisgarh
Supreme Court of India
O : A-52, Ground Floor, Defence Colony, New Delhi-24
M : 9670077007

Dr. Prabir Kumar Naik
Regional Director
CGWB, NCCR, Raipur

Copy to:

1. Shri Ajeet Kumar Shukla, Senior Geohydrologist, Divisional Ground Water Survey Unit No. 08, Canal Linking Road, Shanti Nagar, Raipur Chhattisgarh

Office of The Senior Geohydrologist
R.R.No. 656 Date 20/08/2024
Encl. As Above
D.G.W.S. Unit No.-8, Raipur (C.G.)

Prabir Kumar Naik
20/8/24
Dr. Prabir Kumar Naik
Regional Director
CGWB, NCCR, Raipur

Sh. Sankar
for compilation

ABBREVIATIONS USED

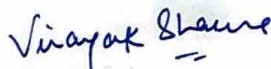
Abbreviation	Full Name
As	Arsenic
BOD	Biological Oxygen Demand
BCM	Billion Cubic Meter
BG	Broad Gauge
BH	Bore Hole
BHPC	Bihar State Hydroelectric Power Corporation
BIS	Bureau of Indian Standard
BM	Bench Mark
BPL	Below Poverty Line
CA	Catchment Area
Ca	Calcium
CaCO ₃	Calcium Carbonate
CAD	Command Area Development
CAT	Catchment Area Treatment
CBIP	Central Board of Irrigation & Power
cc	Cement Concrete
CCA	Culturable Command Area
CD	Cross Drainage
Cd	Cadmium
°C	Degree Celsius
CE	Chief Engineer
CEA	Central Electricity Authority
Cfm	Cubic feet metre
Co	Cobalt
COD	Chemical Oxygen Demand
CGWB	Central Ground Water Board
Cl	Chloride
CM	Cross Masonry
cm	Centimetre
CMO	Construction Management Organisation
CS	Cross Section
Cr	Chromium
CSMRS	Central Soil and Material Research Station
Cu	Copper

Abbreviation	Full Name
Cum	Cubicmetre
Cumec	Cubic metre per second
Cusec	Cubic feet per second
CWC	Central Water Commission
d/s	Downstream
DH	Drill Hole
DO	Dissolved Oxygen
DPR	Detailed Project Report
DSL	Dead Storage level
E	East
EC	Electrical Conductivity
EDT	Economic Development Trust
EIA	Environmental Impact Assessment
EKMC	Eastern Kosi Main Canal
E&M	Electrical & Mechanical
EL	Elevation level
EMP	Environmental Management Plan
EPG	Emergency Planning Group
ERP	Economic Rehabilitation Programme
Eto	Evapo-transpiration
F	Floride
FB	Fore Bearing
Fe	Iron
FRL	Full Reservoir Level
FSD	Full Supply Depth
FSL	Full Supply Level
g	Acceleration due to gravity
GD&S	Gauge Discharge & Silt
G&D	Gauge & Discharge
GCA	Gross Command Area
GI	Galvanised Iron
GIR	Gross Irrigation Requirement
GSI	Geological Survey of India
GTS	Great triangular surevy
GW	Ground Water

Abbreviation	Full Name
H	Horizontal
ha	hectare
HP	Horse Power
hr	Hour
ham	hectare-metre
HDPE	High Density Poly Ethylene
HE	Hydro Electric
HEP	Hydro Electric Project
HFL	High Flood Level
HMG	His Majesty's Govt.
HT	High Tension
HYV	High Yield Varieties
IC	Installed Capacity
IMD	Indian Meteorological Department
IMO	Irrigation Management Organisation
IRR	Internal Rate of Return
K	Potassium
K-M Link	Kosi- Mechi Link
km	Kilometre
km/hr.	Kilometre per hour
KV	Kilo Volt
Kwh	Kilowatt hour
LARR	Land Acquisition, Rehabilitation and Resettlement
LBC	Left Bank Canal
LS	Longitudinal Section
lpm/m	Litres per minute per metre
LT	Low Tension
m	Metre
MoTA	Ministry of Tribal Affairs
mbgl	metres below ground level
MCM	Million Cubic Metre
MDDL	Minimum Drawdown Level
MG	Meter Gauge
Mg	Magnesium
Mg/l	Milligram per litre

Abbreviation	Full Name
mm	Millimetre
MMI	Modified Mercalli Intensity
MoEF	Ministry of Environmental & Forests
MoU	Memorandum of Understanding
MoWR	Ministry of Water Resouces
MS	Mild Steel
MSL	Mean Sea Level
MT	Metric Tonnes
MU	Million Unit
MWL	Maximum Water Level
MW	Mega Watt
N	North
NA	Not Applicable
Na	Sodium
NH	National Highway
NO ₃	Nitrate
NOF	Non Overflow
NPP	National Perspective plan.
NSL	Natural Surface Level
NWDA	National Water Development Agency
OF	Overflow
OFD	On Farm Development
PAP	Project Affected People
Pb	Lead
PCC	Plain Cement Concrete
PFR	Prefeasibility Report
PH	Power House
PHED	Public Health Engineering Department
PLF	Power Load Factor
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
POL	Petrol Oil Lubricants
PPR	Preliminary Project report
R&R	Resettlement & Rehabilitation
RCC	Reinforced Cement Concrete

Abbreviation	Full Name
RD	Reduced Distance
RH	Relative Humidity
RL	Reduced Level
RMR	Rock Mass Rating
S	South
SC	Scheduled Caste
SE	Superintending Engineer
SFR	Sheep Foot Roller
SOI	Survey of India
SOR	Schedule of Rates
SO ₂	Sulphur dioxide
SO ₄	Sulphate
sq km	Square Kilometre
ST	Schedule Tribe
t	tonnes
T&P	Tools & Plants
TAC	Technical Advisory Committee
TMC	Thousand Million Cubic feet
TWL	Tail Water Level
u/s	Upstream
V	Vertical
W	West
WBM	Water Bound Macadam
WKMC	Western Kosi Main Canal
WR	Water Resources
WRD	Water Resources Department
Zn	Zinc



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 Standing Counsel, Govt. of Chhattisgarh
 Supreme Court of India
 O : A-52, Ground Floor, Defence Colony, New Delhi-24
 M : 9670077007

VAKALATNAMA

BEFORE HON'BLE NATIONAL GREEN TRIBUNAL,

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 694 OF 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" addressed to State of Chhattisgarh through the Secretary, Department of Water Resources.

KNOW ALL TO WHOM THESE PRESENTS SHALL COME THAT I Imitaj Ahmad Siddiqui, OIC, Superintending Engineer, Water Resource Department, Govt. of Chhattisgarh, ABOVE NAMED RESPONDENT NO. 6 (STATE OF CHHATTISGARH), DO HEREBY APPOINT:

VINAYAK SHARMA
LLM, ENGLAND, UNITED KINGDOM

STANDING COUNSEL,
GOVT. OF CHHATTISGARH
(AT SUPREME COURT OF INDIA)

(E. No. D/182/2016)

OFFICE: A-52, GROUND FLOOR, DEFENCE COLONY, NEW DELHI-110024
C-97, 3RD FLOOR, DEFENCE COLONY, NEW DELHI-110024.

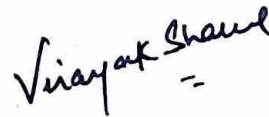
CONTACT: (+91) 9670077007, 9670017001

EMAIL: OFFICE.VINAYAKSHARMA@GMAIL.COM

Hereinafter called the Advocate/Standing Counsel (at Hon'ble Supreme Court of India for Govt. of Chhattisgarh) to be Advocate for the Department/State of Chhattisgarh in the above noted cause and authorize him:

To act, appear and plead in above-noted cause in this court, or in any other court in which the same may be tried or heard and also in the appellate Courts.

To sign, file verify and present pleadings replication, appeals, cross objections, or petition for execution, review, revision, restoration, withdrawal, compromise of other petitions, replies, objections or affidavits or other documents as may be deemed necessary or proper for the prosecution of said case in all its stage subject to payment of fee for each stage. To file and take back documents to admit and/or deny the documents of opposite party.

VINAYAK SHARMA
LLM, England U.K.
Standing Counsel, Govt. of Chhattisgarh
Supreme Court of India
O : A-52, Ground Floor, Defence Colony, New Delhi-24
M : 9670077007

To withdraw or compromise the said case per submit to arbitration and difference or disputes that may arise touching or in any manner proceedings. To deposit, draw and receive money cheque cash and grants receipts thereof, and do all other acts and things which may be necessary to be done for the progress and in the course of the prosecution of the said case. To appoint and instruct any other Legal Practitioner authorizing him to exercise the power and authority hereby conferred upon the Advocate wherever he may think fit to do so and to sign the power of attorney or our behalf.

And I/We undertake that I/We or my/our duly authorized agent would appear in court on all hearing and will inform the Advocate for appearance when the case is called.

And I/We the undersigned, do hereby agree not to hold the Advocate or his substitute responsible for the results of the said case. The adjournment cost whenever ordered by the court shall be of the Advocate, which he shall receive and retain for himself. And I/We the undersigned, do hereby agree that in the event of the whole or part of the fee agreed by me/us to be paid to the advocate remaining unpaid he shall be entitled to withdraw from the prosecution of the said case until the same is paid. The fee settled is only the above Court.

I/We hereby agree that once the fee is paid. The fee settled is entitled for the refund of the same in any case, whatsoever, and in case prolongs for more than 3 years, so the original fee shall be paid again by me/us.

In WITNESS WHEREOF I/We don hereunto set my/our hand to these presents the contents of which have been understood by me/us this day of 06 day of September, 2024. Accepted subject to the terms of the fees.

Identified/ Accepted/ Certified

Vinayak Sharma

VINAYAK SHARMA
LLM, ENGLAND, UNITED KINGDOM
ADVOCATE
STANDING COUNSEL
GOVT. OF CHHATTISGARH
(AT SUPREME COURT OF INDIA)

(E. No. D/182/2016)

VINAYAK SHARMA
LLM. England U.K.
Standing Counsel, Govt. of Chhattisgarh
Supreme Court of India
O : A-52, Ground Floor, Defence Colony, New Delhi-24
M : 9670077007

[Signature]
(CLIENT)
(I identify the signature /thumb Impression,
who has signed in my presence)

(RESPONDENT NO. 6)
(STATE OF CHHATTISGARH)
Superintending Engineer
Water Resources And
Ground Water Survey Circle
Raipur (C.G.)

