



**केंद्रीय भूमि जल बोर्ड**  
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग  
जल शक्ति मंत्रालय, भारत सरकार

**Central Ground Water Board**  
Department of Water Resources, River  
Development and Ganga Rejuvenation,  
Ministry of Jal Shakti  
Government of India

**Dynamic Ground Water Resources, Rajasthan  
as on 31.03.2020”  
(AAP 2020-21)**

पश्चिमी क्षेत्र, जयपुर  
Western Region, Jaipur

October 2021



**GOVERNMENT OF INDIA**

**MINISTRY OF JAL SHAKTI**

**DEPARTMENT OF WATER RESOURCES, RIVER  
DEVELOPMENT & GANGA REJUVENATION**

**REPORT ON**

**“Dynamic Ground Water Resources of  
Rajasthan as on 31.03.2020”  
(AAP 2020-21)**

By  
Smt. Preeti Pandey  
Scientist-B (Hydrogeologist)

Under the Supervision of

Dr. Sunil Kumar Jain  
Regional Director

&

Under Support and Guidance of  
Shri Suresh Kumar. Pareek, Scientist-D  
Smt. Priya Kanwar, Scientist-C

## **Acknowledgement**

I would like to acknowledge all the below mentioned for their untiring help and support in all aspects related to this work.

I would like to extend my heartfelt gratitude to Shri S.K Jain, Regional Director, CGWB, WR, Jaipur for his constant support and guidance during the course of this study.

I render my outmost and sincere thanks to Shri Surajbhan Singh, Chief Engineer, GWD, Jaipur, Shri Gopal Sharma, Superintending. Hydrogeologist, GWD, Jaipur and all concerned district Hydrogeologists from GWD, Rajasthan for timely compilation of data, for all the help, support, guidance, technical inputs and encouragement for making this assessment successful. This study would never have been successful without their support and coordination.

Sincere thanks to Shri S.K Pareek, Scientist-D, Shri M.K. Sharma, Scientist-D (retired), and Shri H.N. Tiwari, Scientist-D (retired) for all the help and support. I would like to thank Mrs. Priya Kanwar, Scientist-C for her valuable contribution in this study. I would like to extend my thanks to Shri. Rajesh Kumar Verma, Scientist-B for his support in this study.

Thanks are due to the IIT-H, Vassar labs team for their constant support in giving training on user manual for newly developed INGRES software. I sincerely thank Shri. Ratikanta Nayak, Scientist-D for his help and support.

I would also like to thank all the Government officials of various Departments who are members of the committee for “Dynamic Ground Water Resources Assessment (2020), Rajasthan”, Public Health Engineering Department and Statistical Department for providing all the necessary data and information of the study area.

I thank Shri Lokendra Kumar, Draftsman, (CGWB) for his help in preparing maps for this report.

I thank all the officials and staff of CGWB, WR, Jaipur for their help and support during the course of this work.

**Dynamic Ground Water Resources of Rajasthan  
As on 31<sup>st</sup> March 2020  
Table of Contents**

| <b>Chapter No.</b> | <b>Chapter</b>                                |   | <b>Page No.</b> |
|--------------------|---|---|-----------------|
| 1                  | Introduction                                  |   | 1               |
| 2                  | General Features of The State                 |   | 2               |
|                    | 2.1.  | Physiographic Features                                      | 2               |
|                    |   | 2.1.1. Topography   | 2               |
|                    |   | 2.1.2. Aravalli Hill Ranges                                 | 2               |
|                    |   | 2.1.3. The Eastern Plains                                   | 2               |
|                    |   | 2.1.4. The Western Sandy Plains and Sand Dunes              | 2               |
|                    |   | 2.1.5. Vindhyan Scarpland and Deccan Lava Plateau           |                 |
|                    | 2.2.  | Drainage  | 3               |
|                    | 2.3.  | Climate   | 6               |
|                    |   | 2.3.1. Rainfall   | 4               |
|                    |   | 2.3.2. Temperature  | 5               |
|                    | 2.4.  | Geology   | 7               |
|                    |   | 2.4.1. Archaeans  | 8               |
|                    |   | 2.4.2. Proterozoics   | 8               |
|                    |   | 2.4.3. Palaeozoics  | 8               |
|                    |   | 2.4.4. Mesozoics  | 9               |
|                    |   | 2.4.5. Deccan Traps   | 10              |
|                    |   | 2.4.6. Tertiaries   | 10              |
|                    |   | 2.4.7. Recent   | 10              |
|                    | 2.5.  | Hydrogeology  | 10              |
|                    |   | 2.5.1. Porous Formations                                    | 10              |
|                    |   | 2.5.2. Fissured Formations                                  | 11              |
|                    |   | 2.5.3. Ground Water Level                                   | 11              |
|                    |   | 2.5.4. Ground Water Quality                                 | 12              |
| 3                  | Ground Water Resources Estimation Methodology |   | 12              |
|                    | 3.1.  | Ground Water Recharge                                       | 13              |
|                    | 3.2.  | Ground Water Draft  |                 |
|                    | 3.3.  | Stage of Ground Water Development & Categorization of Units | 15              |
|                    | 3.4.  | Future allocation of Ground Water Resources                 |                 |
|                    | 3.5.  | Poor Quality Ground Water                                   | 16              |
|                    | 3.6.  | Additional Potential recharge                               | 17              |
| 4                  | Computation Of Ground Water Resources         |   | 17              |
|                    | 4.1.  | Norms Adopted   | 17              |
|                    | 4.2.  | Ground Water Resources Assessment:                          | 21              |
|                    | 4.3.  | Areas having Ground Water Development Prospects             | 22              |
|                    | 4.4.  | Spatial Variation of Groundwater Resources                  | 22              |
|                    | 4.5.  | Comparison with the earlier Groundwater Resource Estimates  | 23              |
|                    | 4.6.  | Groundwater Recharge in Poor Ground Water Quality Zone      |                 |
|                    | 4.7.  | Additional annual potential recharge                        | .               |

# Dynamic Ground Water Resources of Rajasthan-2020

| <b>List of Tables</b> |   |                 |
|-----------------------|---|-----------------|
|                       | <b>Table</b>  | <b>Page No.</b> |
| 1                     | Average Annual Rainfall And Departure From Normal Rainfall                        | 10              |
| 2                     | Geological Succession of Rajasthan  | 12              |
| 3                     | The Criteria For Categorization Of Assessment Units                               | 18              |
| 4                     | Norms Adopted for yield and Rainfall Infiltration factor                          | 22              |
| 5                     | Norms Adopted for Surface Water and Ground Water Irrigation Return Flow Factor    | 23              |
| 6                     | Number of Blocks in Rajasthan Falling Under different categories as on 31.03.2020 | 26              |
| 7                     | District wise Ground Water Resources of Rajasthan State as on 31.03.2020          | 30              |
| 8                     | District wise distribution of blocks in different categories as on 31.03.2020     | 31              |
| 9                     | District wise List Of Blocks Falling In Different Categories As On 31.03.2020     | 32-39           |
| 10                    | Comparison of Ground Water Resources 2017 and 2020                                | 28              |
| 11                    | Comparison Of Categories Of Blocks As Computed On 31.03.2013 and 31.03.2017       | 37              |

| <b>List of Figures</b> |  |                 |
|------------------------|--|-----------------|
|                        | <b>Figure</b>  | <b>Page No.</b> |
| 1                      | Administrative Map of Rajasthan showing assessment units                                   | 2               |
| 2                      | Physiography and Drainage map of Rajasthan   | 5               |
| 3                      | Normal Annual Rainfall (mm) map of Rajasthan   | 7               |
| 4                      | Average Annual Rainfall and Departure from Normal Annual Rainfall                          | 7               |
| 5                      | Pre-Monsoon Depth to Water level map of Rajasthan  | 8               |
| 6                      | Post-Monsoon Depth to Water level map of Rajasthan   | 9               |
| 7                      | Range of Annual Extractable Ground Water Resources (ham) map of Rajasthan as on 31.03.2020 | 25              |
| 8                      | Range of Gross Ground Water Draft for all uses (ham) map of Rajasthan as on 31.03.2020     | 26              |
| 9                      | Block wise Stage of Ground Water Development of Rajasthan as on 30.03.2020                 | 27              |
| 10                     | Blocks falling under Different categories for Rajasthan as on 31.03.2020                   | 29              |

| <b>ABBREVIATION</b> |                                   |         |                                  |
|---------------------|-----------------------------------|---------|----------------------------------|
| AAP                 | Annual Action Plan                | Ham/ham | Hectare meter                    |
| MCM                 | Million Cubic Metres              | ham/yr  | Hectare meter per year           |
| BW                  | Bore well                         | IMD     | Indian Meteorological Department |
| TW                  | Tube well                         | Km      | Kilometer                        |
| DW                  | Dug Well                          | m       | metre                            |
| DCB                 | Dug cum Borewell                  | m bgl   | meters below ground level        |
| DTWL                | Depth to Water Level              | mm      | Milli meter                      |
| EW                  | Exploratory Well                  | MP      | Measuring Point                  |
| GL                  | Ground Level                      | m amsl  | Metre above mean sea level       |
| GEC                 | Ground water Estimation Committee | NA      | Not Available                    |
| CGWB                | Central Ground Water Board        | Fig.    | Figure                           |
| Rif                 | Rainfall Infiltration Factor      | No.     | Number                           |
| lpd                 | Litres per day                    | AD      | Anno Domini                      |
| Sp.yield            | Specific Yield                    | mg/l    | milligram/litre                  |

## Dynamic Ground Water Resources of Rajasthan As on 31<sup>st</sup> March 2020

### 1. Introduction

The Government of India vide Resolution No. 639400/2020/GW Section dated 24/06/2020 from Deputy Secretary (EA& IC Ministry of Jal Shakti, Department of Water Resources, River development & Ganga Rejuvenation for constitution of Central Level Expert Group for overall re-assessment of ground water resources of the country ( As on 31.03.2020) . With this view, the said Committee with respect to Rajasthan state was constituted vide letter No. 6 (31) AR/Gr.3/2020 dated 02.09.2020 (Annexure I) of Joint Secretary to Government vide order of Rajasthan Government Administrative Reforms (Group-3) Department with the following members

|    |   |                  |
|----|---|------------------|
| 1  | The Principal Secretary to Government, Ground Water Department & PHED | Chairman         |
| 2  | Principal Secretary to Government, Energy                             | Member           |
| 3  | Commissioner, Industries  | Member           |
| 4  | Commissioner, Agriculture   | Member           |
| 5  | Chief Engineer, SWRPD   | Member           |
| 6  | The Chief Engineer, Water Resources                                   | Member           |
| 7  | Chief Engineer (HQ), PHED   | Member           |
| 8  | Chief Engineer (Rural). PHED  | Member           |
| 9  | Chief Engineer, GWD   | Member           |
| 10 | Director, Department of Mines & Geology                               | Member           |
| 11 | General Manager, NABARD   | Member           |
| 12 | Regional Director, Central Ground Water Board, Western Region, Jaipur | Member-Secretary |

The terms of reference of the Group were as follows:-

1. To estimate annual Replenishable ground water resources of the state in accordance with the Ground Water Resources Estimation Methodology – 2015 of CGWB.
2. To estimate the status of utilization of the Annual Replenishable ground water resources

Ground Water Resource Estimation for the State is carried out periodically. The Ground Water Resources of Rajasthan were last estimated as on 31.03.2017. In the present report, block-wise dynamic ground water resources as on 31.3.2020 have been assessed. Ground Water Resources have been estimated as per the Ground Water Estimation Committee-2015 guidelines.

Administrative map of Rajasthan depicting the assessment units (Blocks) in each district (33) is represented in **Fig.1**

# Dynamic Ground Water Resources of Rajasthan-2020

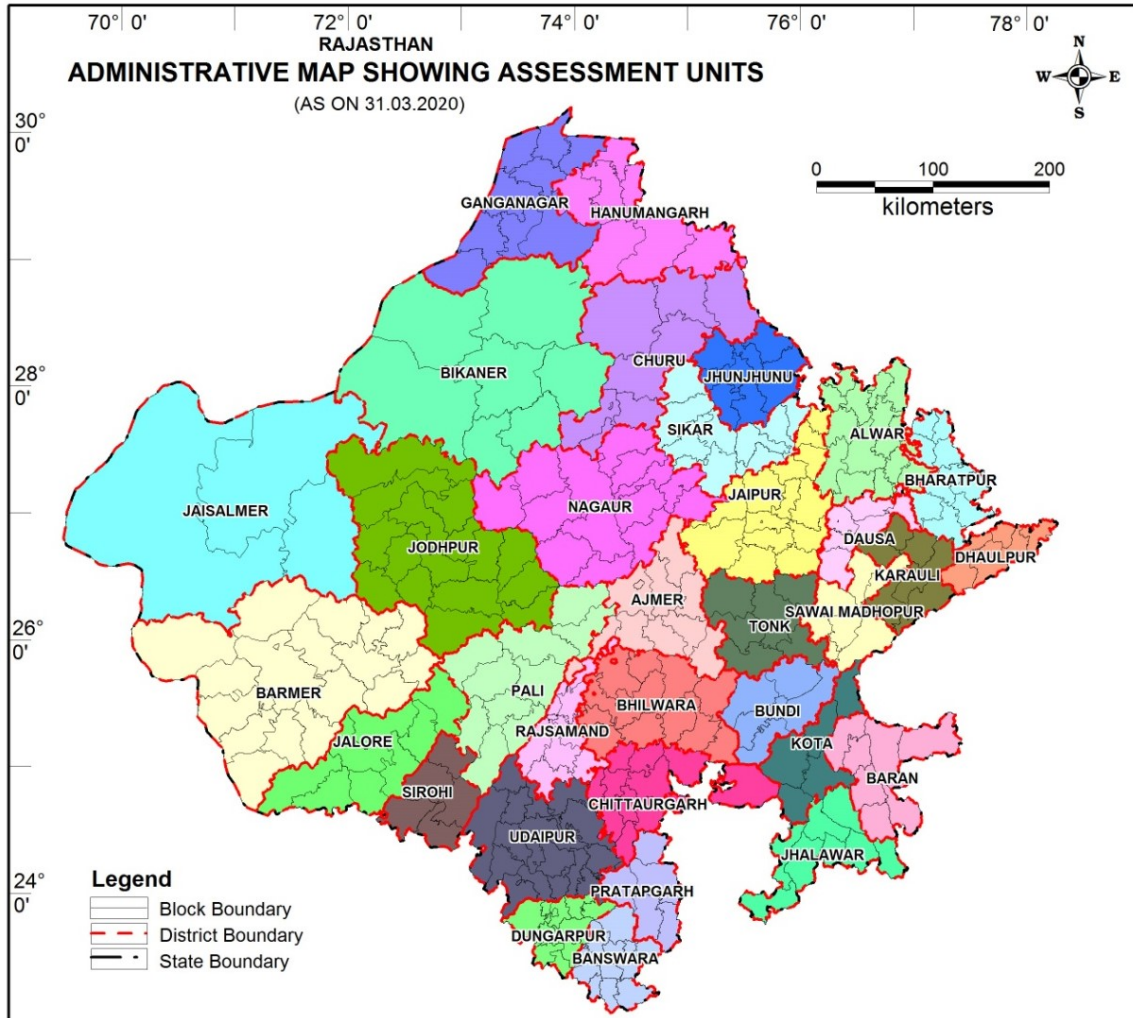


Fig.1. Administrative map of Rajasthan showing Assessment Units

## 2. General Features of the State

### 2.1 Physiographic Features

#### 2.1.1 Topography

The state has a fairly mature topography developed during the long period of denudation and erosion. The present Physiography and land forms are greatly determined by the underlying geological formations and structures and the product of the fluvial cycle of erosion in the past and the recent & continuing desert cycle of erosion. Physiography and Drainage are shown in Fig.2

Physiographically the state can be divided into four units:

- (a) Aravalli hill ranges
- (b) Eastern plains

- (c) Western Sandy Plain with Sand Dunes and
- (d) Vindhyan Scarp land and Deccan Lava Plateau

### 2.1.2 Aravalli Hill Ranges

The Aravalli ranges trending NE -SW are the oldest mountain chain in India. The elevation of these hill ranges varies from about 600 meters to over 900 meters above mean sea level m. amsl. They are composed of Bhilwara, Aravalli and Delhi Super Group of rocks ranging in age from Archaean {2500 million year (my)} to Proterozoic (740 my). These ranges form a series of rugged hills with rounded surfaces. The quartzite stands out as scarps. Near Ajmer, these separate out south-westwards into a number of parallel ridges. At Mount Abu, the clusters of granite peaks reach a maximum height of 1722 m amsl at Guru Sikhar.

### 2.1.3 The Eastern Plains

In the plains, east of the Aravalli ranges, the altitude varies from 150 m to 450m AMSL. The general trend of the slope varies from place to place. In Dungarpur and Banswara districts the trend is mainly from north to south, in Alwar district it is from south to north and in the remaining districts, forming the central and north eastern Rajasthan, it is from west to east. The south-eastern limit is marked by the Vindhyan plateau.

### 2.1.4. The Western Sandy Plains and Sand Dunes

The sandy plains in western Rajasthan, forming a part of Thar-Desert, are mainly occupied by alluvium and blown sands. These plains are further sub-divided into three units:

- i) Sandy Arid Plain (Marusthali)
- ii) Semi-arid Transitional Plain
- iii) Ghaggar Plain

The Sandy Arid Plain is a typical desert terrain. It includes the western most districts of Jaisalmer, Bikaner and parts of Barmer, Jodhpur, Nagaur, Churu and Ganganagar. The line dividing the Sandy Arid Plain and the Semi-arid Transitional Plain as well as Ghaggar Plain is based on climatic parameters and water resource availability.

The eastern boundary of the Semi-arid Transitional Plain is marked by the foot-hills and their extension on the western side of Aravalli ranges. Sand dunes are prominent and the terrain is punctuated with isolated hills of granites and rhyolites. The altitude varies from 30m to 300m amsl. The general slope is from northeast to southwest.



The Ghaggar Plain consists mainly of former flood plains of River Ghaggar and aeolian deposits. A network of canals cover the entire area. The southern and south-eastern part is occupied by medium to high dunes. Nineteen of these interdunal depressions are being utilised for storing the diverted Ghaggar flood waters. The central part of the Ghaggar Plain is drained by the regulated floodwaters of Ghaggar River.

### **2.1.5. Vindhyan Scarpland and Deccan Lava Plateau**

The southeastern plains are locally characterized by plateau, scarp land and ravines. The Vindhyan scarp lands are seen all along the Great Boundary Fault from Chittorgarh to the trijunction of Bharatpur, Dholpur and Sawai Madhopur districts. They have an average elevation of 300 m to 580 m amsl.

The Deccan Lava Plateau is mainly confined to parts of Kota, Jhalawar, Banswara and Chittorgarh districts. The elevation ranges from 300m to over 500m amsl.

The ravines, locally impassable, are confined to the alluvium overlying the Vindhyan in Dholpur, Sawai Madhopur, Jhalawar and Kota districts along the Chambal River and its tributaries.

## **2.2 Drainage**

The Aravalli Hill Ranges form the main water divide in Rajasthan. Luni is the only river west of Aravallis. In the remaining area of western Rajasthan comprising about 60% of the geographical area of the state, the drainage is internal, and the streams are lost in the desert sands after flowing for a short distance from the point of origin. Luni itself essentially is an ephemeral stream with flood cycle of 16 years. Drainage in western Rajasthan is towards west and south - west.

In the east of Aravalli ranges, the main drainage is towards north - east. The Chambal Catchment occupies 21% (72,032 sq km) of the total geographical area of the state.

The other important catchments include Yamuna-Ganga in the north east, and Mahi and Sabarmati in the south west with flow towards south. The former three catchments support perennial rivers. In the northern and north-eastern parts of eastern Rajasthan, the Banganga, Barah, Sota, Sahibi and Kantli rivers are of inland nature. The drainage in the whole of Rajasthan is generally dendritic.

In the desert area, a few salt lakes and depressions exist, prominent among them being the Sambhar lake, Didwana lake, Bap, Pachpadra and Rann of Jaisalmer and Pokran.

## 2.3. Climate

Climatically, the year in Rajasthan can be divided into three major conventional seasons as follows:

- The Hot- Weather Season (March to end of June)
- Monsoon Season (End of June to September)
- The Cold- Weather Season (October to February)

The India Meteorological Department has further sub-divided the cold season into two divisions, i.e.

- The Season of retreating monsoon (October to December)
- The cold season (January to February)

These seasonal variations have been broadly based on temperature and rainfall conditions in different months.

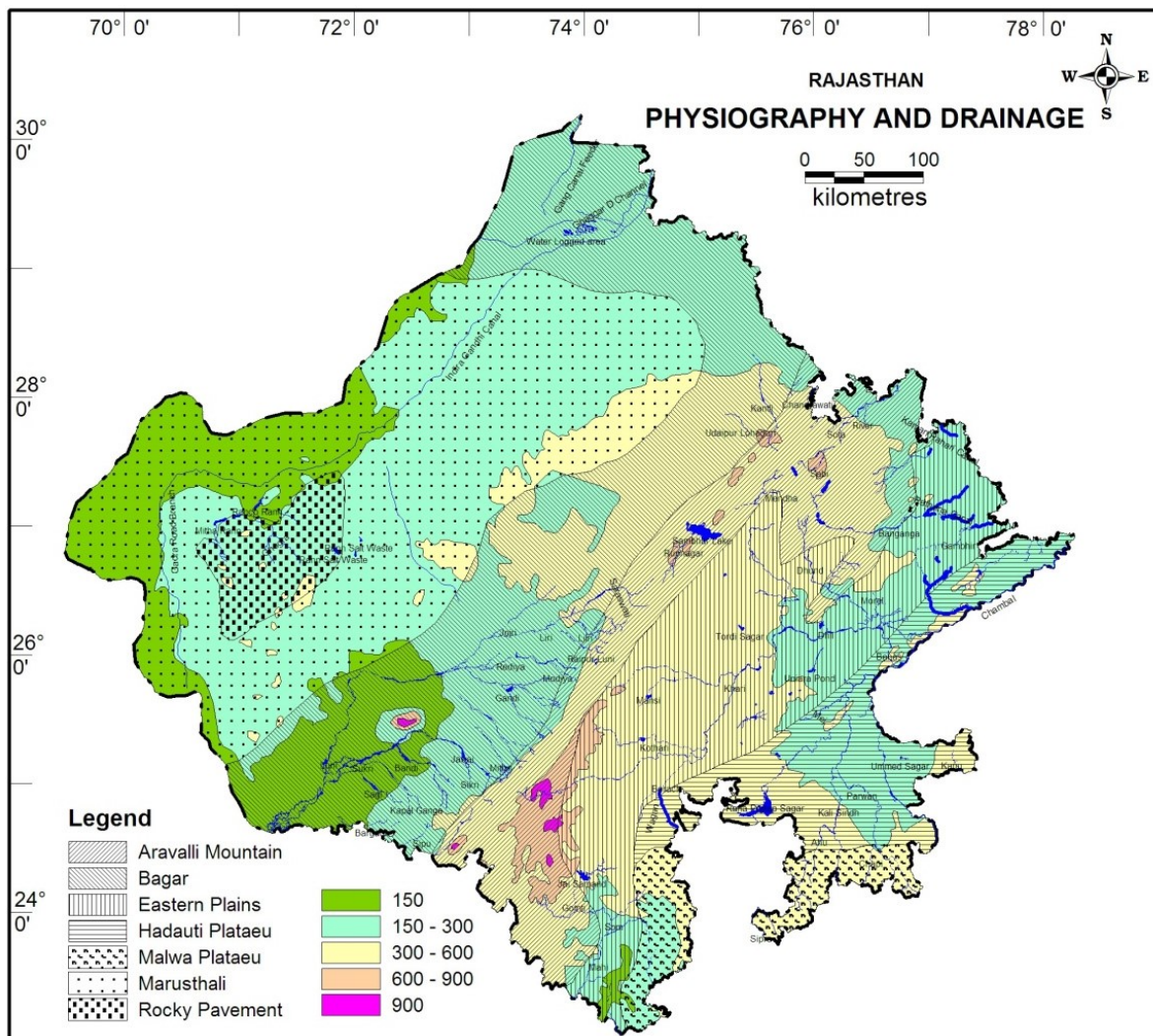


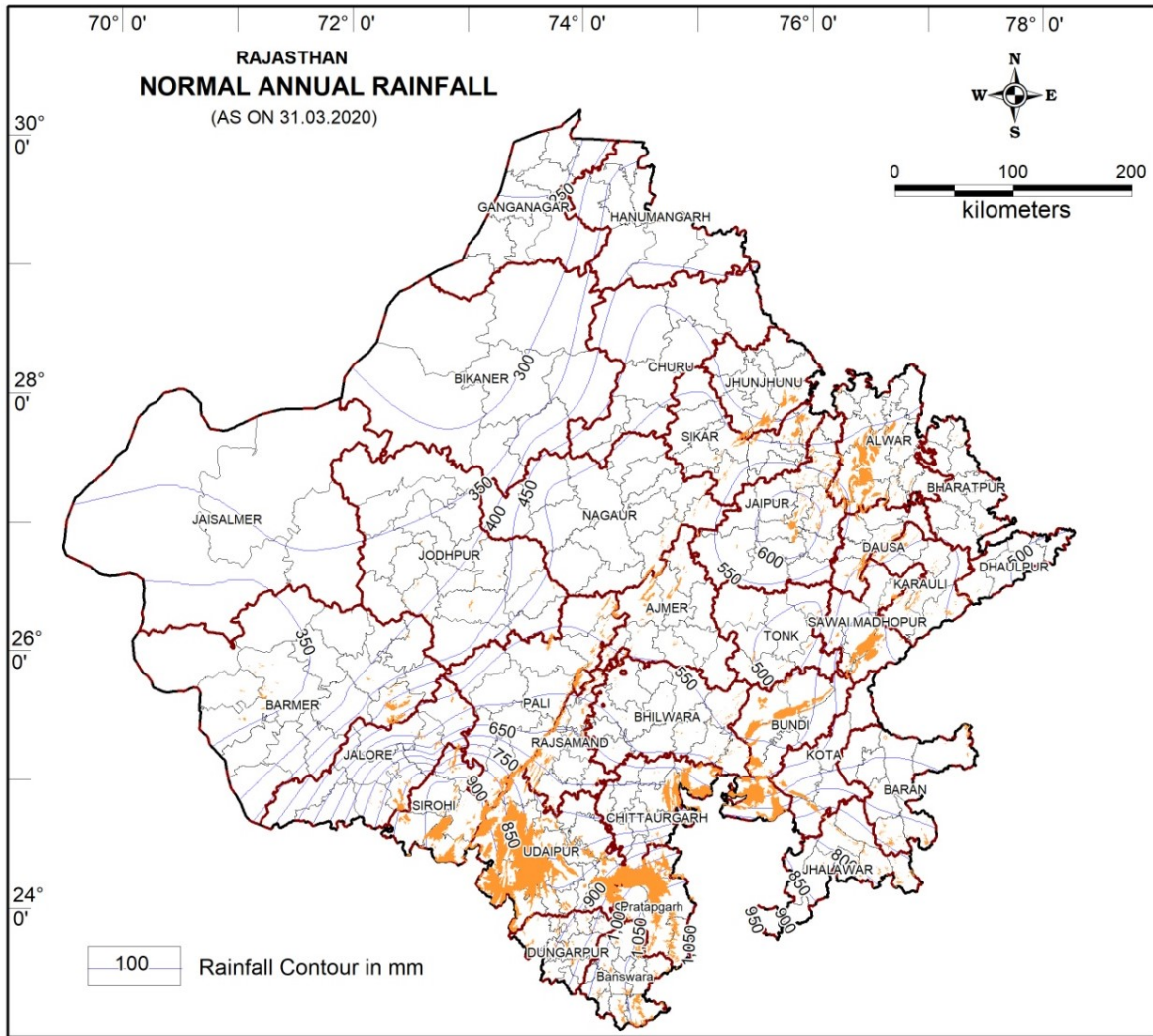
Fig.2: Physiography and Drainage Map of Rajasthan

### 2.3.1. Rainfall

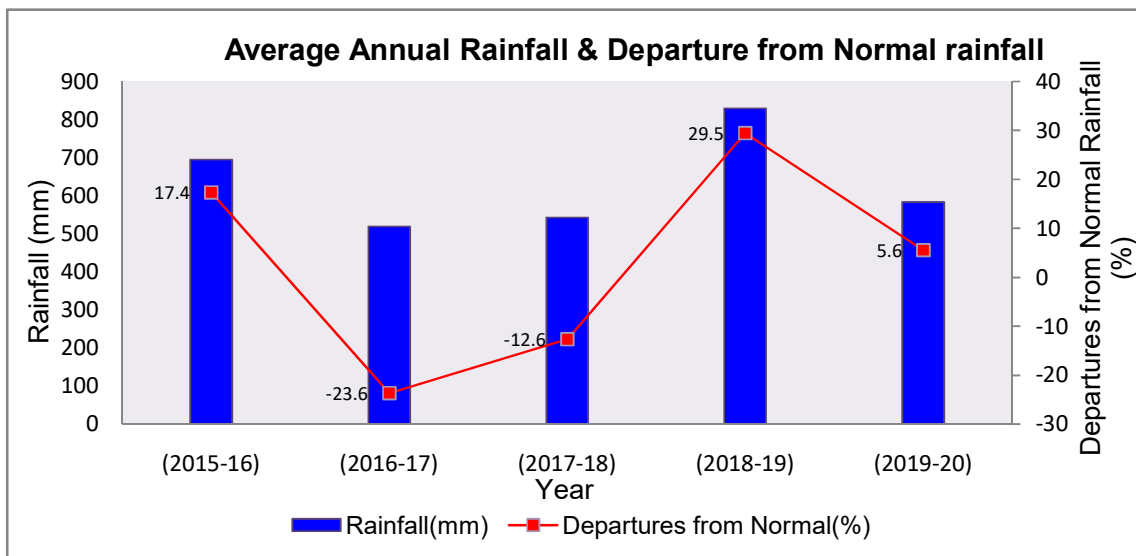
Rainfall is the major source of ground water recharge in the state. The long-term normal annual rainfall in the State ranges from 158.6 mm to 895.3 mm as shown in **Fig.3**. The state receives more than 90 % rainfall from southwest monsoon from June to September. The winter rainfall is meager. The average annual rainfall and departures from normal annual rainfall have been worked out shown as **Fig.4**. Rainfall is the major contributor of Ground water Recharge in Rajasthan. (Depth to water level maps before and after monsoon is given in **Fig. 5** and **Fig. 6** respectively).

The average annual rainfall of the state during the period 2019-20 was 583 mm. The percentage departures of average annual rainfall from normal annual rainfall (1901-2019) have been computed for the last five years and tabulated in **Table 1**. It is observed that the average annual rainfall in the state, during the year 2018-19 was almost excess to normal with departure of 29.5%, normal during the year 2015-16, 17-18 and 19-20. The average annual rainfall in the state during the 2016-17 was deficient with negative departure value of 23.6%. A perusal of Table 1 reveals that 11 districts of the state received excess rainfall, 15 districts received normal rainfall, and 7 districts received deficient rainfall, than annual normal rainfall during the year 2019-20. It is observed that only one district (Jaisalmer) of Rajasthan have received good rainfall with positive departures being more than 50%. While 3 districts have *v.i.z.* Bundi, Dhoulpur and Kota have received deficient rainfall with negative departure less than 40%. There are 343 Rain gauge stations in the state. The annual rainfall data (June to May) of five years 2015-16 to 2019-20 have been analyzed to calculate average rainfall of each district in the respective years.

# Dynamic Ground Water Resources of Rajasthan-2020



**Fig.3: Normal Annual Rainfall (mm) Map of Rajasthan**



**Fig.4: Average Annual Rainfall and Departure from Normal Annual Rainfall**



# Dynamic Ground Water Resources of Rajasthan-2020

## 2.3.2. Temperature

The hot weather season commences in the month of March and continues through April to June. In the month of May the diurnal range of temperature increases more and the days become hotter. During June, the mean maximum temperature reaches as high as 48°C.

January is the coldest month. The normal minimum temperature for the month of January range from 2°C in the north to 7.8°C in the south west in the western Rajasthan. At Mount Abu (1195 m AMSL), temperature dips to freezing point during the month of December /January. In eastern Rajasthan the range of normal minimum temperature (January) in and around the Aravalli hill ranges is 7°C to 8°C which increases towards the east and attains a high of more than 10°C in the districts of Kota and Bundi.

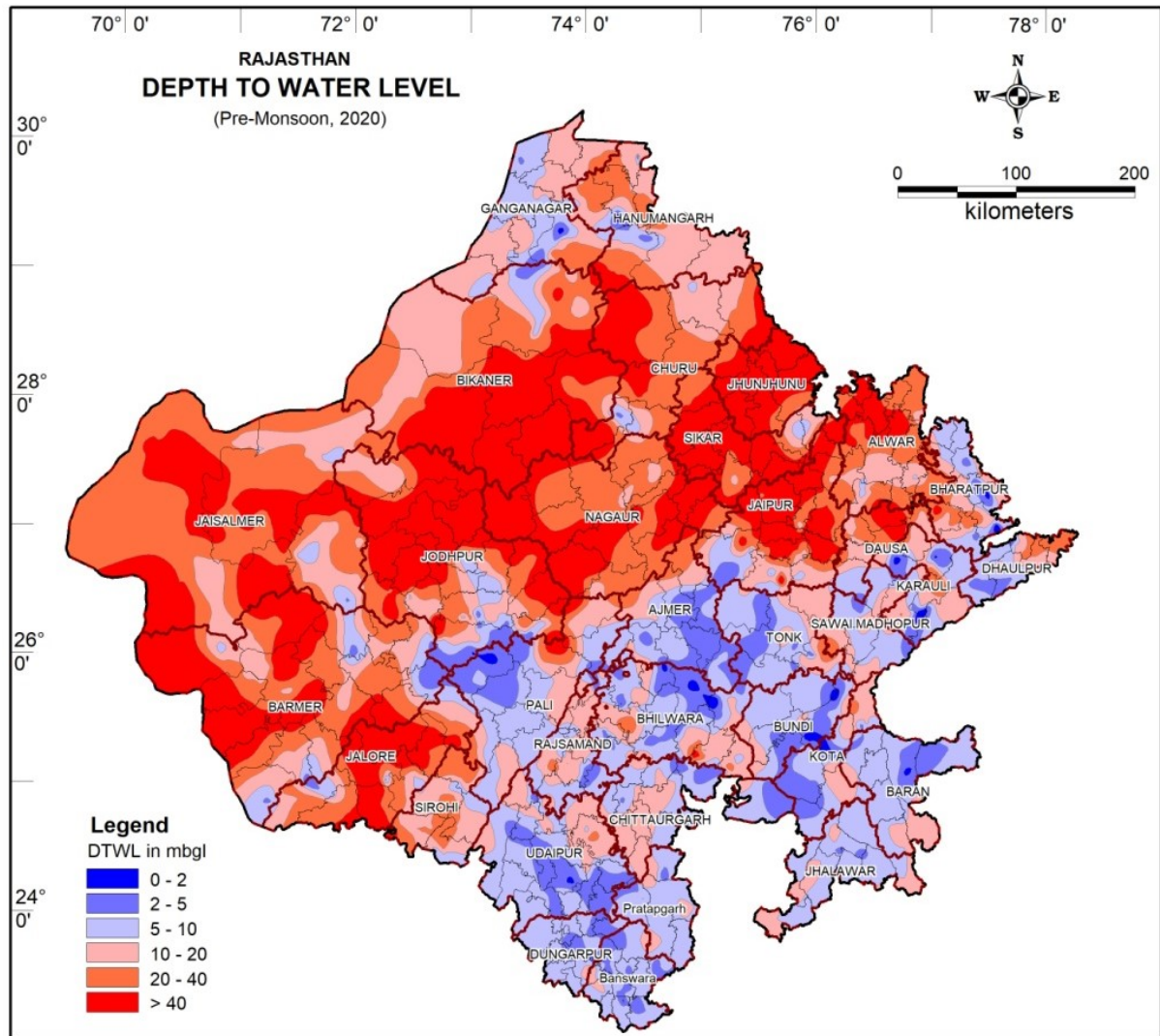
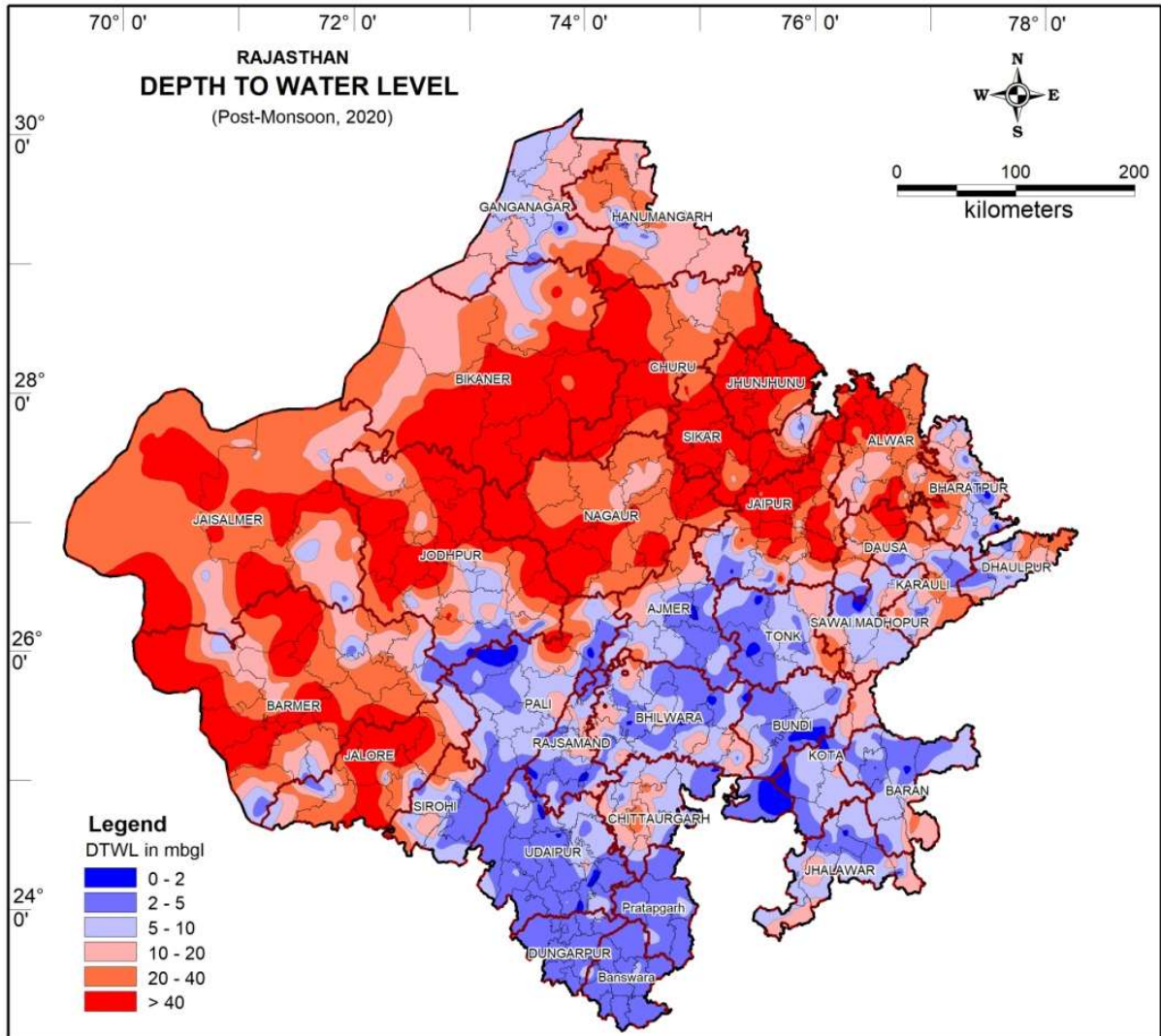


Fig.5: Pre-monsoon Depth to Water Level (m bgl) Map of Rajasthan

# Dynamic Ground Water Resources of Rajasthan-2020



**Fig.6: Post-monsoon Depth to Water Level (m bgl) Map of Rajasthan**

Dynamic Ground Water Resources of Rajasthan-2020

| Table-1: Average annual Rainfall and Departure from Normal Rainfall (Rajasthan) |                |                     |               |              |              |            |            |                            |              |              |             |            |
|---|----------------|---------------------|---------------|--------------|--------------|------------|------------|----------------------------|--------------|--------------|-------------|------------|
| S. No.  | District       | Normal<br>(1901-70) | Rainfall (mm) |              |              |            |            | Departures from Normal (%) |              |              |             |            |
|   |                |                     | (2015-16)     | (2016-17)    | (2017-18)    | (2018-19)  | (2019-20)  | (2015-16)                  | (2016-17)    | (2017-18)    | (2018-19)   | (2019-20)  |
| 1   | Ajmer          | 437                 | 535           | 483          | 428          | 799        | 528        | 18.32                      | 9.60         | -2.09        | 45.31       | 17.17      |
| 2   | Alwar          | 626                 | 704           | 298          | 565          | 462        | 509        | 11.08                      | -110.40      | -10.82       | -35.45      | -22.87     |
| 3   | Banswara       | 870                 | 1023          | 899          | 813          | 1281       | 1055       | 14.96                      | 3.24         | -6.99        | 32.06       | 17.50      |
| 4   | Baran          | 895.3               | 1184          | 546          | 1004         | 1320       | 652        | 24.38                      | -63.97       | 10.85        | 32.15       | -37.24     |
| 5   | Barmer         | 260                 | 265           | 464          | 130          | 390        | 345        | 1.89                       | 44.01        | -99.59       | 33.32       | 24.54      |
| 6   | Bharatpur      | 675.1               | 678           | 331          | 802          | 593        | 539        | 0.43                       | -104.01      | 15.78        | -13.78      | -25.15     |
| 7   | Bhilwara       | 603.3               | 824           | 518          | 578          | 967        | 581        | 26.78                      | -16.53       | -4.40        | 37.59       | -3.86      |
| 8   | Bikaner        | 249.8               | 283           | 213          | 254          | 307        | 298        | 11.73                      | -17.48       | 1.65         | 18.57       | 16.14      |
| 9   | Bundi          | 715.8               | 897           | 459          | 636          | 1199       | 511        | 20.20                      | -56.12       | -12.64       | 40.28       | -40.22     |
| 10  | Chittorgarh    | 772.3               | 1313          | 691          | 730          | 1243       | 711        | 41.18                      | -11.75       | -5.76        | 37.88       | -8.65      |
| 11  | Churu          | 337.9               | 434           | 278          | 341          | 476        | 485        | 22.14                      | -21.55       | 0.86         | 29.08       | 30.33      |
| 12  | Dausa          | 625.7               | 883           | 321          | 595          | 740        | 545        | 29.14                      | -95.23       | -5.16        | 15.42       | -14.73     |
| 13  | Dhaulpur       | 717.5               | 697           | 345          | 757          | 812        | 496        | -2.94                      | -108.17      | 5.18         | 11.66       | -44.66     |
| 14  | Dungarpur      | 610.4               | 846           | 825          | 788          | 1144       | 892        | 27.85                      | 26.00        | 22.49        | 46.66       | 31.60      |
| 15  | Ganganagar     | 171.6               | 169           | 136          | 182          | 231        | 240        | -1.54                      | -26.15       | 5.95         | 25.87       | 28.57      |
| 16  | Hanumangarh    | 237.5               | 275           | 237          | 206          | 353        | 359        | 13.64                      | -0.39        | -15.29       | 32.69       | 33.90      |
| 17  | Jaipur         | 526.8               | 567           | 320          | 537          | 744        | 623        | 7.09                       | -64.68       | 1.83         | 29.21       | 15.39      |
| 18  | Jaisalmer      | 158.6               | 140           | 222          | 121          | 252        | 351        | -13.29                     | 28.66        | -31.44       | 37.02       | 54.81      |
| 19  | Jalore         | 400.6               | 468           | 920          | 148          | 544        | 597        | 14.40                      | 56.45        | -170.68      | 26.38       | 32.87      |
| 20  | Jhalawar       | 884.8               | 1125          | 773          | 966          | 1783       | 789        | 21.35                      | -14.47       | 8.41         | 50.38       | -12.14     |
| 21  | Jhunjhunu      | 459.5               | 525           | 270          | 471          | 684        | 410        | 12.48                      | -70.37       | 2.34         | 32.81       | -12.04     |
| 22  | Jodhpur        | 296.7               | 367           | 335          | 211          | 436        | 414        | 19.16                      | 11.34        | -40.62       | 31.90       | 28.41      |
| 23  | Karauli        | 616.2               | 776           | 321          | 571          | 584        | 559        | 20.59                      | -91.87       | -7.89        | -5.59       | -10.21     |
| 24  | Kota           | 808.7               | 836           | 471          | 755          | 1282       | 577        | 3.27                       | -71.57       | -7.08        | 36.94       | -40.06     |
| 25  | Nagaur         | 363.1               | 449           | 371          | 351          | 652        | 504        | 19.13                      | 2.21         | -3.56        | 44.34       | 27.96      |
| 26  | Pali           | 484.5               | 830           | 781          | 325          | 753        | 585        | 41.63                      | 37.94        | -49.30       | 35.64       | 17.14      |
| 27  | Pratapgarh     | 806                 | 1309          | 830          | 1152         | 1978       | 1068       | 38.43                      | 2.86         | 30.06        | 59.26       | 24.50      |
| 28  | Rajsamand      | 556.1               | 704           | 1097         | 544          | 918        | 693        | 21.01                      | 49.29        | -2.22        | 39.39       | 19.74      |
| 29  | Sawai Madhopur | 655.8               | 922           | 728          | 919          | 898        | 623        | 28.87                      | 9.97         | 28.61        | 26.93       | -5.29      |
| 30  | Sikar          | 459.8               | 520           | 377          | 581          | 712        | 524        | 11.58                      | -21.96       | 20.83        | 35.41       | 12.31      |
| 31  | Sirohi         | 606.3               | 826           | 297          | 359          | 903        | 922        | 26.60                      | -104.26      | -69.01       | 32.87       | 34.21      |
| 32  | Tonk           | 598.2               | 734           | 1567         | 527          | 863        | 480        | 18.50                      | 61.82        | -13.62       | 30.68       | -24.53     |
| 33  | Udaipur        | 632.7               | 828           | 416          | 565          | 1069       | 778        | 23.59                      | -51.95       | -11.94       | 40.84       | 18.68      |
| <b>RAJASTHAN</b>  |                | <b>549.1</b>        | <b>695.0</b>  | <b>519.3</b> | <b>542.7</b> | <b>829</b> | <b>583</b> | <b>17.4</b>                | <b>-23.6</b> | <b>-12.6</b> | <b>29.5</b> | <b>5.6</b> |

## 2.4 Geology

Diverse rock types ranging from the oldest Archaean rocks to sub- Recent alluvium and wind-blown sand are exposed in Rajasthan. In a major portion of the State, particularly in western Rajasthan, the oldest rocks are concealed below a thick cover of alluvium and wind blown sands. A generalised stratigraphic succession of various formations and rock types is given in **Table-2**.

### 2.4.1. Archaeans

The Archaeans in Rajasthan are represented by Bhilwara Supergroup and comprise Banded Gneissic Complex representing the oldest meta-sedimentary sequence along-with Berach Granite.

### 2.4.2. Proterozoics

**Aravallis:** Aravalli Supergroup unconformably overlies the Archaeans and consists of phyllites, greywackes, quartzites and dolomites intruded by granites and mafic rocks.

**Delhis:** These are exposed over a large part of central and north eastern Rajasthan and consist dominantly of quartzites, biotite-schist, calc-schist and marble.

**Vindhyan:** Vindhyan unconformably overlie Delhis and have been deposited in two separate basins on either side of the Aravallis. In the eastern part these comprise unmetamorphosed, relatively undisturbed, sandstones, limestones and shales. Great Boundary Fault separates them from Aravallis and Archeans.

**Intrusives and Extrusives:** Nepheline syenites are exposed around Kishangarh and are post-Delhi in age. Erinpura Granite is the principal intrusive into the Delhis and is exposed around Ajmer and Mount Abu. Malani Suite of igneous rocks consisting of rhyolites and pyroclastic material are exposed around Jodhpur and are post-Delhi in age.

### 2.4.3. Palaeozoics

In the western part of the state, Marwar Super Group of Lower Palaeozoic age consists of three groups namely Jodhpur group (mainly sandstone & shale), Bilara Group (mainly



limestone and dolomite) and Nagaur Group (sandstone, siltstone and gypsum). Overlying the Marwar Super Group is the Badhura Formation of Permo-Carboniferous age comprising sandstones and boulders.

**Table 2: Geological Succession of Rajasthan**

| GEOLOGICAL TIME UNIT |                      | LITHOSTRATIGRAPHIC TIME UNIT  |   | LITHOLOGY   |
|----------------------|----------------------|---|---|---|
| ERA                  | PERIOD               | SUPER GROUP / GROUP   |   |   |
| RECENT               |                      |   |   | Alluvium and blown sand   |
| CAINOZOIC (TERTIARY) | Eocene               | Mandai/ Akli/ Kapurdih/ Jogira/ Banda/ Khuiala / Palana   |   | Sandstone, bentonitic clay & fuller's earth                                 |
| DECCAN TRAPS         |                      |   |   | Basalt  |
| MESOZOIC             | Cretaceous           | Abur / Fatehgarh  |   | Sandstone, limestone, clay and lignite                                      |
|                      | Jurassic             | Parihar/ Bhadesar/ Baisakhi/ Jaisalmer/ Lathi   |   | Limetstone, sandstone & shale   |
| PALAEOZOIC           | Permo- Carboniferous | Badhura   |   | Sandstone & boulders  |
|                      |                      | Marwar  | Nagaur/ Bilara/ Jodhpur                   | Sandstone, gypsum, siltstone, limestone, dolomite & shale                   |
| UPPER PROTEROZOIC    |                      | Vindhyan  | Bhander/ Rewa/ Kaimur/ Semri              | Sandstone, shale, limestone, conglomerate & basic flows                     |
|                      |                      | Acid,Basic and Ultrabasic Intrusives and Extrusives<br>MalaniVolcanics / Plutonics<br>KishangarhSyenite |   |   |
| LOWER PROTEROZOIC    |                      | Delhi   | Ajabgarh/ Alwar/ Sirohi/ Punagarh/ Raialo | Quartzite, schist, gneiss, marble, shale, slate, phyllite& basic flows      |
|                      |                      | Granite, Basic & Ultrabasic Intrusives  |   |   |
|                      |                      | Aravalli  | Jharol/ Bari/ Udaipur/ Debari             | Quartzite, schist, phyllite, conglomerate, greywacke, metavolcanics& marble |
|                      |                      | Granite & Basic Intrusives  |   |   |
| ARCHAEAN             |                      | Bhilwara  | Ranthambore/ Rajpura-Dariba /Hindoli      | Phyllite, slates, schist, gneiss, granite gneiss &migmatites                |

#### **2.4.4. Mesozoics**

Mesozoics are exposed mainly in Jaisalmer and Barmer districts. These comprise of sandstones and limestone.

#### **2.4.5. Deccan Traps**

Deccan Traps occupy a part of southeastern segment of the state covering parts of Banswara, Baran, Jhalawar and Chittorgarh districts. These overlie pre- Aravallis, Aravallis and Vindhyan. These are basaltic to doleritic in composition and are uniform over a large area.

#### **2.4.6. Tertiaries**

Sandstones, bentonitic clay and Fuller's earth are the main litho-units and are exposed in Barmer, Bikaner and Jaisalmer districts.

#### **2.4.7. Recent**

This group of formations consists of alluvium, blown sands, kankar and evaporites, which are widely spread in the state.

### **2.5. Hydrogeology**

The principal source of recharge to ground water in Rajasthan is rainfall. In canal irrigated areas, a part of canal water through seepage from conveyance system and part of water utilized for irrigation and returning to ground water contribute to storage. For broadly grouping geological formations from ground water occurrence & movement considerations, the various litho units have been classified into two groups on the basis of their degree of consolidation and related parameters. These are represented in Plate IV and described as below:

- I. Porous formations
  - (a) Unconsolidated formations
  - (b) Semi- consolidated formations
- II. Fissured formations
  - (a) Consolidated sedimentary rocks
  - (b) Igneous and metamorphic rocks
  - (c) Volcanic rocks
  - (d) Carbonate rocks

### **2.5.1. Porous Formations**

The Quaternary sediments comprising younger as well as older alluvium are the most important unconsolidated formations due to their wide-spread occurrence. The sediments are composed of clay, silt, sand, gravel and mixture of concretions etc. Sand, gravel and admixture of these form the potential aquifers in northern, eastern, north-eastern, western and south-western parts of the state. The maximum-drilled thickness of alluvium is 543.51 metre below ground level (m.bgl) at Anupgarh in Ganganagar district.

The semi-consolidated formations belonging to Palaeozoic, Mesozoic and Cainozoic Groups are composed of siltstone, claystone, sandstone, shale, conglomerate and limestone. Sandstones and lime stones form the main aquifers in Jaisalmer, Jodhpur, Barmer and Bikaner districts. Sandstones of Lathi formation are the most potential aquifers in the districts of Jaisalmer, Jodhpur and Barmer.

### **2.5.2. Fissured Formations**

Fissured formations, as hydrogeological unit, occupy 32% area of the state and can be broadly classified into four units.

Consolidated sedimentary rocks, excluding carbonate rocks, include sandstones and shales. In eastern and south-eastern part of the state these belong to Vindhyan Supergroup whereas in western Rajasthan these belong to the Marwar Supergroup.

Igneous and metamorphic rocks of lower Proterozoic age comprise slate, quartzite, phyllite, schist, gneiss and various crystallines of Bhilwara Supergroup. These are mostly found in the districts of Banswara, Dungarpur, Udaipur, Chittorgarh, Bhilwara, Tonk, Jaipur, Alwar and Jhunjhunu in eastern Rajasthan and Nagaur, Churu, Barmer, Jaisalmer, Pali, Jalore, Sirohi and Jodhpur districts in western Rajasthan.

Volcanic rocks include Deccan Trap Lava Flows and occur in parts of Barmer, Jhalawar, Chittorgarh and Banswara districts. These are basaltic to doleritic in composition. Occurrence and movement of ground water in these formations is controlled by the presence of vesicles, extent of weathering, jointing and fracture pattern.

Carbonate rocks include limestone, marble and dolomite of Proterozoic and Upper Palaeozoic to Mesozoic age and occupy parts of Kota, Bundi, Jaipur, SawaiMadhopur and Alwar districts on the eastern side of Aravallis and parts of Nagaur, Bikaner, Jaisalmer and Jodhpur districts in western Rajasthan

### **2.5.3. Ground Water Level**

The depth to water varies widely throughout the State; shallow water levels have been noticed in canal command area of Ganganagar, Banswara, Kota and Bundi districts whereas

deeper water levels have been observed in the western districts, particularly Jaisalmer, Bikaner, Barmer and Jodhpur.

To the east of Aravallis the depth to water is comparatively shallower than that in the west. It generally varies between less than 10 meters and 40 meters in the eastern part, whereas in the western part, it ranges between 30 meters and 80 meters. The water table slopes towards east and south-east on the eastern side, whereas it slopes towards west and north-west in west of Aravallis. However, local variations are common both in the direction and movement of ground water. Over-exploitation and excess use of ground water have led to substantial decline in water levels, which may ultimately result in drying up of aquifers in many areas of the State.

#### **2.5. 4. Ground Water Quality**

In general, the chemical quality of ground water is fresh in the eastern part except in a few pockets of Bharatpur district particularly in Sear, Nagar, Kumher and Deeg blocks where the ground water is brackish to saline. The chemical quality in major part of western Rajasthan is generally saline. However, potable ground water is found in the areas covered by sandstone and limestone of Marwar Super group, Lathi formations in Jaisalmer and Barmer districts, the Tertiaries in parts of Bikaner, Nagaur, Churu, Barmer and Jaisalmer districts and localized pockets in Quaternaries. High fluoride hazard is found in pockets in almost all the districts with varying intensity. Problems of high nitrate and other constituents beyond permissible limits of drinking and irrigation also exist in some arid districts. Increased use of fertilizers, poor sewerage system in urban agglomerates and industrial pollution has further caused deterioration in the quality of ground water.

### **3. Ground Water Resources Estimation Methodology**

The previous ground water resources assessment of the State used to be done on the basis of recommendations of Ground Water Resource Estimation Methodology—1997 (GEC'97). The present methodology used for resources assessment is known as Ground Water Resource Estimation Methodology—2015 (GEC'2015). The basic concept of Assessment of Annually Replenishable or Dynamic Ground Water Resources is  $\text{Inflow} - \text{Outflow} = \text{Change in Storage}$  (of any Aquifer). Inflow refers to recharge from rainfall and other sources and subsurface inflow into the assessment unit. Outflow refers to ground water draft, ground water evapotranspiration, base flow to streams and subsurface outflow from the unit. Since the data on subsurface inflow/ outflow are not readily available, it is advantageous to adopt the unit for

ground water assessment as basin/ sub-basin/ watershed, as the inflow/ outflow across these boundaries may be taken as negligible.

Ground water resources assessment unit is in general watershed particularly in hard rock areas. In case of alluvial areas, administrative block can also be the assessment unit and for Rajasthan the administrative blocks are taken as assessment unit. In each assessment unit, hilly areas having slope more than 20% are deleted from the total area to get the area suitable for recharge. Further, areas where the quality of ground water is beyond the usable limits should be identified and handled separately. The remaining area, after deleting the hilly area and separating the area with poor ground water quality, is to be delineated into command and non-command areas. Ground water assessment in command and non-command areas is done separately in each hydro geological unit for monsoon and non-monsoon seasons.

### 3.1 Ground Water Recharge

#### Monsoon season

The resource during monsoon season is estimated as the sum total of the change in storage and gross draft. The change in storage is computed by multiplying water level fluctuation between pre and post monsoon periods with the area of assessment and specific yield.

Monsoon recharge can be expressed as-

$$R = h \times Sy \times A + D_G$$

Where,

h = rise in water level in the monsoon season

A = area for computation of recharge

Sy = specific yield

D<sub>G</sub> = gross ground water draft during monsoon

The monsoon ground water recharge has two components – rainfall recharge and recharge from other sources. Mathematically it can be represented as –

$$R \text{ (Normal)} = R_{rf}(\text{Normal}) + R_c + R_{SW} + R_t + R_{gw} + R_{wc}$$

Where,

R<sub>rf</sub> is the normal monsoon rainfall recharge.

The other sources of ground water recharge during monsoon season include R<sub>c</sub>, R<sub>SW</sub>, R<sub>t</sub>, R<sub>gw</sub>, R<sub>wc</sub> which are recharge from rainfall, seepage from canals, surface water irrigation, tanks and ponds, ground water irrigation, water conservation structures respectively.

The rainfall recharge during monsoon season computed by Water Level Fluctuation (WLF) method is compared with recharge figures from Rainfall Infiltration Factor (RIF) method. In case the difference between the sets of data is more than 20%, then RIF figure is considered, otherwise monsoon recharge from WLF is adopted. While adopting the rainfall recharge

figures, weightage is to be given to WLF method over ad-hoc norms method of RIF. Hence, wherever the difference between RIF & WLF is more than 20%, data have to be scrutinized and corrected accordingly.

**Non-Monsoon Season**

During non-monsoon season, rainfall recharge is computed by using Rainfall Infiltration Factor (RIF) method. Recharge from other sources is then added to get total non-monsoon recharge. In case of areas receiving less than 10% of the annual rainfall during non-monsoon season, the rainfall recharge is ignored.

**Total Annual Ground Water Recharge**

The total annual ground water recharge of the area is the sum total of monsoon and non-monsoon recharge. An allowance is kept for natural discharge in the non-monsoon season by deducting 5% of total annual ground water recharge, if WLF method is employed to compute rainfall recharge during monsoon season and **10%** of total annual ground water recharge if RIF method is employed. The balance ground water available accounts for existing ground water withdrawal for various uses and potential for future development. This quantity is termed as Annual Extractable Ground Water Resources (EGR).

$$\left. \begin{array}{l} \text{Annual Extractable} \\ \text{Ground Water} \\ \text{Resources (EGR)} \end{array} \right| = \left| \begin{array}{l} \text{Total annual ground} \\ \text{water recharge} \end{array} \right| - \left| \begin{array}{l} \text{Natural Discharge during non-} \\ \text{monsoon season} \end{array} \right|$$

**Norms for Estimation of Recharge**

GEC-2015 methodology has recommended norms for various parameters being used in ground water recharge estimation. These norms vary depending upon water bearing formations and agro climatic conditions. While norms for specific yield and recharge from rainfall values are adopted of previous Assessment that is as on 31.03.2013. In case of other parameters like seepage from canals, return flow from irrigation, recharge from tanks and ponds, water conservation structures norms are adopted as per GEC-2015.

**3.2. Ground Water Draft**

Ground water extraction or draft is to be assessed as follow.

$$GE_{ALL} = GE_{IRR} + GE_{DOM} + GE_{IND}$$

Where,

GE<sub>ALL</sub>=Ground water extraction for all uses

GE<sub>IRR</sub>=Ground water extraction for irrigation use

GE<sub>DOM</sub> = Ground water extraction for domestic uses

GE<sub>IND</sub> = Ground water extraction for industrial uses

The Ground water extraction for irrigation use would include the ground water extraction from all existing ground water structures during monsoon as well as during non-monsoon period. While the number of ground water structures should preferably be based on latest well census, the average unit draft from different types of structures should be based on specific studies or adhoc norms recommended by GEC 2015. The Ground water extraction for irrigation use is also calculated by other method called crop water requirement in which for each crop, the season –wise net irrigation water requirement is determined. The domestic and industrial ground water extractions are calculated separately in highly industrialised area elsewhere industrial extraction were included in domestic one.

### 3.3. Stage of Ground Water Extraction & Categorization of Units

The Stage of Ground Water extraction is defined by:

*Stage of Ground Water Extraction (%)*

$$= \frac{\text{(Existing Gross Ground Water Extraction for all uses)}}{\text{(Annual Extractable Ground Water Resources)}} \times 100$$

#### Validation of Stage of Ground Water Extraction

Long term water level trends are to be prepared for minimum period of 10 years for both pre-monsoon and post monsoon period. The water level trend would be average water level trend as obtained from the different observation wells in the area.

If the ground water resources and the trend of long term water level contradict each other, this anomalous situation required a review of the ground water resources computation, as well as the reliability of water level data. The mismatch conditions are enumerated below:

| SOGWE | Ground Water Level Trend  | Remarks                               |
|-------|---|---------------------------------------|
| ≤70%  | Significant decline in trend in both pre-monsoon and post-monsoon           | Not acceptable and needs reassessment |
| >100% | No significant decline in both pre-monsoon and post-monsoon long term trend | Not acceptable and needs reassessment |

In case, the category does not match with the water level trends given above, a reassessment should be attempted.

#### Categorization of Assessment Unit Based on Quantity:

The Categorization of Assessment Unit Based on Quantity is defined by Stage of Ground Water Extractions given below (Table-3):

**Table 3: The Criteria for Categorization of Assessment Units**

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

### 3.4. 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 has to be 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 sub unit to the other in different states. In situations where adequate data is not available to make this estimate, the following empirical relation is recommended.

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

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 water supply ( $\leq 1.0$ ).

In deriving above equation, it is assumed that the requirement of water for domestic use is 60 lpd per head. The equation can be suitably modified in case per capita requirement is different. If by chance, the estimation of projected allocation for future domestic needs is less than the current domestic extraction due to any reason, the allocation must be equal to the present day extraction. It can never be less than the present day extraction as it is unrealistic.

### 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. As per the recommendations of the R&D Advisory committee, the ground water available for future use



can never be negative. If it becomes negative, the future allocation of Domestic needs can be reduced to current extraction for domestic use. Even then if it is still negative, then the ground water available for future uses will be zero.

### **3.5. Poor Quality Ground Water**

Computation of ground water recharge in poor quality ground water is to be done on the same lines as described above. However, in saline areas, there may be practical difficulty due to non-availability of data, as there will usually be no observation wells in such areas. Recharge assessment in such cases may be done based on rainfall infiltration factor method. This report however comprises data of the fresh ground water resources.

### **3.6. Additional Potential recharge**

In shallow water table areas, particularly in discharge areas, rejected recharge would be considerable and water level fluctuations are subdued resulting in underestimation of recharge. In areas where ground water level is less than 5m below ground level or in waterlogged areas, ground water resources have to be estimated up to 5m bgl only based on the following equation—

$$\text{Potential Ground Water Recharge} = (5 - D) \times A \times \text{Sp. Yield}$$

Where,

D = Depth to water table below ground surface in pre-monsoon season in shallow aquifers

A = Area of shallow water table zone.

## **4. Computation of Ground Water Resources**

### **4.1. Norms Adopted**

#### **i) Specific yield**

Specific yield values for alluvial formation in the range of 0.06 - 0.15 have been considered depending on degree of compaction. Specific yield for semi-consolidated sedimentary formations, i.e., Lathi sandstone and Tertiary sandstone have been taken in the range of 0.06-0.07 and 0.04-0.06 respectively. Specific yield values for various consolidated and other formations considered for computations are given in Table- 4.

#### **ii) Rainfall Infiltration Factor (RIF)**

RIF for alluvial areas has been taken from 0.06 to 0.18 depending on rainfall distribution.

Such values for Semi-consolidated Lathi basin area have been considered ranging from 0.03

to 0.07 % while for Tertiary formation, values ranging from it is 0.03 to 0.05% have been adopted.

**iii) Seepage from Tanks and ponds**

Seepage factor of **2% to 9%** of live storage in Hard rock areas and **15%** of live storage in alluvial formation areas have been taken for estimations. Alternatively, value of 1.4 mm/day of water spread has been taken.

**iv) Seepage from canal**

Seepage factor of **1.5 to 15 and 3 to 15** ham/day of wetted area have been considered for lined and un-lined canals respectively.

**v) Return Flow from Surface Water Irrigation**

Seepage factor of 10% to 30% of water applied have been taken depending on type of crops and depth to water table (Table-5).

**vi) Return Flow from Ground Water Irrigation**

Seepage factor of 5% to 25% of water applied have been taken depending on type of crops and depth to water table (Table-5).

**vii) Natural discharge**

Natural discharge of the magnitude of 5% and 10% of gross recharge were taken for Water Level Fluctuation and Rainfall Infiltration Factor Method respectively,

**viii) Ground Water Draft**

Groundwater draft has been estimated differently for groundwater abstraction structures mainly dug well, Dug well with pump, Dug cum bore well and tube well considering unit draft and average period of operation. Details of norms adopted for draft calculation in various formations have been furnished in table of Norms Adopted.

**Table- 4: Norms Adopted For Yield and Rainfall Infiltration factor**

| Formation           | Symbol | Sp. Yield       | R.I.F.      | Yield (lpd )  |                 |                   |                   |
|---------------------|--------|-----------------|-------------|---------------|-----------------|-------------------|-------------------|
|                     |        |                 |             | DW            | DW with pump    | DCB/Cavity well   | TW                |
| Alluvium            | A      | 0.06 -- 0.15    | 0.06 --0.18 | 20000 - 70000 | 50000 -2,50000  | 1,00000 - 1,50000 | 60000 - 3,00000   |
| Older Alluvium      | Ao     | 0.05-- 0.12     | 0.06 --0.18 | 25000 - 45000 | 50000 - 1,20000 | 50000 - 1,50000   | 60000 - 1,60000   |
| Baisakhi Shale      | BSKH   | 0.04            | 0.05        | -             | -               | -                 | -                 |
| Basalt              | B      | 0.01 -- 0.0175  | 0.02 --0.08 | 30000 - 60000 | 40000 - 80000   | -                 | 45000 - 1,00000   |
| Bhadesar Series     | Bd     | 0.04            | 0.025       | -             | -               | -                 | 20000 - 30000     |
| Granite             | G/Gr   | 0.01 -- 0.02    | 0.03 --0.08 | 20000 - 45000 | 30000 - 90000   | 25000             | 40000 - 1,50000   |
| Gneisses            | Gn     | 0.01 --0.025    | 0.02 --0.07 | 20000 - 50000 | 25000 - 65000   | -                 | 50000 - 80000     |
| Lathi               | L      | 0.06 --0.07     | 0.03 --0.07 | -             | 25000           | 260,000           | 1,00000 - 2,70000 |
| Lime Stone          | Lst    | 0.015 --0.07    | 0.03 --0.10 | 30000 - 70000 | 40000- 2,50000  | 70000 - 1,50000   | 70000 - 3,00000   |
| Parewar Form.       | P      | 0.04            | 0.05        | -             | -               | -                 | 1,73000 - 4,76000 |
| Phyllite/ Schist    | Ph/Sc  | 0.0115 --0.0225 | 0.02 --0.08 | 20000 - 60000 | 30000 - 1,20000 | -                 | 35000 - 1,25000   |
| Quartzite           | Q      | 0.01 --0.02     | 0.06 --0.08 | 25000 - 50000 | 45000 - 75000   | -                 | 1,00000 - 1,50000 |
| Rhyolite            | R      | 0.015 --0.02    | 0.05 --0.07 | 25000         | 50000           | 40000 - 65000     | 50000 - 65000     |
| Schist              | Sc     | 0.015 --0.02    | 0.03 --0.08 | 25000 - 50000 | 35000 - 70000   | -                 | 50000 - 70000     |
| Quartzite/Slate     | Q/Sl   | 0.02            | 0.07        | 25000         | 75000           | -                 | 90000             |
| Shale               | Sh     | 0.01 --0.015    | 0.03 --0.07 | 25000 - 30000 | 35000 - 50000   | -                 | 45000 - 90000     |
| Sand Stone          | Ss     | 0.01 --0.04     | 0.06 --0.15 | 20000 - 40000 | 50000 - 1,25000 | 55000 - 1,00000   | 60000 - 2,16000   |
| Tertiary Sand Stone | T      | 0.04 --0.06     | 0.03 --0.05 | -             | -               | -                 | 1,20000 - 2,70000 |
| Ultra basics        | Ub     | 0.0125          | 0.03        | 35000         | 45000           | -                 | 50000             |

**Table- 5: Norms for Surface Water and Ground Water Irrigation Return Flow**

**4.2. Ground Water Resources Assessment:**

| DTWL m bgl | Ground Water |           | Surface Water |           |
|------------|--------------|-----------|---------------|-----------|
|            | Paddy        | Non Paddy | Paddy         | Non Paddy |
| <=10       | 45           | 25        | 50            | 30        |
| 11         | 43.3         | 23.7      | 48.3          | 28.7      |
| 12         | 41.7         | 22.3      | 46.7          | 27.3      |
| 13         | 40           | 21        | 45            | 26        |
| 14         | 38.3         | 19.7      | 43.3          | 24.7      |
| 15         | 36.7         | 18.3      | 41.7          | 23.3      |
| 16         | 35           | 17        | 40            | 22        |
| 17         | 33.3         | 15.7      | 38.3          | 20.7      |
| 18         | 31.7         | 14.3      | 36.7          | 19.3      |
| 19         | 30           | 13        | 35            | 18        |
| 20         | 28.3         | 11.7      | 33.3          | 16.7      |
| 21         | 26.7         | 10.3      | 31.7          | 15.3      |
| 22         | 25           | 9         | 30            | 14        |
| 23         | 23.3         | 7.7       | 28.3          | 12.7      |
| 24         | 21.7         | 6.3       | 26.7          | 11.3      |
| >=25       | 20           | 5         | 25            | 10        |

Ground Water Assessment in the State of Rajasthan has been carried out in association with Ground Water Department, Rajasthan as on 31<sup>st</sup> March 2020 based on guidelines of Ground Water Estimation Committee (GEC), 2015. Block (Panchayat Samiti) has been considered as assessment unit. The blocks have been further divided into formation potential zones. There are a total of **295** blocks and **877** formation potential zones in **33** districts of the State. The Block wise/Assessment unit wise annual extractable ground water resources, Existing gross ground water extraction for all uses, Stage of ground water extraction and categorization of assessment unit is given in Annexure II and the district wise summary is given in Table 7.

Water level fluctuations for the last 5 years (2015-2020) were considered for groundwater recharge estimation while groundwater draft was assessed as on **March 2020**. Groundwater requirement for domestic & industrial purposes were projected for the year **2025 AD**.

Earlier up to year 2017, Dynamic Ground Water Resources Assessment was done manually through computer using GEC, 2015 Methodology. But this year, INDIA GEC Software has been introduced with the aim “Automation of Estimation of Dynamic Ground Water Resources using GEC-2015 methodology and Related Research work to improve GEC Assessment” and dynamic Ground water resources have been assessed through this software.

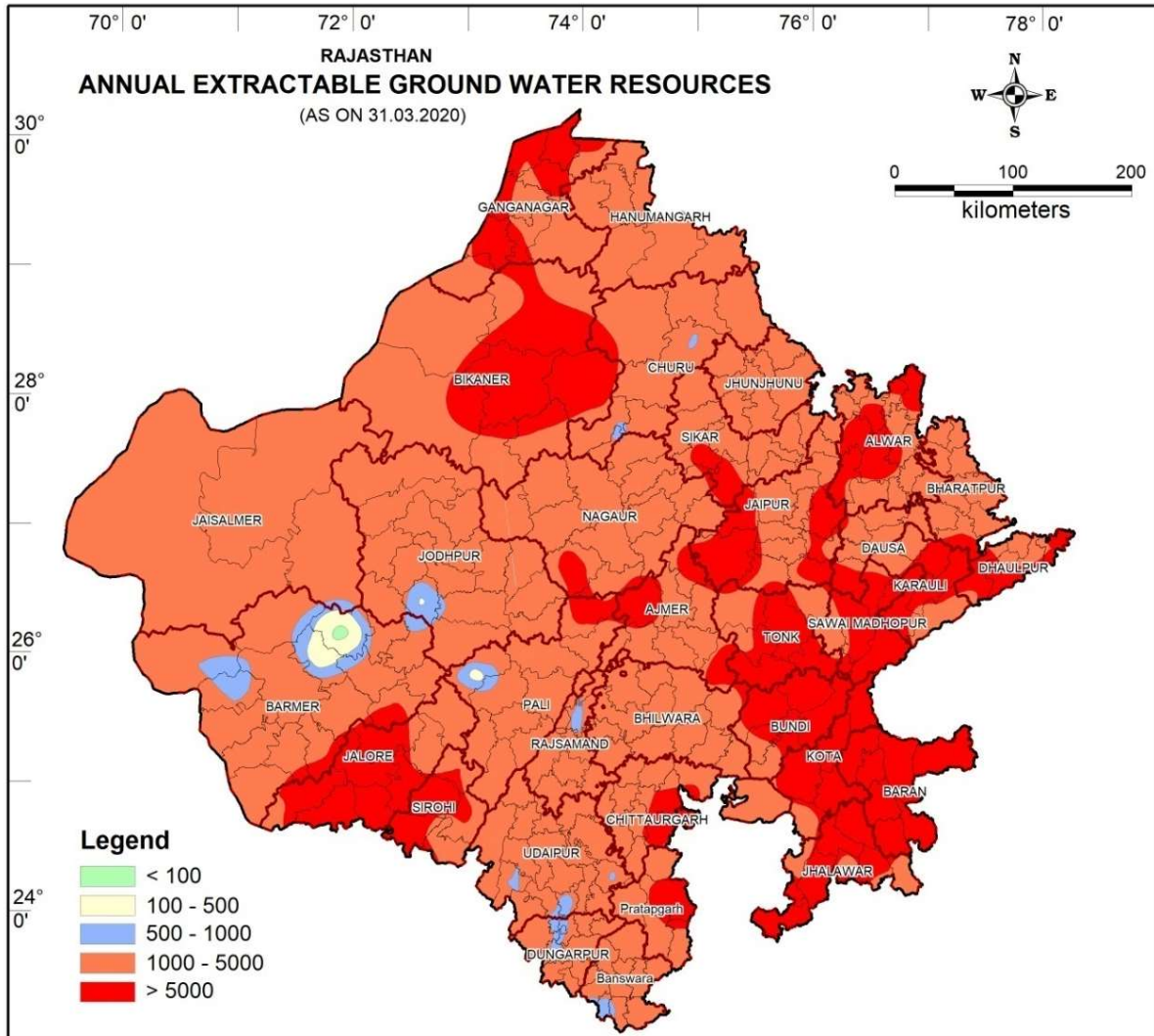
In order to compute data for GEC, 11 excel templates are provided for the user to fill and submit the data in the system for an Assessment Unit. User can also submit the data using form inputs for a particular Assessment unit. User needs to upload a State shape file with Assessment unit, hierarchy and geometry. This information needs to be embedded into the shape file's attribute table. The GIS view of India GEC let the user visualize the Assessment Unit categorization geographically on top of other map layers. Each assessment unit is color coded based on the categorization (SAFE, SEMI-CRITICAL, CRITICAL and OVER-EXPLOITED). This view also shows data for each of the GEC component in the information panel at the right side. By default, the view starts at India level map with all the states showing the latest categorization of the assessment units

As per the estimates, Rajasthan has Annual Extractable Ground Water Resource of the tune of **11073.64 MCM**. Block wise range of Annual Extractable Ground Water Resource is depicted in **Fig.7**. The existing gross ground water extraction for all uses is of the magnitude of **16634.7202 MCM**. Block wise range of existing gross ground water extraction for all uses is depicted in **Fig.8**. The overall stage of groundwater extraction in the State is **150.22%**.

Allocation of Annual ground water for domestic water supply as on 2025 is **2169.151 MCM** & Net ground water availability for Future use is **988.09 MCM**.

The assessment units (Blocks) have been categorized based on stage of ground water extraction. At block level majority of the blocks fall in Over Exploited category. Out of **295** blocks for which computations have been done, **203** fall in Over Exploited Category, **23** in Critical, **29** in Semi Critical and **37** in Safe Category. Three block viz Taranagar of Churu, Khajuwala of Bikaner and Rawatsar of Hanumangarh districts have been assessed as saline. Number of blocks in Rajasthan falling under different categories as on 31.03.2020 is given below in **table 6**.

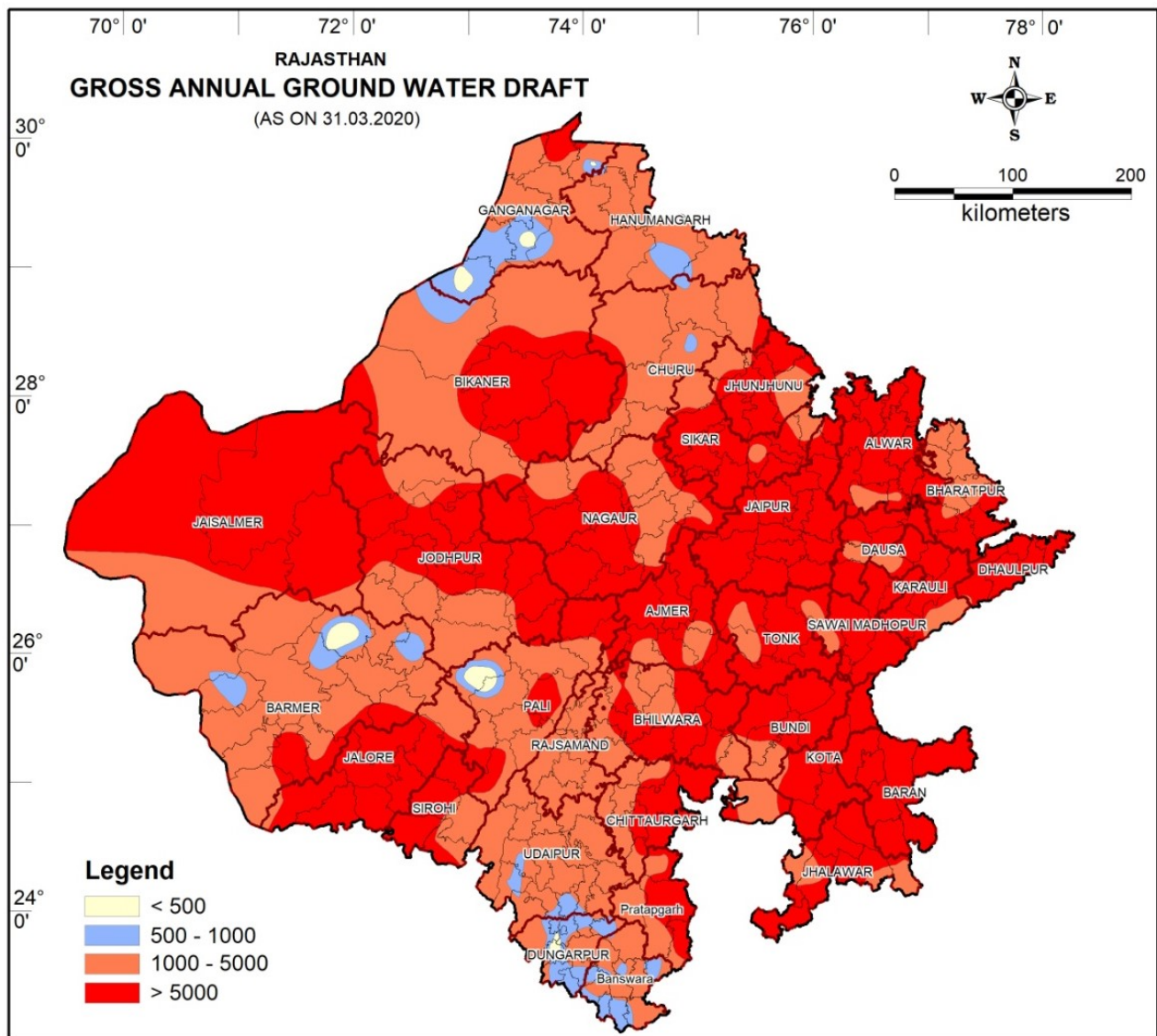
List of blocks falling in different category and their stage of ground water development is given in **Table 7** and depicted in **Fig.10** and **Fig.9** respectively.



**Fig.7: Range of Annual Extractable Ground Water Resources (ham) Map of Rajasthan as on 30.03.2020**

**Table 6: Number of blocks in Rajasthan falling as under different categories as on 31.03.2020**

| S. No. | Category      | No. of Blocks | S. No. | Category       | No. of Blocks |
|--------|---------------|---------------|--------|----------------|---------------|
| 1      | Safe          | 37            | 3      | Critical       | 23            |
| 2      | Semi-critical | 29            | 4      | Over Exploited | 203           |
| 5      | Saline        | 3             |        | <b>Total</b>   | <b>295</b>    |



**Fig.8: Range of Gross Ground Water Draft for all uses Map of Rajasthan as on 30.03.2020**



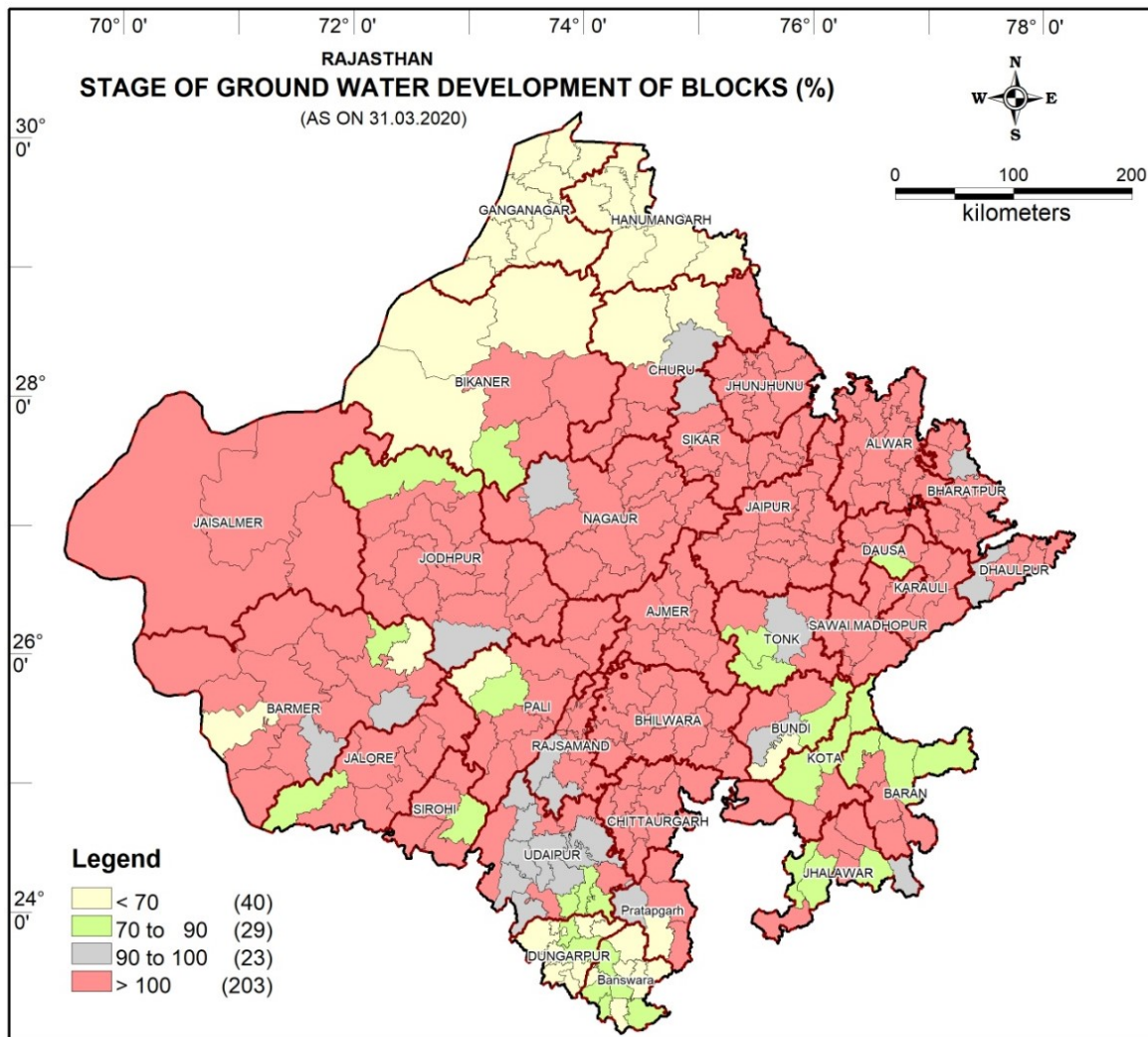


Fig.9: Block wise Stage of Ground Water Development of Rajasthan as on 30.03.2020

### 4.3. Areas having Ground Water Development Prospects

Estimates reveal the fact that scope for future groundwater resource development in the state of Rajasthan is very less. As per present groundwater resource estimates out of a total 295 blocks in the state 203 blocks are categorized as **Over-exploited**, 23 blocks as **Critical**, 29 blocks as **Semi Critical**. Remaining 37 blocks, which have been, categorized as **Safe**, do have constraints for groundwater development due to deep water levels, its poor quality or falling in canal command. Taranagar block of Churu, Rawatsar block of Hanumangarh and Khajuwala of Bikaner districts have been assessed as saline due to poor quality in the entire blocks. Block wise category map is shown in Plate-IX.



However, in canal command areas, conjunctive use of groundwater & canal water is the need of the hour so as to avoid land degradation by water logging hazards and soil salinity/alkalinity.

Scope for development of saline/high fluoride ground water especially in the western Thar Desert exists with due care for desalination/ de-fluoridation technology however, such areas need to be further explored and investigated prior to formulation of any project in this regard. Since a large number of blocks have come under the over exploited category, there is an urgent need for enforcement of groundwater regulation, control and management strategies in Over-exploited areas. Action to impose and implement restrictions on installation of new wells in Notified areas need be initiated. Implementation of feasible schemes on rainwater harvesting and artificial recharge structures in Over-exploited areas need to be taken up at war footing.

#### **4.4. Spatial Variation of Groundwater Resources**

Rajasthan State witnesses wide spectrum of hydrogeological conditions and availability of groundwater resources as well. Groundwater recharge in Thar Desert area of Western Rajasthan is mostly less owing to arid climatic conditions (low rains & high evaporation) and ground water development is also relatively less due to constraints of deep groundwater levels & inferior quality of water as well as availability of canal water in parts. Due to availability of canal water & high rains in Banswara and Dungarpur, they fall under Safe category. Further, due to poor quality of groundwater and availability of canal water in Ganganagar and Hanumangarh districts, these have been categorized them under Safe category, Churu district, Bikaner & Jaisalmer districts are under Over-exploited category. Hard rock areas of Aravalli hills are vulnerable to water crisis during spell of drought due to their limited scope for dynamic recharge to groundwater. Groundwater development in alluvial plain areas especially on either side of Aravalli Hill Ranges is on higher side and most of the blocks fall under Over Exploited category.

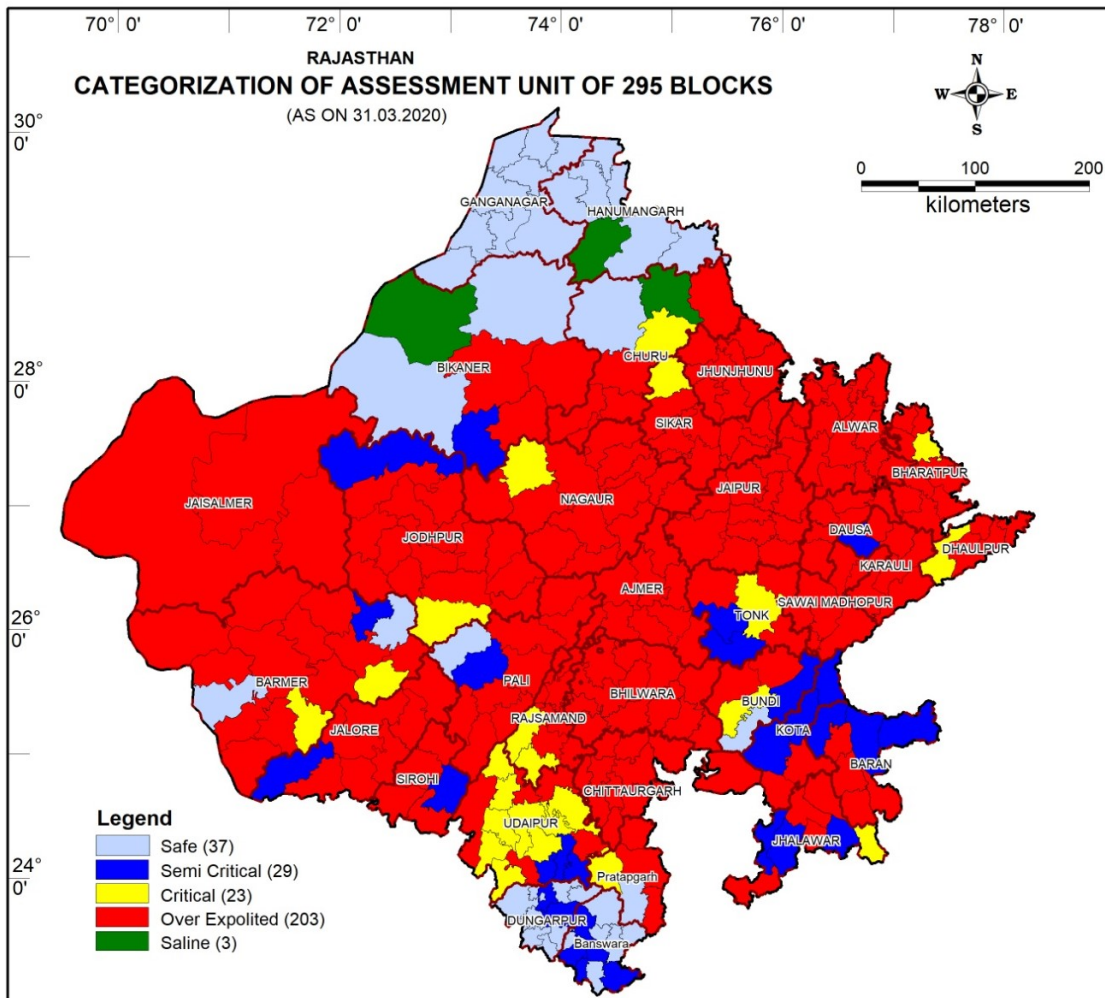
#### **4.5. Comparison with the earlier Groundwater Resource Estimates**

Efforts have been made to compare groundwater estimates as on **31.03.2017** and as on **31.03.2020** (estimated as per GEC 2015 methodology) for knowing changes in groundwater resources and are given below in table 10

**Table 10: Comparison of Ground water Resources 2017 and 2020**

| Particulars                               | 2017        | 2020           |
|---|-------------|----------------|
| Annual Extractable Ground Water Resources | 1198921 ham | 1107363.46 ham |
| Total Annual Ground Water Extraction      | 1677050 ham | 1663472.02 ham |
| Stage of Ground Water Extraction (%)      | 139.88%     | 150.22         |
| <b>Category of Blocks</b>                 |             |                |
| Safe                                      | 45          | 37             |
| Semi-Critical                             | 29          | 29             |
| Critical                                  | 33          | 23             |
| Over-Exploited                            | 185         | 203            |
| Saline                                    | 3           | 3              |
| Total of Blocks                           | 295         | 295            |

The estimates reveal there was significant decrease in Annual Extractable Groundwater resource of the magnitude of 1198921 hams in 2017 and 1107363 hams in 2020 respectively. current annual Gross Groundwater extraction for all uses during these four years from **1677050** hams in **2017** and 1663472.02 ham in **2020** which resulted in the increase of the stage of groundwater extraction from **139.49% to 150.22%**.



**Fig.10: Blocks falling in different category Map for Rajasthan as on 30.03.2020**

#### **4.6. Additional Annual Potential Recharge**

No additional potential recharge under specific conditions of water logging / shallow water table area in any district of Rajasthan has been noticed

**Table-7: District wise Resources of Rajasthan (ham) as on 31.03.2020**

| 9.     | Name of District | Ground Water Recharge  |                             |                        |                  | Total Annual Ground Water Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Current Annual Ground Water Extraction |                 |                  |                             | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction (%) |
|--------|------------------|------------------------|-----------------------------|------------------------|------------------|------------------------------------|--------------------------|--|--|-----------------|------------------|-----------------------------|--|--|--------------------------------------|
|        |                  | Monsoon Season         | Non-monsoon Season          |                        | Irrigation       |                                    |                          |  | Industrial                             | Domestic        | Total            |                             |  |  |                                      |
|        |                  | Recharge from rainfall | Recharge from other sources | Recharge from rainfall |                  |                                    |                          |  |  |                 |                  | Recharge from other sources |  |  |                                      |
| S. No. | 2                | 3                      | 4                           | 5                      | 6                | 7                                  | 8                        | 9  | 10                                     | 11              | 12               | 13                          | 14   | 15   | 16                                   |
| 1      | AJMER            | 25228.61               | 1333.23                     | 67.89                  | 14620.62         | 41250.35                           | 4042.84                  | 37207.51                                 | 61285.80                               | 0.00            | 4270.52          | 65556.32                    | 4270.52  | 0.00   | 176.19                               |
| 2      | ALWAR            | 60356.26               | 1036.55                     | 1864.89                | 4815.76          | 68073.46                           | 6286.01                  | 61787.45                                 | 111636.9                               | 5019.56         | 12743.61         | 129400.1                    | 12743.61   | 0.00   | 209.43                               |
| 3      | BANSWARA         | 10031.40               | 225.32                      | 0.00                   | 10027.65         | 20284.37                           | 2028.44                  | 18255.93                                 | 9683.01                                | 0.00            | 2163.79          | 11846.81                    | 2163.78  | 6413.46                                      | 64.89                                |
| 4      | BARAN            | 45589.07               | 4421.80                     | 0.00                   | 18775.41         | 68786.28                           | 6399.05                  | 62387.23                                 | 65222.81                               | 0.00            | 6207.26          | 71430.07                    | 6207.26  | 7281.37                                      | 114.49                               |
| 5      | BARMER           | 34497.75               | 432.09                      | 199.13                 | 2239.72          | 37368.69                           | 3394.30                  | 33974.38                                 | 36162.09                               | 0.00            | 6439.43          | 42601.54                    | 7670.80  | 1890.03                                      | 125.39                               |
| 6      | BHARATPUR        | 25726.82               | 1445.85                     | 663.64                 | 5183.97          | 33020.28                           | 3203.92                  | 29816.35                                 | 35445.92                               | 425.43          | 5088.75          | 40960.10                    | 6092.05  | 66.21  | 137.37                               |
| 7      | BHILWARA         | 29011.57               | 332.53                      | 1884.35                | 11959.97         | 43188.42                           | 4311.19                  | 38877.22                                 | 53065.49                               | 0.00            | 4835.15          | 57900.67                    | 4835.14  | 1401.90                                      | 148.93                               |
| 8      | BIKANER          | 28639.77               | 830.04                      | 6698.08                | 1711.62          | 37879.51                           | 3394.98                  | 34484.53                                 | 40642.85                               | 0.00            | 7997.26          | 48640.12                    | 7997.26  | 5217.92                                      | 141.05                               |
| 9      | BUNDI            | 18242.78               | 1224.68                     | 0.00                   | 14179.82         | 33647.28                           | 3294.44                  | 30352.82                                 | 26164.40                               | 0.00            | 3537.23          | 29701.62                    | 3537.22  | 4853.45                                      | 97.85                                |
| 10     | CHITTAURGARH     | 26356.67               | 1867.00                     | 1244.29                | 13638.83         | 43106.79                           | 4273.49                  | 38833.29                                 | 57837.94                               | 1213.07         | 1543.90          | 60594.91                    | 1543.89  | 24.77  | 156.04                               |
| 11     | CHURU            | 11301.83               | 12.69                       | 1221.79                | 365.17           | 12901.48                           | 1290.16                  | 11611.32                                 | 10753.70                               | 0.00            | 2656.47          | 13410.16                    | 2656.48  | 1799.66                                      | 115.49                               |
| 12     | DAUSA            | 24153.82               | 249.88                      | 66.00                  | 2960.93          | 27430.63                           | 2743.07                  | 24687.56                                 | 49482.21                               | 0.00            | 3921.82          | 53404.04                    | 3921.83  | 0.00   | 216.32                               |
| 13     | DHAULPUR         | 18236.14               | 1268.19                     | 443.04                 | 5129.12          | 25076.49                           | 1895.45                  | 23181.04                                 | 28622.04                               | 15.03           | 3301.30          | 31938.36                    | 3301.30  | 269.13                                       | 137.78                               |
| 14     | DUNGARPUR        | 10038.64               | 1760.88                     | 313.29                 | 7621.56          | 19734.37                           | 1973.46                  | 17760.91                                 | 9062.64                                | 0.00            | 843.81           | 9906.46                     | 843.81   | 7854.45                                      | 55.78                                |
| 15     | GANGANAGAR       | 5362.67                | 16156.8                     | 1587.28                | 25830.78         | 48937.55                           | 4325.09                  | 44612.46                                 | 17352.44                               | 0.00            | 33.67            | 17386.10                    | 63.49  | 27226.3                                      | 38.97                                |
| 16     | HANUMANGARH      | 5347.30                | 6890.83                     | 1583.96                | 8418.59          | 22240.68                           | 2159.42                  | 20081.26                                 | 11859.00                               | 0.00            | 850.15           | 12709.15                    | 1094.45  | 7372.11                                      | 63.29                                |
| 17     | JAIPUR           | 67546.48               | 2073.35                     | 584.25                 | 7511.09          | 77715.17                           | 7771.53                  | 69943.64                                 | 109676.8                               | 3851.72         | 48192.87         | 161721.4                    | 48192.86   | 0.00   | 231.22                               |
| 18     | JAISALMER        | 7906.18                | 304.47                      | 325.92                 | 913.40           | 9449.97                            | 945.00                   | 8504.97                                  | 24357.56                               | 0.00            | 2741.58          | 27099.13                    | 2741.57  | 0.00   | 318.63                               |
| 19     | JALOR            | 42489.21               | 1576.22                     | 0.00                   | 11889.22         | 55954.65                           | 5393.43                  | 50561.22                                 | 90890.21                               | 0.00            | 4186.08          | 95076.31                    | 4229.28  | 1350.09                                      | 188.04                               |
| 20     | JHALAWAR         | 39501.08               | 2773.79                     | 0.00                   | 12723.91         | 54998.78                           | 5284.28                  | 49714.49                                 | 52632.47                               | 0.00            | 3584.73          | 56217.16                    | 3584.73  | 5422.11                                      | 113.08                               |
| 21     | JHUNJHUNUN       | 21604.23               | 296.41                      | 1448.35                | 1482.03          | 24831.02                           | 2483.12                  | 22347.90                                 | 35569.02                               | 0.00            | 11482.48         | 47051.50                    | 11531.53   | 0.00   | 210.54                               |
| 22     | JODHPUR          | 33250.31               | 729.37                      | 1169.67                | 2845.68          | 37995.03                           | 3691.77                  | 34303.26                                 | 71501.08                               | 0.00            | 15653.64         | 87154.73                    | 15900.80   | 732.80                                       | 254.07                               |
| 23     | KARALI           | 28404.44               | 493.35                      | 1057.52                | 4155.72          | 34111.03                           | 3286.11                  | 30824.92                                 | 43466.39                               | 0.00            | 4808.02          | 48274.43                    | 4808.02  | 1640.09                                      | 156.61                               |
| 24     | KOTA             | 29223.01               | 2595.11                     | 0.00                   | 18094.52         | 49912.64                           | 4991.27                  | 44921.37                                 | 35688.23                               | 0.00            | 7296.40          | 42984.61                    | 7296.41  | 7033.32                                      | 95.69                                |
| 25     | NAGPUR           | 48061.87               | 177.80                      | 1380.13                | 3935.98          | 53555.78                           | 4731.41                  | 48824.36                                 | 82274.92                               | 0.00            | 13933.66         | 96208.60                    | 14476.86   | 280.21                                       | 197.05                               |
| 26     | PALI             | 28632.36               | 786.53                      | 0.00                   | 3484.46          | 32903.35                           | 3290.37                  | 29612.98                                 | 41224.14                               | 0.00            | 3140.36          | 44364.49                    | 3144.97  | 497.18                                       | 149.81                               |
| 27     | PRATAPGARH       | 14063.20               | 169.69                      | 647.52                 | 7344.23          | 22224.64                           | 2045.86                  | 20178.77                                 | 25014.94                               | 0.00            | 520.14           | 25535.09                    | 520.15   | 1225.10                                      | 126.54                               |
| 28     | RAJSAMAND        | 8092.47                | 317.26                      | 9.26                   | 3028.23          | 11447.22                           | 1096.87                  | 10350.35                                 | 9916.66                                | 256.30          | 2138.37          | 12311.36                    | 2138.37  | 478.12                                       | 118.95                               |
| 29     | SAWAI MADHOPUR   | 27299.42               | 1942.60                     | 0.00                   | 8890.04          | 38132.06                           | 3813.21                  | 34318.85                                 | 56358.79                               | 0.00            | 7836.38          | 64195.21                    | 7836.38  | 0.00   | 187.06                               |
| 30     | SIKAR            | 30938.42               | 1187.97                     | 4924.70                | 1979.22          | 39030.31                           | 3701.37                  | 35328.94                                 | 49295.17                               | 0.00            | 11413.89         | 60709.06                    | 11413.89   | 385.42                                       | 171.84                               |
| 31     | SIROHI           | 24865.07               | 547.74                      | 0.00                   | 2035.40          | 27448.21                           | 2744.83                  | 24703.38                                 | 29659.80                               | 327.00          | 1558.40          | 31545.22                    | 1558.40  | 1320.04                                      | 127.70                               |
| 32     | TONK             | 28339.46               | 2297.11                     | 0.00                   | 10053.33         | 40689.90                           | 3658.11                  | 37031.79                                 | 31925.48                               | 0.00            | 5686.61          | 37612.12                    | 5686.62  | 5097.20                                      | 101.57                               |
| 33     | UDAIPUR          | 21414.21               | 520.39                      | 0.00                   | 9155.41          | 31090.01                           | 3109.01                  | 27981.01                                 | 23157.91                               | 1955.92         | 2911.42          | 28025.30                    | 2911.41  | 1676.56                                      | 100.16                               |
|        | <b>Total</b>     | <b>879752.52</b>       | <b>58277.54</b>             | <b>29384.95</b>        | <b>257001.39</b> | <b>1224416.4</b>                   | <b>117052.8</b>          | <b>1107363.4</b>                         | <b>1436888.8</b>                       | <b>13064.03</b> | <b>213519.14</b> | <b>1663472.3</b>            | <b>216915.14</b>                                 | <b>98809.07</b>                              | <b>150.22</b>                        |

**Table - 8: District wise distribution of blocks in different categories as on 31.03.2020**

| S. No. | Name of District | Number of Blocks | Category of Blocks |               |           |                |          |
|--------|------------------|------------------|--------------------|---------------|-----------|----------------|----------|
|        |                  |                  | Safe               | Semi-Critical | Critical  | Over-Exploited | Saline   |
| 1      | Ajmer            | 9                | 0                  | 0             | 0         | 9              |          |
| 2      | Alwar            | 14               | 0                  | 0             | 0         | 14             |          |
| 3      | Banswara         | 11               | 6                  | 5             | 0         | 0              |          |
| 4      | Baran            | 7                | 0                  | 3             | 0         | 4              |          |
| 5      | Barmer           | 17               | 2                  | 1             | 2         | 12             |          |
| 6      | Bharatpur        | 10               | 0                  | 0             | 1         | 9              |          |
| 7      | Bhilwara         | 12               | 0                  | 0             | 0         | 12             |          |
| 8      | Bikaner          | 7                | 2                  | 1             | 0         | 3              | 1        |
| 9      | Bundi            | 5                | 1                  | 1             | 1         | 2              |          |
| 10     | Chittaurgarh     | 11               | 0                  | 0             | 0         | 11             |          |
| 11     | Churu            | 7                | 1                  | 0             | 1         | 4              | 1        |
| 12     | Dausa            | 6                | 0                  | 0             | 0         | 6              |          |
| 13     | Dhaulpur         | 5                | 0                  | 0             | 1         | 4              |          |
| 14     | Dungarpur        | 10               | 8                  | 2             | 0         | 0              |          |
| 15     | Ganganagar       | 9                | 9                  | 0             | 0         | 0              |          |
| 16     | Hanumangarh      | 7                | 6                  | 0             | 0         | 0              | 1        |
| 17     | Jaipur           | 15               | 0                  | 0             | 0         | 15             |          |
| 18     | Jaisalmer        | 3                | 0                  | 0             | 0         | 3              |          |
| 19     | Jalor            | 8                | 0                  | 1             | 0         | 7              |          |
| 20     | Jhalawar         | 8                | 0                  | 3             | 1         | 4              |          |
| 21     | Jhunjhunun       | 8                | 0                  | 0             | 0         | 8              |          |
| 22     | Jodhpur          | 16               | 0                  | 1             | 1         | 14             |          |
| 23     | Karauli          | 6                | 0                  | 1             | 0         | 5              |          |
| 24     | Kota             | 5                | 0                  | 3             | 0         | 2              |          |
| 25     | Nagaur           | 14               | 0                  | 0             | 1         | 13             |          |
| 26     | Pali             | 10               | 1                  | 1             | 0         | 8              |          |
| 27     | Pratapgarh       | 5                | 1                  | 0             | 1         | 3              |          |
| 28     | Rajsamand        | 7                | 0                  | 0             | 2         | 5              | 0        |
| 29     | Sawai Madhopur   | 6                | 0                  | 0             | 0         | 6              |          |
| 30     | Sikar            | 9                | 0                  | 0             | 1         | 8              |          |
| 31     | Sirohi           | 5                | 0                  | 1             | 0         | 4              |          |
| 32     | Tonk             | 6                | 0                  | 2             | 1         | 3              |          |
| 33     | Udaipur          | 17               | 0                  | 3             | 9         | 5              |          |
|        | <b>Total</b>     | <b>295</b>       | <b>37</b>          | <b>29</b>     | <b>23</b> | <b>203</b>     | <b>3</b> |

**Table - 9: District wise List of Blocks Falling In Different Categories as On 31.03.2020**

**DISTRICTWISE CATEGORIZATION of BLOCKS IN RAJASTHAN as on 31.03.2020**

| S. No | Name of District | Total Number of blocks | Name of Safe blocks | Name of Semi-Critical blocks | Name of Critical blocks | Name of Over-Exploited blocks | Name of Saline blocks |
|-------|------------------|------------------------|---------------------|------------------------------|-------------------------|-------------------------------|-----------------------|
| 1     | AJMER            | 9                      |                     |                              |                         | ARAIN                         |                       |
|       |                  |                        |                     |                              |                         | BHINAY                        |                       |
|       |                  |                        |                     |                              |                         | JAWAJA                        |                       |
|       |                  |                        |                     |                              |                         | KEKRI                         |                       |
|       |                  |                        |                     |                              |                         | KISHANGARH                    |                       |
|       |                  |                        |                     |                              |                         | MASOODA                       |                       |
|       |                  |                        |                     |                              |                         | PEESANGAN                     |                       |
|       |                  |                        |                     |                              |                         | SARWAR                        |                       |
|       |                  |                        |                     |                              |                         | SHRINAGAR                     |                       |
| 2     | ALWAR            | 14                     |                     |                              |                         | BANSUR                        |                       |
|       |                  |                        |                     |                              |                         | BEHROR                        |                       |
|       |                  |                        |                     |                              |                         | KATHUMAR                      |                       |
|       |                  |                        |                     |                              |                         | KISHANGARH BAS                |                       |
|       |                  |                        |                     |                              |                         | KOTKASIM                      |                       |
|       |                  |                        |                     |                              |                         | LAXMANGARH                    |                       |
|       |                  |                        |                     |                              |                         | MANDAWAR                      |                       |
|       |                  |                        |                     |                              |                         | NEEMRANA                      |                       |
|       |                  |                        |                     |                              |                         | RAJGARH                       |                       |
|       |                  |                        |                     |                              |                         | RAMGARH                       |                       |
|       |                  |                        |                     |                              |                         | RENI                          |                       |
|       |                  |                        |                     |                              |                         | THANAGAZI                     |                       |
|       |                  |                        |                     |                              |                         | TIJARA                        |                       |
|       |                  |                        |                     |                              |                         | UMREN                         |                       |
| 3     | BANSWARA         | 11                     | ARTHOONA            | ANANDPURI                    |                         |                               |                       |
|       |                  |                        | BANSWARA            | BAGIDORA                     |                         |                               |                       |
|       |                  |                        | CHHOTISARVAN        | GANGAR TALAI                 |                         |                               |                       |
|       |                  |                        | GHATOL              | GARHI                        |                         |                               |                       |
|       |                  |                        | SAJJANGARH          | KUSHALGARH                   |                         |                               |                       |
|       |                  |                        | TALWARA             |                              |                         |                               |                       |

| S. No | Name of District | Total Number of blocks | Name of Safe blocks | Name of Semi-Critical blocks | Name of Critical blocks | Name of Over-Exploited blocks | Name of Saline blocks |  |
|-------|------------------|------------------------|---------------------|------------------------------|-------------------------|-------------------------------|-----------------------|--|
| 4     | BARAN            | 7                      |                     | ANTAH                        |                         | ATRU                          |                       |  |
|       |                  |                        |                     |                              |                         | KISHANGANJ                    | BARAN                 |  |
|       |                  |                        |                     |                              |                         | SHAHBAD                       | CHHABRA               |  |
|       |                  |                        |                     |                              |                         |                               | CHHIPABAROD           |  |
| 5     | BARMER           | 17                     | CHOHTAN             | PATODI                       | SIWANA                  | BALOTRA                       |                       |  |
|       |                  |                        | KALYANPUR           |                              | GUDHAMALANI             | BARMER                        |                       |  |
|       |                  |                        |                     |                              |                         | BAYTOO                        |                       |  |
|       |                  |                        |                     |                              |                         | DHANA OO                      |                       |  |
|       |                  |                        |                     |                              |                         | DHORIMANNA                    |                       |  |
|       |                  |                        |                     |                              |                         | GADRAROAD                     |                       |  |
|       |                  |                        |                     |                              |                         | GIRA                          |                       |  |
|       |                  |                        |                     |                              |                         | RAMSAR                        |                       |  |
|       |                  |                        |                     |                              |                         | SAMDARI                       |                       |  |
|       |                  |                        |                     |                              |                         | SERWA                         |                       |  |
|       |                  |                        |                     |                              |                         | SHEO                          |                       |  |
| 6     | BHARATPUR        | 10                     |                     |                              | DEEG                    | SINDHARI                      |                       |  |
|       |                  |                        |                     |                              |                         | BAYANA                        |                       |  |
|       |                  |                        |                     |                              |                         | KAMAN                         |                       |  |
|       |                  |                        |                     |                              |                         | KUMHER                        |                       |  |
|       |                  |                        |                     |                              |                         | NADBAI                        |                       |  |
|       |                  |                        |                     |                              |                         | NAGAR                         |                       |  |
|       |                  |                        |                     |                              |                         | PAHARI                        |                       |  |
|       |                  |                        |                     |                              |                         | RUPBAS                        |                       |  |
|       |                  |                        |                     |                              |                         | SEWAR                         |                       |  |
|       |                  |                        |                     |                              |                         | WEIR                          |                       |  |
| 7     | BHILWARA         | 12                     |                     |                              |                         | ASIND                         |                       |  |
|       |                  |                        |                     |                              |                         | BANERA                        |                       |  |
|       |                  |                        |                     |                              |                         | BIJOLIYAN                     |                       |  |
|       |                  |                        |                     |                              |                         | HURDA                         |                       |  |
|       |                  |                        |                     |                              |                         | JHAZPUR                       |                       |  |
|       |                  |                        |                     |                              |                         | KOTRI                         |                       |  |
|       |                  |                        |                     |                              |                         | MANDAL                        |                       |  |

| S. No     | Name of District | Total Number of blocks | Name of Safe blocks    | Name of Semi-Critical blocks | Name of Critical blocks | MANDALGARH   |                       |
|-----------|------------------|------------------------|------------------------|------------------------------|-------------------------|--|-----------------------|
|           |                  |                        |                        |                              |                         | Name of Over-Exploited blocks  | Name of Saline blocks |
|           |                  |                        |                        |                              |                         | RAIPUR   |                       |
|           |                  |                        |                        |                              |                         | SAHARA   |                       |
|           |                  |                        |                        |                              |                         | SHAH PURA  |                       |
|           |                  |                        |                        |                              |                         | SUWANA   |                       |
| <b>8</b>  | BIKANER          | <b>7</b>               | KOLAYAT<br>LUNKARANSAR | PANCHOO                      |                         | BIKANER<br>DUNGARGARH<br>NOKHA   | KHAJUWALA             |
| <b>9</b>  | BUNDI            | <b>5</b>               | TALERA                 | KESHORAI<br>PATAN            | BUNDI                   | HINDOLI<br>NAINWA  |                       |
| <b>10</b> | CHITTAURGARH     | <b>11</b>              |                        |                              |                         | BARI SADRI<br>BEGUN<br>BHADESAR<br>BHAINSRORGARH<br>BHOPALSAGAR<br>CHITTAURGARH<br>DUNGLA<br>GANGRAR<br>KAPASAN<br>NIMBAHERA<br>RASHMI |                       |
| <b>11</b> | CHURU            | <b>7</b>               | SARDARSHAHAR           |                              | CHURU                   | RAJGARH<br>RATANGARH<br>SUJANGARH<br>BIDASAR   | TARANAGAR             |
| <b>12</b> | DAUSA            | <b>6</b>               |                        |                              |                         | BANDIKUI<br>DAUSA<br>LALSOT<br>LAWAN   |                       |



| S. No | Name of District | Total Number of blocks | Name of Safe blocks   | Name of Semi-Critical blocks | Name of Critical blocks               | Name of Over-Exploited blocks | Name of Saline blocks |
|-------|------------------|------------------------|---|------------------------------|---------------------------------------|-------------------------------|-----------------------|
|       |                  |                        |   |                              |                                       | MAHWA<br>SIKRAI               |                       |
| 13    | DHAULPUR         | 5                      |   |                              | BASERI<br>RAJAKHERA<br>SAIPAU<br>BARI | DHAULPUR                      |                       |
| 14    | DUNGARPUR        | 10                     | ASPUR<br>BICHHIWARA<br>CHEEKHLI<br>DUNGARPUR<br>GALIAKOT<br>JHONTHRI<br>SABLA<br>SIMALWARA                      | DOVRA<br>SAGWARA             |                                       |                               |                       |
| 15    | GANGANAGAR       | 9                      | ANUPGARH<br>GANGANAGAR<br>GHADSANA<br>KARANPUR<br>PADAMPUR<br>RAISINGHNAGAR<br>SADULSHAHAR<br>SRI<br>VIJAYNAGAR |                              |                                       |                               | RAWATSAR              |
| 16    | HANUMANGARH      | 7                      | BHADRA<br>HANUMANGARH<br>NOHAR<br>PILIBANGA<br>RAWATSAR<br>SANGARIYA<br>TIBI                                    |                              |                                       |                               |                       |

| S. No | Name of District | Total Number of blocks | Name of Safe blocks | Name of Semi-Critical blocks | Name of Critical blocks | Name of Over-Exploited blocks | Name of Saline blocks |
|-------|------------------|------------------------|---------------------|------------------------------|-------------------------|-------------------------------|-----------------------|
| 17    | JAIPUR           | 15                     |                     |                              |                         | AMBER                         |                       |
|       |                  |                        |                     |                              |                         | BASSI                         |                       |
|       |                  |                        |                     |                              |                         | CHAKSU                        |                       |
|       |                  |                        |                     |                              |                         | DUDU                          |                       |
|       |                  |                        |                     |                              |                         | GOVINDGARH                    |                       |
|       |                  |                        |                     |                              |                         | JALSOO                        |                       |
|       |                  |                        |                     |                              |                         | JAMWA RAMGARH                 |                       |
|       |                  |                        |                     |                              |                         | JHOTWARA                      |                       |
|       |                  |                        |                     |                              |                         | KOTPUTLI                      |                       |
|       |                  |                        |                     |                              |                         | PAOTA                         |                       |
|       |                  |                        |                     |                              |                         | PHAGI                         |                       |
|       |                  |                        |                     |                              |                         | SAMBHAR                       |                       |
|       |                  |                        |                     |                              |                         | SANGANER                      |                       |
|       |                  |                        |                     |                              |                         | SHAH PURA                     |                       |
|       |                  |                        |                     |                              |                         | VIRATNAGAR                    |                       |
| 18    | JAISALMER        | 3                      |                     |                              |                         | JAISALMER                     |                       |
|       |                  |                        |                     |                              |                         | SAM                           |                       |
|       |                  |                        |                     |                              |                         | SANKRA                        |                       |
| 19    | JALOR            | 8                      |                     | CHITALWANA                   |                         | AHORE                         |                       |
|       |                  |                        |                     |                              |                         | BHINMAL                       |                       |
|       |                  |                        |                     |                              |                         | JALORE                        |                       |
|       |                  |                        |                     |                              |                         | JASWANTPURA                   |                       |
|       |                  |                        |                     |                              |                         | RANIWARA                      |                       |
|       |                  |                        |                     |                              |                         | SANCHORE                      |                       |
|       |                  |                        |                     |                              |                         | SAYLA                         |                       |
| 20    | JHALAWAR         | 8                      |                     | AKLERA                       | MANOHAR<br>THANA        | BAKANI                        |                       |
|       |                  |                        |                     | BHAWANI<br>MANDI             |                         | DAG                           |                       |
|       |                  |                        |                     | PIRAWA                       |                         | JHALRAPATAN                   |                       |
| 21    | JHUNJHUNUN       | 8                      |                     |                              |                         | KHANPUR                       |                       |
|       |                  |                        |                     |                              |                         | ALSISAR                       |                       |

| S. No | Name of District | Total Number of blocks | Name of Safe blocks | Name of Semi-Critical blocks | Name of Critical blocks | Name of Over-Exploited blocks | Name of Saline blocks |
|-------|------------------|------------------------|---------------------|------------------------------|-------------------------|-------------------------------|-----------------------|
|       |                  |                        |                     |                              |                         | BUHANA                        |                       |
|       |                  |                        |                     |                              |                         | CHIRAWA                       |                       |
|       |                  |                        |                     |                              |                         | JHUNJHUNU                     |                       |
|       |                  |                        |                     |                              |                         | KHETRI                        |                       |
|       |                  |                        |                     |                              |                         | NAWALGARH                     |                       |
|       |                  |                        |                     |                              |                         | SURAJGARH                     |                       |
|       |                  |                        |                     |                              |                         | UDAIPURWATI                   |                       |
| 22    | JODHPUR          | 16                     |                     | BAP                          | LUNI                    | BALESAR                       |                       |
|       |                  |                        |                     |                              |                         | BAORI                         |                       |
|       |                  |                        |                     |                              |                         | BAPINI                        |                       |
|       |                  |                        |                     |                              |                         | BHOPALGARH                    |                       |
|       |                  |                        |                     |                              |                         | BILARA                        |                       |
|       |                  |                        |                     |                              |                         | DECHOO                        |                       |
|       |                  |                        |                     |                              |                         | LOHAWAT                       |                       |
|       |                  |                        |                     |                              |                         | MANDOR                        |                       |
|       |                  |                        |                     |                              |                         | OSIAN                         |                       |
|       |                  |                        |                     |                              |                         | PHALODI                       |                       |
|       |                  |                        |                     |                              |                         | PIPAR CITY                    |                       |
|       |                  |                        |                     |                              |                         | SHEKHALA                      |                       |
|       |                  |                        |                     |                              |                         | SHERGARH                      |                       |
|       |                  |                        |                     |                              |                         | TIWARI                        |                       |
| 23    | KARALI           | 6                      |                     | NADOTI                       |                         | HINDAUN                       |                       |
|       |                  |                        |                     |                              |                         | KARALI                        |                       |
|       |                  |                        |                     |                              |                         | MANDRAIL                      |                       |
|       |                  |                        |                     |                              |                         | SAPOTRA                       |                       |
|       |                  |                        |                     |                              |                         | TODABHIM                      |                       |
| 24    | KOTA             | 5                      | 1                   | ITAWA                        |                         | KHAIRABAD                     |                       |
|       |                  |                        |                     | LADPURA                      |                         | SANGOD                        |                       |
|       |                  |                        |                     | SULTANPUR                    |                         |                               |                       |
| 25    | NAGAUR           | 14                     |                     |                              |                         | DEGANA                        |                       |
|       |                  |                        |                     |                              | NAGAUR                  | DIDWANA                       |                       |
|       |                  |                        |                     |                              |                         | JAYAL                         |                       |

| S. No | Name of District | Total Number of blocks | Name of Safe blocks | Name of Semi-Critical blocks | Name of Critical blocks | Name of Over-Exploited blocks | Name of Saline blocks |
|-------|------------------|------------------------|---------------------|------------------------------|-------------------------|-------------------------------|-----------------------|
|       |                  |                        |                     |                              |                         | KHEENV SAR                    |                       |
|       |                  |                        |                     |                              |                         | KUCHAMAN CITY                 |                       |
|       |                  |                        |                     |                              |                         | LADNU                         |                       |
|       |                  |                        |                     |                              |                         | MAKRANA                       |                       |
|       |                  |                        |                     |                              |                         | MERTA                         |                       |
|       |                  |                        |                     |                              |                         | MOLASAR                       |                       |
|       |                  |                        |                     |                              |                         | MUNDWA                        |                       |
|       |                  |                        |                     |                              |                         | NAWA                          |                       |
|       |                  |                        |                     |                              |                         | PARBATSAR                     |                       |
|       |                  |                        |                     |                              |                         | RIYAN BARI                    |                       |
| 26    | PALI             | 10                     |                     |                              |                         | BALI                          |                       |
|       |                  |                        | ROHAT               | PALI                         |                         | DESURI                        |                       |
|       |                  |                        |                     |                              |                         | JAITARAN                      |                       |
|       |                  |                        |                     |                              |                         | KHARCHI (MARWAR JUNC          |                       |
|       |                  |                        |                     |                              |                         | RAIPUR                        |                       |
|       |                  |                        |                     |                              |                         | RANI STATION                  |                       |
|       |                  |                        |                     |                              |                         | SOJAT                         |                       |
|       |                  |                        |                     |                              |                         | SUMERPUR                      |                       |
| 27    | PRATAPGARH       | 5                      |                     |                              | DHARIAWAD               | ARNOD                         |                       |
|       |                  |                        |                     |                              |                         | CHHOTI SADRI                  |                       |
|       |                  |                        |                     |                              |                         | PRATAPGARH                    |                       |
| 28    | RAJSAMAND        | 7                      |                     |                              | KHAMNOR                 | AMET                          |                       |
|       |                  |                        |                     |                              | KUMBHALGARH             | BHIM                          |                       |
|       |                  |                        |                     |                              |                         | DEOGARH                       |                       |
|       |                  |                        |                     |                              |                         | RAILMAGRA                     |                       |
|       |                  |                        |                     |                              |                         | RAJSAMAND                     |                       |
| 29    | SAWAI MADHOPUR   | 6                      |                     |                              |                         | BAMANWAS                      |                       |
|       |                  |                        |                     |                              |                         | BONLI                         |                       |
|       |                  |                        |                     |                              |                         | CHAUTH KA BARWARA             |                       |
|       |                  |                        |                     |                              |                         | GANGAPUR                      |                       |

| S. No | Name of District | Total Number of blocks | Name of Safe blocks | Name of Semi-Critical blocks | Name of Critical blocks | Name of Over-Exploited blocks | Name of Saline blocks |
|-------|------------------|------------------------|---------------------|------------------------------|-------------------------|-------------------------------|-----------------------|
|       |                  |                        |                     |                              |                         | KHANDAR                       |                       |
|       |                  |                        |                     |                              |                         | SAWAI MADHOPUR                |                       |
| 30    | SIKAR            | 9                      |                     |                              | FATEHPUR                | DANTA RAMGARH                 |                       |
|       |                  |                        |                     |                              |                         | DHOND                         |                       |
|       |                  |                        |                     |                              |                         | KHANDELA                      |                       |
|       |                  |                        |                     |                              |                         | LACHHMANGARH                  |                       |
|       |                  |                        |                     |                              |                         | NEEM KA THANA                 |                       |
|       |                  |                        |                     |                              |                         | PATAN                         |                       |
|       |                  |                        |                     |                              |                         | PIPRALI                       |                       |
|       |                  |                        |                     |                              |                         | SRIMADHOPUR                   |                       |
| 31    | SIROHI           | 5                      |                     | PINDWARA                     |                         | ABU ROAD                      |                       |
|       |                  |                        |                     |                              |                         | REODAR                        |                       |
|       |                  |                        |                     |                              |                         | SHEOGANJ                      |                       |
|       |                  |                        |                     |                              |                         | SIROHI                        |                       |
| 32    | TONK             | 6                      |                     | DEOLI                        | TONK                    | MALPURA                       |                       |
|       |                  |                        |                     | TODARAISINGH                 |                         | NIWAI                         |                       |
|       |                  |                        |                     |                              |                         | UNIARA                        |                       |
| 33    | UDAIPUR          | 17                     |                     | JHALARA                      | BHINDAR                 | BARGAON                       |                       |
|       |                  |                        |                     | SALUMBAR                     | GIRWA                   | KOTRA                         |                       |
|       |                  |                        |                     | SEMARI                       | GOGUNDA                 | LASADIYA                      |                       |
|       |                  |                        |                     |                              | JHADOL                  | MAVLI                         |                       |
|       |                  |                        |                     |                              | KHERWARA                | RISHABHDEV                    |                       |
|       |                  |                        |                     |                              | KURAWAR                 |                               |                       |
|       |                  |                        |                     |                              | PHALASIYA               |                               |                       |
|       |                  |                        |                     |                              | SARADA                  |                               |                       |
|       |                  |                        |                     |                              | SAYRA                   |                               |                       |

**Table 11: Comparison of Categories of Blocks as Computed on 31.03.2017 and 31.03.2020**

| S. No. | District       | Number of blocks | Number of safe blocks |         | Number of semi-critical blocks |         | Number of critical blocks |         | Number of Over-exploited blocks |         | Number of saline blocks |         |
|--------|----------------|------------------|-----------------------|---------|--------------------------------|---------|---------------------------|---------|---------------------------------|---------|-------------------------|---------|
|        |                |                  | 31.3.20               | 31.3.17 | 31.3.20                        | 31.3.17 | 31.3.20                   | 31.3.17 | 31.3.20                         | 31.3.17 | 31.3.20                 | 31.3.17 |
|        |                |                  | 7                     | 0       | 7                              | 0       | 7                         | 0       | 7                               | 0       | 7                       | 0       |
| 1      | AJMER          | 9                | 0                     | 0       | 0                              | 0       | 0                         | 0       | 9                               | 9       | 0                       | 0       |
| 2      | ALWAR          | 14               | 0                     | 0       | 0                              | 0       | 0                         | 0       | 14                              | 14      | 0                       | 0       |
| 3      | BANSWARA       | 11               | 11                    | 6       | 0                              | 5       | 0                         | 0       | 0                               | 0       | 0                       | 0       |
| 4      | BARAN          | 7                | 0                     | 0       | 3                              | 3       | 0                         | 0       | 4                               | 4       | 0                       | 0       |
| 5      | BARMER         | 17               | 2                     | 2       | 0                              | 1       | 5                         | 2       | 10                              | 12      | 0                       | 0       |
| 6      | BHARATPUR      | 10               | 0                     | 0       | 0                              | 0       | 4                         | 1       | 6                               | 9       | 0                       | 0       |
| 7      | BHILWARA       | 12               | 0                     | 0       | 0                              | 0       | 0                         | 0       | 12                              | 12      | 0                       | 0       |
| 8      | BIKANER        | 7                | 1                     | 2       | 2                              | 1       | 1                         | 0       | 2                               | 3       | 1                       | 1       |
| 9      | BUNDI          | 5                | 2                     | 1       | 1                              | 1       | 0                         | 1       | 2                               | 2       | 0                       | 0       |
| 10     | CHITTORGARH    | 11               | 0                     | 0       | 0                              | 0       | 0                         | 0       | 11                              | 11      | 0                       | 0       |
| 11     | CHURU          | 7                | 1                     | 1       | 2                              | 0       | 0                         | 1       | 3                               | 4       | 1                       | 1       |
| 12     | DAUSA          | 6                | 0                     | 0       | 0                              | 0       | 0                         | 0       | 6                               | 6       | 0                       | 0       |
| 13     | DHOLPUR        | 5                | 0                     | 0       | 2                              | 0       | 0                         | 1       | 3                               | 4       | 0                       | 0       |
| 14     | DUNGARPUR      | 10               | 7                     | 8       | 3                              | 2       | 0                         | 0       | 0                               | 0       | 0                       | 0       |
| 15     | GANGANAGAR     | 9                | 9                     | 9       | 0                              | 0       | 0                         | 0       | 0                               | 0       | 0                       | 0       |
| 16     | HANUMANGARH    | 7                | 6                     | 6       | 0                              | 0       | 0                         | 0       | 0                               | 0       | 1                       | 1       |
| 17     | JAIPUR         | 15               | 0                     | 0       | 0                              | 0       | 1                         | 0       | 14                              | 15      | 0                       | 0       |
| 18     | JAISALMER      | 3                | 0                     | 0       | 0                              | 0       | 0                         | 0       | 3                               | 3       | 0                       | 0       |
| 19     | JALORE         | 8                | 0                     | 0       | 1                              | 1       | 0                         | 0       | 7                               | 7       | 0                       | 0       |
| 20     | JHALAWAR       | 8                | 0                     | 0       | 3                              | 3       | 3                         | 1       | 2                               | 4       | 0                       | 0       |
| 21     | JHUNJHUNU      | 8                | 0                     | 0       | 0                              | 0       | 0                         | 0       | 8                               | 8       | 0                       | 0       |
| 22     | JODHPUR        | 16               | 2                     | 0       | 0                              | 1       | 0                         | 1       | 14                              | 14      | 0                       | 0       |
| 23     | KARALI         | 6                | 0                     | 0       | 1                              | 1       | 1                         | 0       | 5                               | 5       | 0                       | 0       |
| 24     | KOTA           | 5                | 0                     | 0       | 2                              | 3       | 1                         | 0       | 2                               | 2       | 0                       | 0       |
| 25     | NAGPUR         | 14               | 0                     | 0       | 1                              | 0       | 1                         | 1       | 12                              | 13      | 0                       | 0       |
| 26     | PALI           | 10               | 2                     | 1       | 0                              | 1       | 1                         | 0       | 7                               | 8       | 0                       | 0       |
| 27     | PRATAPGARH     | 5                | 1                     | 1       | 0                              | 0       | 1                         | 1       | 3                               | 3       | 0                       | 0       |
| 28     | RAJSAMAND      | 7                | 0                     | 0       | 0                              | 0       | 3                         | 2       | 4                               | 5       | 0                       | 0       |
| 29     | SAWAI MADHOPUR | 6                | 0                     | 0       | 0                              | 0       | 0                         | 0       | 6                               | 6       | 0                       | 0       |
| 30     | SIKAR          | 9                | 0                     | 0       | 1                              | 0       | 0                         | 1       | 8                               | 8       | 0                       | 0       |
| 31     | SIROHI         | 5                | 0                     | 0       | 1                              | 1       | 2                         | 0       | 2                               | 4       | 0                       | 0       |
| 32     | TONK           | 6                | 1                     | 0       | 2                              | 2       | 0                         | 1       | 3                               | 3       | 0                       | 0       |
| 33     | UDAIPUR        | 17               | 0                     | 0       | 5                              | 3       | 9                         | 9       | 3                               | 5       | 0                       | 0       |
|        | <b>TOTAL</b>   | 295              | 45                    | 37      | 30                             | 29      | 33                        | 23      | 185                             | 203     | 3                       | 3       |



## Annexure-I

**Government of Rajasthan**  
**Administrative Reforms(Group-3) Department**

No. 6(31) AR/Gr.3/2020

Date: 21/9/2020

**ORDER**

**Sub:** Estimation of annual replenishable ground water resources-constitution of State Level Committee for re-estimation of ground water resources-reg.

The last assessment of state-wise annual replenishable ground water resources for the entire country was made as on 31-03-2017 based on the Methodology by the Ground Water Resources Estimation Committee – 2015. Since then there have been changes in ground water scenario in many places in the country. The National Ground Water Policy 2002 has also recommended that the ground water resources of the country should be re-assessed periodically.

H.E. the Governor of Rajasthan is pleased to accord sanction for constitution of a State Level Committee on Ground Water Resources Assessment as on 31-03-2020 for the State as follow:-

- |   |          |
|---|----------|
| 1. Principal Secretary to Govt., PHED & GWD         | Chairman |
| 2. Principal Secretary to Govt., Energy             | Member   |
| 3. Commissioner, Industries                         | Member   |
| 4. Commissioner, Agriculture                        | Member   |
| 5. Chief Engineer, SWRPD                            | Member   |
| 6. Chief Engineer, Water Resources                  | Member   |
| 7. Chief Engineer (HQ), PHED                        | Member   |
| 8. Chief Engineer (Rural), PHED                     | Member   |
| 9. Chief Engineer, GWD                              | Member   |
| 10. Director, Department of Mines & Geology         | Member   |
| 11. General Manager, NABARD                         | Member   |
| 12. Regional Director, CGWB, Western Region, Jaipur | Member   |

Secretary

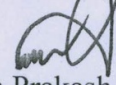
**Terms of Reference:** The broad terms of reference of the Committee would be as follows:

- (i) To estimate annual replenishable ground water resources of the State in accordance with the Ground Water Resources Estimation Methodology -2015 of CGWB.
- (ii) To estimate the status of utilization of the annual replenishable ground water resources.

**Time Frame:** The Tenure of the committee will be upto approval of Ground Water Assessment Report 2020.

The administrative department of this Committee will be Ground Water Department.

By order of the Governor,

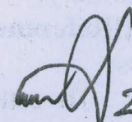
 2.9.2020

(Arun Prakash Sharma)

Joint Secretary to Government

Copy to the following through Administrative Department for information & necessary action:

- (1) Addl. Chief Secretary, H.E. the Governor of Rajasthan, Jaipur.
- (2) Principle Secretary, Hon'ble Chief Minister, Rajasthan, Jaipur.
- (3) P.S. to Minister, P.H.E.D. and G.W.D., Jaipur.
- (4) P.S. to Chief Secretary, Rajasthan, Jaipur.
- (5) P.S. to Principal Secretary to Government, PHED & GWD, Jaipur
- (6) P.S. to Principal Secretary to Government, Energy Department, Jaipur.
- (7) P.S. to Commissioner, Industries Department, Jaipur.
- (8) P.S. to Commissioner, Agriculture Department, Jaipur.
- (9) Chief Engineer, SWRPD, JLN Marg, Jaipur.
- (10) Chief Engineer, Water Resources, Jaipur.
- (11) Chief Engineer (Hq.), PHED, Jaipur.
- (12) Chief Engineer (Rural) PHED, Jaipur.
- (13) Chief Engineer, G.W.D., Jodhpur.
- (14) Director, Dept. of Mines and Geology, Jaipur.
- (15) General Manager, NABARD, Nehru Palace, Tonk Road, Jaipur.
- (16) Regional Director, CGWB, Western Region, Jaipur.
- (17) Senior Dy. Secretary to Govt. GWD, Govt. Secretariat, Jaipur  
along with spare copies of order for deliver to all concerned.  
Ref.No.F.12(11)/GWD/2017
- (18) Guard file.

 2.9.2020

Joint Secretary to Government



**Annexure –II: Block wise Dynamic Ground Water Resources of Rajasthan (as on 31.03.2020)**

| District | Block          | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |   |  |
|----------|----------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|---|--|
|          |                | (ha)                               |                           |                                       | (ham)  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  |                | % |  |
| AJMER    | ARAIN          | 119440                             | 89726                     | 2381.37                               | 18.56  | 0.00                                       | 1574.64   | 3974.57                            | 397.45                   | 3577.12                                  | 5464.29                                    | 0.00                                       | 287.42                                   | 5751.71          | 287.42   | 0.00   | 160.79                           | OE             |   |  |
| AJMER    | BHINAY         | 121619                             | 95354                     | 2024.11                               | 6.80   | 0.00                                       | 1399.24   | 3430.15                            | 343.01                   | 3087.14                                  | 5535.27                                    | 0.00                                       | 377.96                                   | 5913.23          | 377.96   | 0.00   | 191.54                           | OE             |   |  |
| AJMER    | JAWAJA         | 67451                              | 48433                     | 1659.04                               | 333.70                                       | 0.00                                       | 1007.81   | 3000.55                            | 300.05                   | 2700.50                                  | 5310.59                                    | 0.00                                       | 544.32                                   | 5854.91          | 544.32   | 0.00   | 216.81                           | OE             |   |  |
| AJMER    | KEKRI          | 98592                              | 88967                     | 3701.42                               | 6.46   | 0.00                                       | 2735.93   | 6443.81                            | 644.38                   | 5799.43                                  | 10234.77                                   | 0.00                                       | 424.98                                   | 10659.75         | 424.98   | 0.00   | 183.81                           | OE             |   |  |
| AJMER    | KISHANGARH     | 124509                             | 101288                    | 3741.87                               | 591.30                                       | 67.89                                      | 1772.15   | 6173.21                            | 617.32                   | 5555.89                                  | 9383.99                                    | 0.00                                       | 545.13                                   | 9929.12          | 545.13   | 0.00   | 178.71                           | OE             |   |  |
| AJMER    | MASOODA        | 89199                              | 81700                     | 3104.79                               | 6.27   | 0.00                                       | 1059.03   | 4170.09                            | 417.01                   | 3753.08                                  | 4130.10                                    | 0.00                                       | 321.46                                   | 4451.56          | 321.46   | 0.00   | 118.61                           | OE             |   |  |
| AJMER    | PEESANGAN      | 123991                             | 110805                    | 4893.41                               | 4.85   | 0.00                                       | 3342.82   | 8241.08                            | 824.11                   | 7416.97                                  | 13303.68                                   | 0.00                                       | 804.87                                   | 14108.55         | 804.87   | 0.00   | 190.22                           | OE             |   |  |
| AJMER    | SARWAR         | 39568                              | 36403                     | 989.40                                | 4.89   | 0.00                                       | 649.09  | 1643.38                            | 82.16                    | 1561.22                                  | 2258.49                                    | 0.00                                       | 114.89                                   | 2373.38          | 114.88   | 0.00   | 152.02                           | OE             |   |  |
| AJMER    | SHRINAGAR      | 103299                             | 94000                     | 2733.20                               | 360.40                                       | 0.00                                       | 1079.91   | 4173.51                            | 417.35                   | 3756.16                                  | 5664.62                                    | 0.00                                       | 849.50                                   | 6514.13          | 849.50   | 0.00   | 173.43                           | OE             |   |  |
| ALWAR    | BANSUR         | 66443                              | 60412                     | 6777.77                               | 125.51                                       | 120.93                                     | 376.65  | 7400.86                            | 740.09                   | 6660.77                                  | 10037.48                                   | 1.65                                       | 807.38                                   | 10846.51         | 807.38   | 0.00   | 162.84                           | OE             |   |  |
| ALWAR    | BEHROR         | 35169                              | 33460                     | 2856.42                               | 28.92  | 185.91                                     | 347.09  | 3418.34                            | 341.83                   | 3076.51                                  | 7520.18                                    | 14.50                                      | 875.53                                   | 8410.21          | 875.53   | 0.00   | 273.37                           | OE             |   |  |
| ALWAR    | KATHUMAR       | 56999                              | 56324                     | 2925.93                               | 103.70                                       | 102.59                                     | 311.11  | 3443.33                            | 344.33                   | 3099.00                                  | 8295.73                                    | 10.53                                      | 327.48                                   | 8633.74          | 327.48   | 0.00   | 278.60                           | OE             |   |  |
| ALWAR    | KISHANGARH BAS | 52646                              | 41322                     | 3944.44                               | 72.24  | 123.84                                     | 216.84  | 4357.36                            | 435.74                   | 3921.62                                  | 5777.10                                    | 2.24                                       | 1026.5                                   | 6805.87          | 1026.53  | 0.00   | 173.55                           | OE             |   |  |
| ALWAR    | KOTKASIM       | 34443                              | 30659                     | 3915.89                               | 78.41  | 182.69                                     | 235.31  | 4412.30                            | 220.62                   | 4191.68                                  | 6270.00                                    | 1413.2                                     | 597.36                                   | 8280.58          | 597.36   | 0.00   | 197.55                           | OE             |   |  |
| ALWAR    | LAXMANGARH     | 62395                              | 59052                     | 3005.61                               | 37.60  | 24.80                                      | 375.89  | 3443.90                            | 344.39                   | 3099.51                                  | 8263.41                                    | 0.00                                       | 773.58                                   | 9036.99          | 773.58   | 0.00   | 291.56                           | OE             |   |  |
| ALWAR    | MANDAWAR       | 57726                              | 54578                     | 5133.91                               | 151.10                                       | 276.19                                     | 453.36  | 6014.56                            | 300.73                   | 5713.83                                  | 12087.34                                   | 1.14                                       | 915.83                                   | 13004.31         | 915.83   | 0.00   | 227.59                           | OE             |   |  |
| ALWAR    | NEEMRANA       | 37882                              | 32743                     | 2714.82                               | 62.87  | 71.84                                      | 188.62  | 3038.15                            | 303.82                   | 2734.33                                  | 5029.80                                    | 704.03                                     | 647.69                                   | 6381.52          | 647.69   | 0.00   | 233.39                           | OE             |   |  |
| ALWAR    | Rajgarh        | 103421                             | 45595                     | 2503.56                               | 16.33  | 0.00                                       | 396.00  | 2915.89                            | 291.59                   | 2624.30                                  | 2988.38                                    | 7.50                                       | 762.68                                   | 3758.56          | 762.68   | 0.00   | 143.22                           | OE             |   |  |
| ALWAR    | RAMGARH        | 61697                              | 56846                     | 4656.77                               | 128.92                                       | 116.88                                     | 386.80  | 5289.37                            | 528.94                   | 4760.43                                  | 10312.93                                   | 444.75                                     | 643.87                                   | 11401.55         | 643.87   | 0.00   | 239.51                           | OE             |   |  |
| ALWAR    | RENI           | 39205                              | 33104                     | 2132.03                               | 16.70  | 0.00                                       | 200.03  | 2348.76                            | 234.87                   | 2113.89                                  | 4326.56                                    | 9.06                                       | 356.65                                   | 4692.27          | 356.65   | 0.00   | 221.97                           | OE             |   |  |
| ALWAR    | THANAGAZI      | 106033                             | 75233                     | 5440.30                               | 17.73  | 119.53                                     | 211.83  | 5789.39                            | 578.94                   | 5210.45                                  | 4565.93                                    | 40.07                                      | 778.12                                   | 5384.11          | 778.12   | 0.00   | 103.33                           | OE             |   |  |



Dynamic Ground Water Resources of Rajasthan-2020

| District | Block        | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |
|----------|--------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|
|          |              | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  | %                |  |  |                                  |                |
| ALWAR    | TIJARA       | 67348                              | 61152                     | 6048.92                               | 137.67                                       | 144.13                                     | 413.30  | 6744.02                            | 674.40                   | 6069.62                                  | 11006.00                                   | 1976.7                                     | 1424.6                                   | 14407.34         | 1424.60  | 0.00   | 237.37                           | OE             |
| ALWAR    | UMREN        | 90639                              | 79681                     | 8299.89                               | 58.85  | 395.56                                     | 702.93  | 9457.23                            | 945.72                   | 8511.51                                  | 15156.13                                   | 394.13                                     | 2806.3                                   | 18356.57         | 2806.31  | 0.00   | 215.67                           | OE             |
| BANSWARA | ANANDPURI    | 33740                              | 32938                     | 922.61                                | 1.72   | 0.00                                       | 703.67  | 1628.00                            | 162.80                   | 1465.20                                  | 1040.29                                    | 0.00                                       | 190.56                                   | 1230.85          | 190.56   | 234.35                                       | 84.01                            | SC             |
| BANSWARA | ARTHOONA     | 24870                              | 24515                     | 663.05                                | 5.89   | 0.00                                       | 813.26  | 1482.20                            | 148.22                   | 1333.98                                  | 548.03                                     | 0.00                                       | 148.21                                   | 696.24           | 148.21   | 637.74                                       | 52.19                            | safe           |
| BANSWARA | BAGIDORA     | 30819                              | 29529                     | 837.99                                | 23.66  | 0.00                                       | 863.53  | 1725.18                            | 172.52                   | 1552.66                                  | 1177.62                                    | 0.00                                       | 138.31                                   | 1315.93          | 138.31   | 241.06                                       | 84.75                            | SC             |
| BANSWARA | BANSWARA     | 51675                              | 44883                     | 1278.63                               | 65.89  | 0.00                                       | 1762.07   | 3106.59                            | 310.65                   | 2795.94                                  | 1325.48                                    | 0.00                                       | 249.44                                   | 1574.92          | 249.44   | 1221.02                                      | 56.33                            | safe           |
| BANSWARA | CHHOTISARVAN | 38337                              | 29495                     | 551.06                                | 78.96  | 0.00                                       | 497.63  | 1127.65                            | 112.76                   | 1014.89                                  | 413.47                                     | 0.00                                       | 123.60                                   | 537.07           | 123.60   | 477.82                                       | 52.92                            | safe           |
| BANSWARA | GANGAR TALAI | 21415                              | 20520                     | 582.33                                | 0.16   | 0.00                                       | 237.62  | 820.11                             | 82.02                    | 738.09                                   | 457.74                                     | 0.00                                       | 84.97                                    | 542.71           | 84.97  | 195.38                                       | 73.53                            | SC             |
| BANSWARA | GARHI        | 46185                              | 45529                     | 1231.40                               | 11.29  | 0.00                                       | 1334.59   | 2577.28                            | 257.73                   | 2319.55                                  | 1365.16                                    | 0.00                                       | 268.97                                   | 1634.13          | 268.97   | 685.43                                       | 70.45                            | SC             |
| BANSWARA | GHATOL       | 77840                              | 68091                     | 1699.05                               | 14.48  | 0.00                                       | 1692.22   | 3405.75                            | 340.58                   | 3065.17                                  | 1080.93                                    | 0.00                                       | 328.30                                   | 1409.23          | 328.30   | 1655.93                                      | 45.98                            | safe           |
| BANSWARA | KUSHALGARH   | 65180                              | 50789                     | 1049.36                               | 10.17  | 0.00                                       | 708.95  | 1768.48                            | 176.85                   | 1591.63                                  | 1212.80                                    | 0.00                                       | 170.88                                   | 1383.68          | 170.88   | 207.95                                       | 86.93                            | SC             |
| BANSWARA | SAJJANGARH   | 39229                              | 34997                     | 646.41                                | 8.82   | 0.00                                       | 513.92  | 1169.15                            | 116.91                   | 1052.24                                  | 429.39                                     | 0.00                                       | 187.13                                   | 616.52           | 187.13   | 435.71                                       | 58.59                            | safe           |
| BANSWARA | TALWARA      | 24318                              | 16710                     | 569.51                                | 4.28   | 0.00                                       | 900.19  | 1473.98                            | 147.40                   | 1326.58                                  | 632.10                                     | 0.00                                       | 273.41                                   | 905.51           | 273.41   | 421.07                                       | 68.26                            | safe           |
| BARAN    | ANTAH        | 94901                              | 94900                     | 6854.05                               | 521.50                                       | 0.00                                       | 6656.82   | 14032.37                           | 1403.24                  | 12629.13                                 | 8410.09                                    | 0.00                                       | 1255.0                                   | 9665.16          | 1255.07  | 2963.97                                      | 76.53                            | SC             |
| BARAN    | ATRU         | 86030                              | 84647                     | 4810.59                               | 1599.9                                       | 0.00                                       | 2335.06   | 8745.56                            | 874.56                   | 7871.00                                  | 12966.46                                   | 0.00                                       | 974.64                                   | 13941.10         | 974.64   | 81.63  | 177.12                           | OE             |
| BARAN    | BARAN        | 62621                              | 62621                     | 6232.40                               | 440.71                                       | 0.00                                       | 2065.51   | 8738.62                            | 873.86                   | 7864.76                                  | 12920.52                                   | 0.00                                       | 1330.5                                   | 14251.02         | 1330.50  | 0.00   | 181.20                           | OE             |
| BARAN    | CHHABRA      | 79079                              | 77337                     | 6163.01                               | 294.10                                       | 0.00                                       | 1540.61   | 7997.72                            | 799.78                   | 7197.94                                  | 7493.10                                    | 0.00                                       | 848.66                                   | 8341.76          | 848.66   | 122.08                                       | 115.89                           | OE             |
| BARAN    | CHHIPABAROD  | 82876                              | 80450                     | 4597.89                               | 397.73                                       | 0.00                                       | 1526.88   | 6522.50                            | 652.25                   | 5870.25                                  | 8075.64                                    | 0.00                                       | 303.50                                   | 8379.14          | 303.50   | 11.43  | 142.74                           | OE             |
| BARAN    | KISHANGANJ   | 143098                             | 142972                    | 8971.52                               | 777.80                                       | 0.00                                       | 3283.08   | 13032.40                           | 1303.24                  | 11729.16                                 | 9328.45                                    | 0.00                                       | 542.21                                   | 9870.66          | 542.21   | 1858.51                                      | 84.15                            | SC             |
| BARAN    | SHAHBAD      | 146926                             | 146294                    | 7959.61                               | 390.05                                       | 0.00                                       | 1367.45   | 9717.11                            | 492.12                   | 9224.99                                  | 6028.56                                    | 0.00                                       | 952.68                                   | 6981.24          | 952.68   | 2243.75                                      | 75.68                            | SC             |
| BARMER   | BALOTRA      | 156883                             | 156883                    | 1220.06                               | 33.07  | 2.13                                       | 99.21   | 1354.47                            | 135.44                   | 1219.03                                  | 2645.66                                    | 0.00                                       | 374.49                                   | 3020.15          | 402.24   | 0.00   | 247.75                           | OE             |
| BARMER   | BARMER       | 241209                             | 241209                    | 2289.60                               | 0.00   | 69.56                                      | 104.88  | 2464.04                            | 246.39                   | 2217.64                                  | 2097.60                                    | 0.00                                       | 701.94                                   | 2799.54          | 794.55   | 0.00   | 126.24                           | OE             |
| BARMER   | BAYTOO       | 140758                             | 140758                    | 359.62                                | 6.47   | 0.00                                       | 19.40   | 385.49                             | 38.55                    | 346.94                                   | 517.32                                     | 0.00                                       | 243.00                                   | 760.32           | 309.42   | 0.00   | 219.15                           | OE             |
| BARMER   | CHOHTAN      | 180275                             | 180275                    | 3005.77                               | 17.91  | 1.26                                       | 53.74   | 3078.68                            | 307.87                   | 2770.81                                  | 1432.99                                    | 0.00                                       | 222.60                                   | 1655.59          | 298.80   | 1115.22                                      | 59.75                            | safe           |

Dynamic Ground Water Resources of Rajasthan-2020

| District  | Block       | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |  |
|-----------|-------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|--|
|           |             | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  | %              |  |
| BARMER    | DHANA00     | 124474                             | 124474                    | 2866.68                               | 0.00   | 0.00                                       | 124.69  | 2991.37                            | 299.14                   | 2692.23                                  | 2493.76                                    | 0.00                                       | 294.60                                   | 2788.36          | 294.60   | 0.00   | 103.57                           | OE             |  |
| BARMER    | DHORIMANNA  | 165986                             | 165986                    | 2567.51                               | 0.00   | 0.00                                       | 301.31  | 2868.82                            | 286.88                   | 2581.94                                  | 6026.24                                    | 0.00                                       | 517.41                                   | 6543.65          | 590.37   | 0.00   | 253.44                           | OE             |  |
| BARMER    | GADRAROAD   | 392564                             | 392564                    | 1063.43                               | 8.16   | 48.30                                      | 24.49   | 1144.38                            | 114.44                   | 1029.94                                  | 653.00                                     | 0.00                                       | 547.23                                   | 1200.23          | 741.63   | 0.00   | 116.53                           | OE             |  |
| BARMER    | GIRA        | 155036                             | 155036                    | 61.72                                 | 0.00   | 0.00                                       | 9.10  | 70.82                              | 7.08                     | 63.74                                    | 182.08                                     | 0.00                                       | 18.00                                    | 200.08           | 35.37  | 0.00   | 313.90                           | OE             |  |
| BARMER    | GUDHAMALANI | 128265                             | 128265                    | 3893.10                               | 223.25                                       | 0.00                                       | 669.76  | 4786.11                            | 478.62                   | 4307.49                                  | 3572.04                                    | 0.00                                       | 646.65                                   | 4218.69          | 732.81   | 88.80  | 97.94                            | C              |  |
| BARMER    | KALYANPUR   | 126304                             | 126304                    | 1213.84                               | 0.00   | 2.12                                       | 49.38   | 1265.34                            | 126.53                   | 1138.81                                  | 641.28                                     | 0.00                                       | 69.72                                    | 711.00           | 87.72  | 427.81                                       | 62.43                            | safe           |  |
| BARMER    | PATODI      | 83162                              | 83162                     | 1209.53                               | 0.00   | 2.26                                       | 186.97  | 1398.76                            | 69.94                    | 1328.82                                  | 1099.84                                    | 0.00                                       | 70.05                                    | 1169.89          | 107.67   | 158.93                                       | 88.04                            | SC             |  |
| BARMER    | RAMSAR      | 158707                             | 158707                    | 671.34                                | 0.00   | 20.40                                      | 26.42   | 718.16                             | 71.81                    | 646.35                                   | 528.32                                     | 0.00                                       | 126.81                                   | 655.13           | 140.61   | 0.00   | 101.36                           | OE             |  |
| BARMER    | SAMDARI     | 83687                              | 83687                     | 1396.17                               | 13.88  | 0.00                                       | 41.64   | 1451.69                            | 145.16                   | 1306.53                                  | 1110.33                                    | 0.00                                       | 376.29                                   | 1486.62          | 392.49   | 0.00   | 113.78                           | OE             |  |
| BARMER    | SERWA       | 170357                             | 170357                    | 3071.47                               | 36.46  | 0.00                                       | 109.37  | 3217.30                            | 321.73                   | 2895.57                                  | 2916.58                                    | 0.00                                       | 333.78                                   | 3250.36          | 452.88   | 0.00   | 112.25                           | OE             |  |
| BARMER    | SHEO        | 266379                             | 266379                    | 1129.98                               | 36.67  | 51.32                                      | 110.00  | 1327.97                            | 132.80                   | 1195.17                                  | 2933.33                                    | 0.00                                       | 854.75                                   | 3788.07          | 1049.89  | 0.00   | 316.95                           | OE             |  |
| BARMER    | SINDHARI    | 162984                             | 162984                    | 3250.63                               | 0.00   | 1.78                                       | 140.70  | 3393.11                            | 339.31                   | 3053.80                                  | 2814.08                                    | 0.00                                       | 459.45                                   | 3273.53          | 653.49   | 0.00   | 107.20                           | OE             |  |
| BARMER    | SIWANA      | 120828                             | 120828                    | 5227.30                               | 56.22  | 0.00                                       | 168.66  | 5452.18                            | 272.61                   | 5179.57                                  | 4497.64                                    | 0.00                                       | 582.66                                   | 5080.30          | 586.26   | 99.27  | 98.08                            | C              |  |
| BHARATPUR | BAYANA      | 80869                              | 67631                     | 4420.97                               | 221.48                                       | 117.99                                     | 803.87  | 5564.31                            | 556.44                   | 5007.87                                  | 6174.41                                    | 0.00                                       | 933.93                                   | 7108.34          | 933.93   | 0.00   | 141.94                           | OE             |  |
| BHARATPUR | DEEG        | 49285                              | 47082                     | 2967.22                               | 177.25                                       | 58.29                                      | 677.41  | 3880.17                            | 388.02                   | 3492.15                                  | 3163.14                                    | 0.00                                       | 262.80                                   | 3425.94          | 398.91   | 66.21  | 98.10                            | C              |  |
| BHARATPUR | KAMAN       | 35029                              | 35029                     | 2050.30                               | 151.82                                       | 112.73                                     | 496.32  | 2811.17                            | 281.12                   | 2530.05                                  | 2323.49                                    | 0.00                                       | 363.83                                   | 2687.32          | 363.83   | 0.00   | 106.22                           | OE             |  |
| BHARATPUR | KUMHER      | 45451                              | 45420                     | 1163.21                               | 77.01  | 26.30                                      | 266.70  | 1533.22                            | 153.32                   | 1379.90                                  | 1210.32                                    | 0.00                                       | 491.22                                   | 1701.54          | 662.42   | 0.00   | 123.31                           | OE             |  |
| BHARATPUR | NADBAl      | 44670                              | 44670                     | 1672.88                               | 40.69  | 64.75                                      | 127.77  | 1906.09                            | 190.61                   | 1715.48                                  | 3114.72                                    | 4.50                                       | 554.04                                   | 3673.26          | 682.15   | 0.00   | 214.12                           | OE             |  |
| BHARATPUR | NAGAR       | 46937                              | 42073                     | 1818.01                               | 21.82  | 55.72                                      | 66.82   | 1962.37                            | 98.11                    | 1864.25                                  | 1712.86                                    | 0.00                                       | 239.08                                   | 1951.94          | 414.50   | 0.00   | 104.70                           | OE             |  |
| BHARATPUR | PAHARI      | 33295                              | 33295                     | 2428.82                               | 165.44                                       | 88.23                                      | 678.76  | 3361.25                            | 336.13                   | 3025.12                                  | 3608.55                                    | 0.00                                       | 137.84                                   | 3746.39          | 137.84   | 0.00   | 123.84                           | OE             |  |
| BHARATPUR | RUPBAS      | 53901                              | 50110                     | 2876.90                               | 272.17                                       | 68.39                                      | 939.33  | 4156.79                            | 415.68                   | 3741.11                                  | 5730.01                                    | 0.00                                       | 314.39                                   | 6044.40          | 314.39   | 0.00   | 161.57                           | OE             |  |
| BHARATPUR | SEWAR       | 50952                              | 50937                     | 2727.37                               | 253.05                                       | 55.44                                      | 885.87  | 3921.73                            | 392.17                   | 3529.56                                  | 4324.36                                    | 417.85                                     | 707.74                                   | 5449.95          | 938.13   | 0.00   | 154.41                           | OE             |  |
| BHARATPUR | WEIR        | 60653                              | 58905                     | 3601.14                               | 65.12  | 15.80                                      | 241.12  | 3923.18                            | 392.32                   | 3530.86                                  | 4084.06                                    | 3.08                                       | 1083.8                                   | 5171.02          | 1245.95  | 0.00   | 146.45                           | OE             |  |
| BHILWARA  | ASIND       | 113610                             | 99046                     | 2087.02                               | 70.40  | 209.02                                     | 1065.81   | 3432.25                            | 343.22                   | 3089.03                                  | 4577.46                                    | 0.00                                       | 375.99                                   | 4953.45          | 375.99   | 0.00   | 160.36                           | OE             |  |

Dynamic Ground Water Resources of Rajasthan-2020

| District     | Block          | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |
|--------------|----------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|
|              |                | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  | %  |                                  |                |
| BHILWARA     | BANERA         | 68780                              | 66258                     | 2479.63                               | 0.40   | 145.77                                     | 545.97  | 3171.77                            | 317.18                   | 2854.59                                  | 2904.69                                    | 0.00                                       | 267.00                                   | 3171.69          | 267.01   | 0.00   | 111.11                           | OE             |
| BHILWARA     | BIJOLIYAN      | 73734                              | 54126                     | 2208.77                               | 14.71  | 120.18                                     | 802.93  | 3146.59                            | 314.65                   | 2831.93                                  | 3066.03                                    | 0.00                                       | 226.96                                   | 3292.99          | 226.95   | 3.43   | 116.28                           | OE             |
| BHILWARA     | HURDA          | 62180                              | 61276                     | 1544.93                               | 15.48  | 125.38                                     | 718.74  | 2404.53                            | 240.45                   | 2164.08                                  | 2669.51                                    | 0.00                                       | 204.47                                   | 2873.98          | 204.47   | 869.96                                       | 132.80                           | OE             |
| BHILWARA     | JHAZPUR        | 108970                             | 86587                     | 2779.14                               | 1.73   | 160.24                                     | 1183.73   | 4124.84                            | 412.48                   | 3712.36                                  | 5921.76                                    | 0.00                                       | 290.50                                   | 6212.26          | 290.50   | 9.22   | 167.34                           | OE             |
| BHILWARA     | KOTRI          | 93400                              | 89831                     | 3040.26                               | 55.02  | 162.75                                     | 1496.37   | 4754.40                            | 475.44                   | 4278.96                                  | 4959.96                                    | 0.00                                       | 272.52                                   | 5232.48          | 272.51   | 166.54                                       | 122.28                           | OE             |
| BHILWARA     | MANDAL         | 123420                             | 115595                    | 3540.85                               | 7.10   | 253.94                                     | 870.26  | 4672.15                            | 459.57                   | 4212.58                                  | 5576.40                                    | 0.00                                       | 432.20                                   | 6008.60          | 432.20   | 17.44  | 142.63                           | OE             |
| BHILWARA     | MANDALGARH     | 76176                              | 49147                     | 1865.25                               | 51.74  | 88.54                                      | 1369.74   | 3375.27                            | 337.53                   | 3037.74                                  | 4931.40                                    | 0.00                                       | 683.21                                   | 5614.61          | 683.21   | 272.36                                       | 184.83                           | OE             |
| BHILWARA     | RAIPUR         | 52420                              | 48636                     | 1604.63                               | 12.94  | 114.68                                     | 471.78  | 2204.03                            | 220.41                   | 1983.62                                  | 3013.38                                    | 0.00                                       | 338.90                                   | 3352.28          | 338.90   | 25.44  | 169.00                           | OE             |
| BHILWARA     | SAHARA         | 65390                              | 63469                     | 1755.15                               | 22.59  | 116.40                                     | 628.49  | 2522.63                            | 252.26                   | 2270.37                                  | 3127.95                                    | 0.00                                       | 664.88                                   | 3792.83          | 664.88   | 37.51  | 167.06                           | OE             |
| BHILWARA     | SHAHUPURA      | 115930                             | 112513                    | 2990.92                               | 62.70  | 202.79                                     | 1863.70   | 5120.11                            | 512.02                   | 4608.09                                  | 6545.29                                    | 0.00                                       | 178.71                                   | 6724.00          | 178.71   | 0.00   | 145.92                           | OE             |
| BHILWARA     | SUWANA         | 91490                              | 89001                     | 3115.02                               | 17.72  | 184.66                                     | 942.45  | 4259.85                            | 425.98                   | 3833.87                                  | 5771.66                                    | 0.00                                       | 899.81                                   | 6671.47          | 899.81   | 0.00   | 174.01                           | OE             |
| BIKANER      | BIKANER        | 382476                             | 382476                    | 6216.15                               | 369.22                                       | 1615.2                                     | 484.56  | 8685.21                            | 867.13                   | 7818.08                                  | 10819.18                                   | 0.00                                       | 1588.0                                   | 12407.18         | 1588.00  | 26.58  | 158.70                           | OE             |
| BIKANER      | DUNGARGARH     | 300390                             | 300390                    | 5617.49                               | 197.37                                       | 1424.4                                     | 592.12  | 7831.38                            | 391.57                   | 7439.81                                  | 15789.80                                   | 0.00                                       | 1936.0                                   | 17725.80         | 1936.00  | 0.00   | 238.26                           | OE             |
| BIKANER      | KHAJUWALA      | 545324                             | 545324                    | 0.00                                  | 0.00   | 0.00                                       | 0.00  | 0.00                               | 0.00                     | 0.00                                     | 0.00                                       | 0.00                                       | 0.00                                     | 0.00             | 0.00   | 0.00   | 0.00                             | Saline         |
| BIKANER      | KOLAYAT        | 797086                             | 797086                    | 3834.61                               | 19.80  | 1071.4                                     | 59.40   | 4985.25                            | 498.52                   | 4486.73                                  | 1584.10                                    | 0.00                                       | 1111.6                                   | 2695.78          | 1111.68  | 1790.96                                      | 60.08                            | safe           |
| BIKANER      | LUNKARANSAR    | 632802                             | 632802                    | 4228.67                               | 147.15                                       | 1198.6                                     | 155.92  | 5730.43                            | 573.04                   | 5157.39                                  | 2127.42                                    | 0.00                                       | 465.26                                   | 2592.68          | 465.26   | 2564.71                                      | 50.27                            | safe           |
| BIKANER      | NOKHA          | 188810                             | 188810                    | 4442.32                               | 96.50  | 705.39                                     | 289.49  | 5533.70                            | 553.37                   | 4980.33                                  | 7719.75                                    | 0.00                                       | 1732.4                                   | 9452.15          | 1732.40  | 0.00   | 189.79                           | OE             |
| BIKANER      | PANCHOO        | 191289                             | 191289                    | 4300.53                               | 0.00   | 682.88                                     | 130.13  | 5113.54                            | 511.35                   | 4602.19                                  | 2602.60                                    | 0.00                                       | 1163.9                                   | 3766.52          | 1163.92  | 835.67                                       | 81.84                            | SC             |
| BUNDI        | BUNDI          | 117513                             | 77311                     | 2484.18                               | 220.27                                       | 0.00                                       | 3367.67   | 6072.12                            | 536.93                   | 5535.19                                  | 5022.79                                    | 0.00                                       | 429.13                                   | 5451.92          | 429.13   | 389.38                                       | 98.50                            | C              |
| BUNDI        | HINDOLI        | 127530                             | 88481                     | 4733.87                               | 78.26  | 0.00                                       | 2915.61   | 7727.74                            | 772.78                   | 6954.95                                  | 8219.50                                    | 0.00                                       | 949.90                                   | 9169.39          | 949.90   | 234.62                                       | 131.84                           | OE             |
| BUNDI        | KESHORAI PATAN | 124351                             | 115288                    | 4072.89                               | 279.15                                       | 0.00                                       | 4256.67   | 8608.71                            | 860.86                   | 7747.85                                  | 5022.79                                    | 0.00                                       | 651.63                                   | 5674.42          | 651.62   | 2073.42                                      | 73.24                            | SC             |
| BUNDI        | NAINWA         | 109519                             | 96685                     | 4678.28                               | 296.66                                       | 0.00                                       | 1963.20   | 6938.14                            | 693.82                   | 6244.32                                  | 6288.63                                    | 0.00                                       | 1356.4                                   | 7645.10          | 1356.47  | 46.30  | 122.43                           | OE             |
| BUNDI        | TALERA         | 71087                              | 46253                     | 2273.56                               | 350.34                                       | 0.00                                       | 1676.67   | 4300.57                            | 430.05                   | 3870.51                                  | 1610.69                                    | 0.00                                       | 150.10                                   | 1760.79          | 150.10   | 2109.72                                      | 45.49                            | safe           |
| CHITTAURGARH | BARI SADRI     | 50468                              | 42838                     | 1550.59                               | 195.97                                       | 73.14                                      | 868.07  | 2687.77                            | 268.78                   | 2418.99                                  | 4607.68                                    | 0.66                                       | 186.27                                   | 4794.61          | 186.27   | 0.00   | 198.21                           | OE             |



Dynamic Ground Water Resources of Rajasthan-2020

| District     | Block         | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |  |
|--------------|---------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|--|
|              |               | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  | %              |  |
| CHITTAURGARH | BEGUN         | 97035                              | 62685                     | 3164.87                               | 525.22                                       | 148.79                                     | 1662.16   | 5501.04                            | 550.11                   | 4950.93                                  | 7777.30                                    | 7.14                                       | 145.35                                   | 7929.78          | 145.35   | 0.00   | 160.17                           | OE             |  |
| CHITTAURGARH | BHADESAR      | 53906                              | 49253                     | 2058.03                               | 233.90                                       | 85.24                                      | 1115.55   | 3492.72                            | 349.27                   | 3143.45                                  | 5498.51                                    | 35.62                                      | 63.89                                    | 5598.02          | 63.89  | 0.00   | 178.09                           | OE             |  |
| CHITTAURGARH | BHAINSRORGARH | 160546                             | 77936                     | 3053.61                               | 0.00   | 125.98                                     | 1161.60   | 4341.19                            | 434.12                   | 3907.07                                  | 4645.80                                    | 0.00                                       | 31.01                                    | 4676.81          | 31.01  | 0.00   | 119.70                           | OE             |  |
| CHITTAURGARH | BHOPALSAGAR   | 39824                              | 38212                     | 1166.55                               | 12.17  | 52.62                                      | 720.43  | 1951.77                            | 157.96                   | 1793.81                                  | 2686.75                                    | 1.89                                       | 62.56                                    | 2751.20          | 62.56  | 0.00   | 153.37                           | OE             |  |
| CHITTAURGARH | CHITTAURGARH  | 95133                              | 48021                     | 2920.14                               | 618.03                                       | 158.44                                     | 1980.82   | 5677.43                            | 567.74                   | 5109.69                                  | 9556.02                                    | 228.49                                     | 570.67                                   | 10355.18         | 570.67   | 0.00   | 202.66                           | OE             |  |
| CHITTAURGARH | DUNGLA        | 49400                              | 46543                     | 1737.67                               | 175.45                                       | 85.54                                      | 717.94  | 2716.60                            | 271.66                   | 2444.94                                  | 3589.54                                    | 0.91                                       | 50.66                                    | 3641.11          | 50.66  | 0.00   | 148.92                           | OE             |  |
| CHITTAURGARH | GANGRAR       | 55564                              | 53662                     | 2543.19                               | 4.97   | 105.26                                     | 1054.95   | 3708.37                            | 370.84                   | 3337.53                                  | 4140.25                                    | 26.72                                      | 22.40                                    | 4189.37          | 22.40  | 0.00   | 125.52                           | OE             |  |
| CHITTAURGARH | KAPASAN       | 51592                              | 50201                     | 1592.66                               | 14.35  | 82.59                                      | 881.62  | 2571.22                            | 257.13                   | 2314.08                                  | 3296.60                                    | 20.08                                      | 121.25                                   | 3437.92          | 121.25   | 0.00   | 148.57                           | OE             |  |
| CHITTAURGARH | NIMBAHERA     | 89535                              | 70281                     | 4921.59                               | 81.35  | 223.01                                     | 2787.76   | 8013.71                            | 801.38                   | 7212.33                                  | 9377.75                                    | 171.55                                     | 236.99                                   | 9786.29          | 236.99   | 24.68  | 135.69                           | OE             |  |
| CHITTAURGARH | RASHMI        | 44997                              | 43757                     | 1647.77                               | 5.59   | 103.68                                     | 687.93  | 2444.97                            | 244.50                   | 2200.47                                  | 2661.75                                    | 720.02                                     | 52.85                                    | 3434.61          | 52.84  | 0.09   | 156.09                           | OE             |  |
| CHURU        | BIDASAR       | 113878                             | 113878                    | 2470.69                               | 0.00   | 218.00                                     | 122.60  | 2811.29                            | 281.13                   | 2530.16                                  | 3269.40                                    | 0.00                                       | 370.11                                   | 3639.51          | 370.11   | 0.00   | 143.85                           | OE             |  |
| CHURU        | CHURU         | 160687                             | 160687                    | 927.06                                | 1.95   | 147.28                                     | 17.59   | 1093.88                            | 109.39                   | 984.49                                   | 625.56                                     | 0.00                                       | 340.76                                   | 966.32           | 340.76   | 18.17  | 98.15                            | C              |  |
| CHURU        | RAJGARH       | 222492                             | 222492                    | 933.16                                | 8.21   | 94.53                                      | 73.85   | 1109.75                            | 110.98                   | 998.77                                   | 2625.78                                    | 0.00                                       | 414.80                                   | 3040.58          | 414.80   | 0.00   | 304.43                           | OE             |  |
| CHURU        | RATANGARH     | 162241                             | 162241                    | 2053.87                               | 0.00   | 220.83                                     | 62.17   | 2336.87                            | 233.69                   | 2103.18                                  | 1657.80                                    | 0.00                                       | 539.39                                   | 2197.19          | 539.39   | 0.00   | 104.47                           | OE             |  |
| CHURU        | SARDARSHAHAR  | 386080                             | 386080                    | 4316.17                               | 0.00   | 474.88                                     | 66.15   | 4857.20                            | 485.72                   | 4371.48                                  | 1764.00                                    | 0.00                                       | 826.00                                   | 2590.00          | 826.00   | 1781.49                                      | 59.25                            | safe           |  |
| CHURU        | SUJANGARH     | 152883                             | 152883                    | 600.88                                | 2.53   | 66.27                                      | 22.81   | 692.49                             | 69.25                    | 623.24                                   | 811.15                                     | 0.00                                       | 165.42                                   | 976.57           | 165.42   | 0.00   | 156.69                           | OE             |  |
| CHURU        | TARANAGAR     | 181040                             | 181040                    | 0.00                                  | 0.00   | 0.00                                       | 0.00  | 0.00                               | 0.00                     | 0.00                                     | 0.00                                       | 0.00                                       | 0.00                                     | 0.00             | 0.00   | 0.00   | 0                                | Saline         |  |
| DAUSA        | BANDIKUI      | 63294                              | 52890                     | 3966.73                               | 66.66  | 0.26                                       | 576.06  | 4609.71                            | 460.97                   | 4148.74                                  | 8858.92                                    | 0.00                                       | 642.34                                   | 9501.26          | 642.34   | 0.00   | 229.02                           | OE             |  |
| DAUSA        | DAUSA         | 78311                              | 73409                     | 4604.62                               | 87.47  | 0.00                                       | 483.86  | 5175.95                            | 517.60                   | 4658.35                                  | 6206.31                                    | 0.00                                       | 985.81                                   | 7192.12          | 985.81   | 0.00   | 154.39                           | OE             |  |
| DAUSA        | LALSOT        | 87124                              | 78036                     | 6908.98                               | 19.55  | 0.00                                       | 857.21  | 7785.74                            | 778.57                   | 7007.17                                  | 16556.18                                   | 0.00                                       | 1012.35                                  | 17568.53         | 1012.35  | 0.00   | 250.72                           | OE             |  |
| DAUSA        | LAWAN         | 16065                              | 16065                     | 1153.57                               | 0.23   | 0.00                                       | 104.37  | 1258.17                            | 125.82                   | 1132.35                                  | 2091.98                                    | 0.00                                       | 209.10                                   | 2301.08          | 209.10   | 0.00   | 203.21                           | OE             |  |
| DAUSA        | MAHWA         | 47000                              | 44200                     | 3458.73                               | 64.03  | 59.75                                      | 538.16  | 4120.67                            | 412.07                   | 3708.60                                  | 8206.80                                    | 0.00                                       | 611.45                                   | 8818.25          | 611.45   | 0.00   | 237.78                           | OE             |  |
| DAUSA        | SIKRAI        | 50223                              | 43962                     | 4061.19                               | 11.94  | 5.99                                       | 401.27  | 4480.39                            | 448.04                   | 4032.35                                  | 7562.03                                    | 0.00                                       | 460.78                                   | 8022.80          | 460.78   | 0.00   | 198.96                           | OE             |  |
| DHAULPUR     | BARI          | 81624                              | 69467                     | 4008.56                               | 281.53                                       | 149.90                                     | 1101.65   | 5541.64                            | 277.09                   | 5264.55                                  | 5015.23                                    | 0.00                                       | 616.56                                   | 5631.79          | 616.56   | 156.04                                       | 106.98                           | OE             |  |

Dynamic Ground Water Resources of Rajasthan-2020

| District    | Block          | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |  |
|-------------|----------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|--|
|             |                | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  | %              |  |
| DHAULPUR    | BASERI         | 100142                             | 81390                     | 4542.08                               | 421.53                                       | 115.13                                     | 1623.88   | 6702.62                            | 335.13                   | 6367.49                                  | 5628.89                                    | 0.00                                       | 630.94                                   | 6259.83          | 630.94   | 107.66                                       | 98.31                            | C              |  |
| DHAULPUR    | DHAULPUR       | 28493                              | 23997                     | 2505.83                               | 306.15                                       | 29.99                                      | 1138.88   | 3980.85                            | 398.08                   | 3582.77                                  | 6089.74                                    | 0.62                                       | 689.27                                   | 6779.63          | 689.27   | 5.43   | 189.23                           | OE             |  |
| DHAULPUR    | RAJAKHERA      | 58207                              | 48872                     | 4931.96                               | 86.64  | 133.49                                     | 467.86  | 5619.95                            | 562.00                   | 5057.95                                  | 6931.20                                    | 14.41                                      | 805.70                                   | 7751.31          | 805.70   | 0.00   | 153.25                           | OE             |  |
| DHAULPUR    | SAIPAU         | 32439                              | 24800                     | 2247.71                               | 172.34                                       | 14.53                                      | 796.85  | 3231.43                            | 323.15                   | 2908.28                                  | 4956.98                                    | 0.00                                       | 558.83                                   | 5515.81          | 558.83   | 0.00   | 189.66                           | OE             |  |
| DUNGARPUR   | ASPUR          | 32807                              | 26540                     | 897.71                                | 369.28                                       | 33.51                                      | 1989.02   | 3289.52                            | 328.95                   | 2960.57                                  | 845.56                                     | 0.00                                       | 73.29                                    | 918.85           | 73.29  | 2041.71                                      | 31.04                            | safe           |  |
| DUNGARPUR   | BICHHIWARA     | 89812                              | 62253                     | 2660.57                               | 142.98                                       | 71.90                                      | 755.37  | 3630.82                            | 363.08                   | 3267.74                                  | 1596.27                                    | 0.00                                       | 137.68                                   | 1733.95          | 137.68   | 1533.80                                      | 53.06                            | safe           |  |
| DUNGARPUR   | CHEEKHLI       | 26382                              | 18430                     | 519.50                                | 209.26                                       | 15.43                                      | 920.01  | 1664.20                            | 166.42                   | 1497.78                                  | 681.98                                     | 0.00                                       | 44.93                                    | 726.91           | 44.93  | 770.88                                       | 48.53                            | safe           |  |
| DUNGARPUR   | DOVRA          | 30706                              | 20569                     | 768.82                                | 51.46  | 22.54                                      | 258.97  | 1101.79                            | 110.18                   | 991.61                                   | 720.21                                     | 0.00                                       | 87.93                                    | 808.14           | 87.93  | 183.47                                       | 81.50                            | SC             |  |
| DUNGARPUR   | DUNGARPUR      | 13143                              | 9181                      | 343.16                                | 98.01  | 10.06                                      | 414.29  | 865.52                             | 86.56                    | 778.96                                   | 411.02                                     | 0.00                                       | 85.12                                    | 496.14           | 85.12  | 282.84                                       | 63.69                            | safe           |  |
| DUNGARPUR   | GALIAKOT       | 25426                              | 17762                     | 685.30                                | 153.97                                       | 21.31                                      | 628.66  | 1489.24                            | 148.93                   | 1340.31                                  | 668.93                                     | 0.00                                       | 35.73                                    | 704.66           | 35.73  | 635.64                                       | 52.57                            | safe           |  |
| DUNGARPUR   | JHONTHRI       | 26971                              | 18798                     | 737.67                                | 0.44   | 19.12                                      | 116.16  | 873.39                             | 87.34                    | 786.05                                   | 223.47                                     | 0.00                                       | 33.73                                    | 257.20           | 33.73  | 528.85                                       | 32.72                            | safe           |  |
| DUNGARPUR   | SABLA          | 35781                              | 23384                     | 624.94                                | 372.76                                       | 27.34                                      | 1018.18   | 2043.22                            | 204.33                   | 1838.89                                  | 651.10                                     | 0.00                                       | 73.15                                    | 724.25           | 73.15  | 1114.63                                      | 39.38                            | safe           |  |
| DUNGARPUR   | SAGWARA        | 58397                              | 40194                     | 1825.57                               | 301.73                                       | 65.46                                      | 1219.40   | 3412.16                            | 341.22                   | 3070.94                                  | 2492.24                                    | 0.00                                       | 194.91                                   | 2687.15          | 194.91   | 383.79                                       | 87.50                            | SC             |  |
| DUNGARPUR   | SIMALWARA      | 37652                              | 26302                     | 975.40                                | 60.99  | 26.62                                      | 301.50  | 1364.51                            | 136.45                   | 1228.06                                  | 771.86                                     | 0.00                                       | 77.34                                    | 849.21           | 77.34  | 378.84                                       | 69.15                            | safe           |  |
| GANGANAGAR  | ANUPGARH       | 114935                             | 114935                    | 778.53                                | 6334.6                                       | 243.02                                     | 2931.09   | 10287.28                           | 1028.73                  | 9258.55                                  | 956.34                                     | 0.00                                       | 1.26                                     | 957.60           | 4.76   | 8300.95                                      | 10.34                            | safe           |  |
| GANGANAGAR  | GANGANAGAR     | 86670                              | 86670                     | 997.46                                | 2225.9                                       | 325.90                                     | 7824.02   | 11373.28                           | 568.67                   | 10804.61                                 | 7086.23                                    | 0.00                                       | 5.92                                     | 7092.14          | 7.63   | 3712.46                                      | 65.64                            | safe           |  |
| GANGANAGAR  | GHADSANA       | 138732                             | 138732                    | 467.41                                | 810.84                                       | 122.09                                     | 1177.15   | 2577.49                            | 257.75                   | 2319.74                                  | 449.82                                     | 0.00                                       | 0.32                                     | 450.14           | 1.57   | 1869.60                                      | 19.40                            | safe           |  |
| GANGANAGAR  | KARANPUR       | 82680                              | 82680                     | 904.49                                | 1147.0                                       | 237.11                                     | 3425.52   | 5714.13                            | 571.41                   | 5142.72                                  | 2670.72                                    | 0.00                                       | 4.24                                     | 2674.96          | 9.28   | 2467.76                                      | 52.01                            | safe           |  |
| GANGANAGAR  | PADAMPUR       | 84690                              | 84690                     | 617.04                                | 1622.3                                       | 179.79                                     | 3779.88   | 6199.03                            | 619.91                   | 5579.12                                  | 2967.12                                    | 0.00                                       | 4.24                                     | 2971.36          | 6.48   | 2607.77                                      | 53.26                            | safe           |  |
| GANGANAGAR  | RAISINGHNA GAR | 131668                             | 131668                    | 291.98                                | 698.21                                       | 71.47                                      | 1582.25   | 2643.91                            | 264.39                   | 2379.52                                  | 1159.68                                    | 0.00                                       | 1.72                                     | 1161.40          | 11.82  | 1218.13                                      | 48.81                            | safe           |  |
| GANGANAGAR  | SADULSHAHAR    | 89270                              | 89270                     | 153.16                                | 620.66                                       | 40.28                                      | 1304.54   | 2118.64                            | 211.86                   | 1906.78                                  | 440.64                                     | 0.00                                       | 0.00                                     | 440.64           | 2.24   | 1466.14                                      | 23.11                            | safe           |  |
| GANGANAGAR  | SRI VIJAYNAGAR | 83786                              | 83786                     | 758.89                                | 1682.5                                       | 233.64                                     | 2653.37   | 5328.44                            | 532.84                   | 4795.60                                  | 419.22                                     | 0.00                                       | 0.56                                     | 419.78           | 1.44   | 4375.82                                      | 8.75                             | safe           |  |
| GANGANAGAR  | SURATGARH      | 301728                             | 301728                    | 393.71                                | 1014.7                                       | 133.98                                     | 1152.96   | 2695.35                            | 269.53                   | 2425.82                                  | 1202.67                                    | 0.00                                       | 15.44                                    | 1218.11          | 18.27  | 1207.72                                      | 50.21                            | safe           |  |
| HANUMANGARH | BHADRA         | 177680                             | 177680                    | 779.57                                | 395.27                                       | 219.47                                     | 914.24  | 2308.55                            | 230.85                   | 2077.70                                  | 1092.03                                    | 0.00                                       | 262.50                                   | 1354.53          | 472.50   | 723.17                                       | 65.19                            | safe           |  |

Dynamic Ground Water Resources of Rajasthan-2020

| District    | Block           | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |  |
|-------------|-----------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|--|
|             |                 | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  | %              |  |
| HANUMANGARH | HANUMANGARH     | 111238                             | 111238                    | 926.35                                | 1697.0                                       | 278.61                                     | 1502.78   | 4404.82                            | 440.48                   | 3964.34                                  | 2370.37                                    | 0.00                                       | 148.75                                   | 2519.12          | 155.05   | 1445.22                                      | 63.54                            | safe           |  |
| HANUMANGARH | NOHAR           | 243945                             | 243945                    | 341.90                                | 422.41                                       | 75.98                                      | 452.59  | 1292.88                            | 64.65                    | 1228.23                                  | 819.81                                     | 0.00                                       | 14.70                                    | 834.51           | 23.80  | 393.73                                       | 67.94                            | safe           |  |
| HANUMANGARH | PILIBANGA       | 112802                             | 112802                    | 1475.84                               | 1723.2                                       | 433.43                                     | 1625.20   | 5257.74                            | 525.77                   | 4731.97                                  | 3043.44                                    | 0.00                                       | 210.00                                   | 3253.44          | 214.90   | 1478.53                                      | 68.75                            | safe           |  |
| HANUMANGARH | RAWATSAR        | 167225                             | 167225                    | 0.00                                  | 0.00   | 0.00                                       | 0.00  | 0.00                               | 0.00                     | 0.00                                     | 0.00                                       | 0.00                                       | 0.00                                     | 0.00             | 0.00   | 0.00   | 0                                | Saline         |  |
| HANUMANGARH | SANGARIYA       | 69319                              | 69319                     | 894.81                                | 1189.7                                       | 236.43                                     | 1714.32   | 4035.29                            | 403.53                   | 3631.76                                  | 1784.29                                    | 0.00                                       | 74.20                                    | 1858.49          | 80.50  | 1773.27                                      | 51.17                            | safe           |  |
| HANUMANGARH | TIBI            | 75751                              | 75751                     | 928.83                                | 1463.0                                       | 340.04                                     | 2209.46   | 4941.40                            | 494.14                   | 4447.26                                  | 2749.06                                    | 0.00                                       | 140.00                                   | 2889.06          | 147.70   | 1558.19                                      | 64.96                            | safe           |  |
| JAIPUR      | AMBER           | 44743                              | 43182                     | 3796.40                               | 35.02  | 0.00                                       | 349.58  | 4181.00                            | 418.10                   | 3762.90                                  | 6895.82                                    | 0.00                                       | 1534.7                                   | 8430.56          | 1534.74  | 0.00   | 224.04                           | OE             |  |
| JAIPUR      | BASSI           | 65469                              | 63123                     | 5099.29                               | 99.77  | 43.07                                      | 359.94  | 5602.07                            | 560.21                   | 5041.86                                  | 8693.58                                    | 0.00                                       | 2946.4                                   | 11640.07         | 2946.48  | 0.00   | 230.87                           | OE             |  |
| JAIPUR      | CHAKSU          | 81192                              | 72936                     | 4319.43                               | 427.93                                       | 0.00                                       | 1329.54   | 6076.90                            | 607.69                   | 5469.21                                  | 11954.11                                   | 0.00                                       | 1088.8                                   | 13042.93         | 1088.82  | 0.00   | 238.48                           | OE             |  |
| JAIPUR      | DUDU            | 187064                             | 179087                    | 8424.93                               | 443.13                                       | 0.00                                       | 1135.20   | 10003.26                           | 1000.33                  | 9002.93                                  | 7407.69                                    | 0.00                                       | 2974.1                                   | 10381.87         | 2974.18  | 0.00   | 115.32                           | OE             |  |
| JAIPUR      | GOVINDGARH      | 68512                              | 63808                     | 4606.36                               | 39.82  | 0.00                                       | 683.07  | 5329.25                            | 532.93                   | 4796.32                                  | 14457.97                                   | 0.00                                       | 1494.5                                   | 15952.56         | 1494.58  | 0.00   | 332.60                           | OE             |  |
| JAIPUR      | JALSOO          | 45121                              | 41865                     | 3974.52                               | 10.16  | 0.00                                       | 331.94  | 4316.62                            | 431.66                   | 3884.96                                  | 6841.90                                    | 0.00                                       | 1495.1                                   | 8337.02          | 1495.12  | 0.00   | 214.60                           | OE             |  |
| JAIPUR      | JAMWARA RAMGARH | 103370                             | 96188                     | 7310.86                               | 132.42                                       | 0.00                                       | 331.53  | 7774.81                            | 777.48                   | 6997.33                                  | 7303.46                                    | 0.00                                       | 3455.8                                   | 10759.33         | 3455.86  | 0.00   | 153.76                           | OE             |  |
| JAIPUR      | JHOTWARA        | 56879                              | 55304                     | 4574.90                               | 8.70   | 48.62                                      | 250.65  | 4882.87                            | 488.29                   | 4394.58                                  | 5187.07                                    | 2731.8                                     | 12953.4                                  | 20872.32         | 12953.4  | 0.00   | 474.96                           | OE             |  |
| JAIPUR      | KOTPUTLI        | 41308                              | 34210                     | 2274.71                               | 61.22  | 159.14                                     | 255.10  | 2750.17                            | 275.01                   | 2475.16                                  | 6326.36                                    | 0.00                                       | 669.30                                   | 6995.67          | 669.30   | 0.00   | 282.64                           | OE             |  |
| JAIPUR      | PAOTA           | 44780                              | 39368                     | 2768.47                               | 67.95  | 149.19                                     | 283.12  | 3268.73                            | 326.87                   | 2941.86                                  | 7021.30                                    | 0.00                                       | 646.68                                   | 7667.98          | 646.68   | 0.00   | 260.65                           | OE             |  |
| JAIPUR      | PHAGI           | 111434                             | 111357                    | 3645.72                               | 638.64                                       | 13.78                                      | 1110.62   | 5408.76                            | 540.88                   | 4867.88                                  | 4446.28                                    | 0.00                                       | 1332.0                                   | 5778.31          | 1332.03  | 0.00   | 118.70                           | OE             |  |
| JAIPUR      | SAMBHAR         | 93840                              | 83148                     | 5424.12                               | 24.63  | 49.90                                      | 459.67  | 5958.32                            | 595.84                   | 5362.48                                  | 9380.55                                    | 0.00                                       | 5654.2                                   | 15034.82         | 5654.27  | 0.00   | 280.37                           | OE             |  |
| JAIPUR      | SANGANER        | 65754                              | 61387                     | 4239.53                               | 2.84   | 0.00                                       | 145.03  | 4387.40                            | 438.74                   | 3948.66                                  | 2957.34                                    | 1119.9                                     | 6682.3                                   | 10759.58         | 6682.33  | 0.00   | 272.49                           | OE             |  |
| JAIPUR      | SHAHPURA        | 42985                              | 38020                     | 2774.58                               | 1.75   | 6.97                                       | 215.71  | 2999.01                            | 299.90                   | 2699.11                                  | 4349.18                                    | 0.00                                       | 4198.2                                   | 8547.46          | 4198.28  | 0.00   | 316.68                           | OE             |  |
| JAIPUR      | VIRATNAGAR      | 53693                              | 50490                     | 4312.66                               | 79.37  | 113.58                                     | 270.39  | 4776.00                            | 477.60                   | 4298.40                                  | 6454.19                                    | 0.00                                       | 1066.7                                   | 7520.95          | 1066.76  | 0.00   | 174.97                           | OE             |  |

Dynamic Ground Water Resources of Rajasthan-2020

| District   | Block         | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |
|------------|---------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|
|            |               | (ha)                               |                           |                                       | (ham)  |  |   |                                    |                          |  |  |  |  |                  | %  |  |                                  |                |
| JAISALMER  | JAISALMER     | 1150500                            | 251022                    | 2672.98                               | 133.84                                       | 142.83                                     | 401.52  | 3351.17                            | 335.12                   | 3016.05                                  | 10707.30                                   | 0.00                                       | 772.10                                   | 11479.40         | 772.10   | 0.00   | 380.61                           | OE             |
| JAISALMER  | SAM           | 2111100                            | 796065                    | 2674.80                               | 61.30  | 174.68                                     | 183.90  | 3094.68                            | 309.47                   | 2785.21                                  | 4904.06                                    | 0.00                                       | 1174.2                                   | 6078.32          | 1174.25  | 0.00   | 218.24                           | OE             |
| JAISALMER  | SANKRA        | 552900                             | 161917                    | 2558.40                               | 109.33                                       | 8.41                                       | 327.98  | 3004.12                            | 300.41                   | 2703.71                                  | 8746.20                                    | 0.00                                       | 795.22                                   | 9541.42          | 795.22   | 0.00   | 352.90                           | OE             |
| JALOR      | AHORE         | 161377                             | 154124                    | 2750.13                               | 0.00   | 0.00                                       | 739.62  | 3489.75                            | 348.97                   | 3140.78                                  | 3232.04                                    | 0.00                                       | 514.08                                   | 3746.12          | 514.08   | 0.00   | 119.27                           | OE             |
| JALOR      | BHINMAL       | 136561                             | 135837                    | 7602.36                               | 160.64                                       | 0.00                                       | 485.15  | 8248.15                            | 824.82                   | 7423.33                                  | 12915.78                                   | 0.00                                       | 761.04                                   | 13676.82         | 761.04   | 0.00   | 184.24                           | OE             |
| JALOR      | CHITALWANA    | 181785                             | 181785                    | 3782.68                               | 398.42                                       | 0.00                                       | 5827.97   | 10009.07                           | 1000.91                  | 9008.16                                  | 7588.94                                    | 0.00                                       | 69.12                                    | 7658.06          | 69.12  | 1350.09                                      | 85.01                            | SC             |
| JALOR      | JALORE        | 104905                             | 98193                     | 3668.95                               | 93.01  | 0.00                                       | 279.10  | 4041.06                            | 202.06                   | 3839.00                                  | 7442.34                                    | 0.00                                       | 544.92                                   | 7987.26          | 544.92   | 0.00   | 208.06                           | OE             |
| JALOR      | JASWANTPURA   | 105842                             | 93237                     | 4942.37                               | 289.59                                       | 0.00                                       | 869.22  | 6101.18                            | 610.12                   | 5491.06                                  | 8913.90                                    | 0.00                                       | 491.40                                   | 9405.30          | 491.40   | 0.00   | 171.28                           | OE             |
| JALOR      | RANIWARA      | 100975                             | 91862                     | 5766.46                               | 204.03                                       | 0.00                                       | 612.20  | 6582.69                            | 658.27                   | 5924.42                                  | 16324.50                                   | 0.00                                       | 619.56                                   | 16944.06         | 619.56   | 0.00   | 286.00                           | OE             |
| JALOR      | SANCHORE      | 123712                             | 123690                    | 6405.49                               | 153.52                                       | 0.00                                       | 2243.40   | 8802.41                            | 880.24                   | 7922.17                                  | 12281.28                                   | 0.00                                       | 491.52                                   | 12772.80         | 491.52   | 0.00   | 161.23                           | OE             |
| JALOR      | SAYLA         | 148843                             | 146425                    | 7570.77                               | 277.01                                       | 0.00                                       | 832.56  | 8680.34                            | 868.04                   | 7812.30                                  | 22191.43                                   | 0.00                                       | 694.44                                   | 22885.87         | 737.64   | 0.00   | 292.95                           | OE             |
| JHALAWAR   | AKLERA        | 79165                              | 70165                     | 4812.40                               | 297.64                                       | 0.00                                       | 1207.49   | 6317.53                            | 631.75                   | 5685.78                                  | 4762.20                                    | 0.00                                       | 336.72                                   | 5098.92          | 336.72   | 586.86                                       | 89.68                            | SC             |
| JHALAWAR   | BAKANI        | 46412                              | 46412                     | 3501.55                               | 35.95  | 0.00                                       | 1407.21   | 4944.71                            | 494.47                   | 4450.23                                  | 5452.84                                    | 0.00                                       | 754.83                                   | 6207.67          | 754.83   | 0.00   | 139.49                           | OE             |
| JHALAWAR   | BHAWANI MANDI | 72780                              | 70280                     | 4405.38                               | 230.31                                       | 0.00                                       | 736.55  | 5372.24                            | 537.22                   | 4835.02                                  | 3884.37                                    | 0.00                                       | 268.83                                   | 4153.20          | 268.83   | 681.82                                       | 85.90                            | SC             |
| JHALAWAR   | DAG           | 91681                              | 88781                     | 5918.35                               | 529.61                                       | 0.00                                       | 1637.71   | 8085.67                            | 808.57                   | 7277.10                                  | 8003.31                                    | 0.00                                       | 571.41                                   | 8574.72          | 571.41   | 44.00  | 117.83                           | OE             |
| JHALAWAR   | JHALRAPATAN   | 81126                              | 81126                     | 5014.08                               | 181.12                                       | 0.00                                       | 2486.94   | 7682.14                            | 768.21                   | 6913.93                                  | 9034.94                                    | 0.00                                       | 417.94                                   | 9452.88          | 417.94   | 38.00  | 136.72                           | OE             |
| JHALAWAR   | KHANPUR       | 93967                              | 90971                     | 5748.21                               | 1031.82                                      | 0.00                                       | 3647.66   | 10427.69                           | 1042.77                  | 9384.92                                  | 13294.73                                   | 0.00                                       | 310.08                                   | 13604.80         | 310.08   | 0.00   | 144.96                           | OE             |
| JHALAWAR   | MANOHAR THANA | 64087                              | 64087                     | 3765.09                               | 236.23                                       | 0.00                                       | 727.04  | 4728.36                            | 288.48                   | 4439.88                                  | 3849.59                                    | 0.00                                       | 453.52                                   | 4303.11          | 453.52   | 1904.57                                      | 96.92                            | C              |
| JHALAWAR   | PIRAWA        | 104504                             | 97804                     | 6336.02                               | 231.11                                       | 0.00                                       | 873.31  | 7440.44                            | 712.81                   | 6727.63                                  | 4350.49                                    | 0.00                                       | 471.40                                   | 4821.89          | 471.40   | 2166.86                                      | 71.67                            | SC             |
| JHUNJHUNUN | ALSISAR       | 82715                              | 82715                     | 2042.62                               | 13.49  | 222.28                                     | 67.45   | 2345.84                            | 234.58                   | 2111.26                                  | 1618.85                                    | 0.00                                       | 1189.2                                   | 2808.05          | 1238.26  | 0.00   | 133.00                           | OE             |
| JHUNJHUNUN | BUHANA        | 65114                              | 62430                     | 2680.21                               | 20.37  | 160.76                                     | 101.83  | 2963.17                            | 296.32                   | 2666.85                                  | 2443.97                                    | 0.00                                       | 1668.0                                   | 4112.06          | 1668.09  | 0.00   | 154.19                           | OE             |
| JHUNJHUNUN | CHIRAWA       | 49304                              | 49304                     | 1871.03                               | 32.06  | 176.61                                     | 160.29  | 2239.99                            | 224.00                   | 2015.99                                  | 3846.91                                    | 0.00                                       | 1359.4                                   | 5206.39          | 1359.48  | 0.00   | 258.25                           | OE             |
| JHUNJHUNUN | JHUNJHUNU     | 75190                              | 74496                     | 2866.99                               | 49.58  | 183.04                                     | 247.90  | 3347.51                            | 334.75                   | 3012.76                                  | 5949.66                                    | 0.00                                       | 1549.8                                   | 7499.52          | 1549.86  | 0.00   | 248.93                           | OE             |

Dynamic Ground Water Resources of Rajasthan-2020

| District   | Block       | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |  |
|------------|-------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|--|
|            |             | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  | %              |  |
| JHUNJHUNUN | KHETRI      | 81944                              | 57583                     | 2768.60                               | 18.57  | 125.43                                     | 92.84   | 3005.44                            | 300.55                   | 2704.89                                  | 2228.16                                    | 0.00                                       | 925.80                                   | 3153.96          | 925.80   | 0.00   | 116.60                           | OE             |  |
| JHUNJHUNUN | NAWALGARH   | 69680                              | 63200                     | 2635.58                               | 49.47  | 139.90                                     | 247.35  | 3072.30                            | 307.24                   | 2765.06                                  | 5936.45                                    | 0.00                                       | 1483.0                                   | 7419.52          | 1483.07  | 0.00   | 268.33                           | OE             |  |
| JHUNJHUNUN | SURAJGARH   | 77909                              | 77909                     | 2808.60                               | 64.20  | 275.47                                     | 321.02  | 3469.29                            | 346.93                   | 3122.36                                  | 7704.58                                    | 0.00                                       | 1442.2                                   | 9146.84          | 1442.26  | 0.00   | 292.95                           | OE             |  |
| JHUNJHUNUN | UDAIPURWATI | 86728                              | 71710                     | 3930.60                               | 48.67  | 164.86                                     | 243.35  | 4387.48                            | 438.75                   | 3948.73                                  | 5840.45                                    | 0.00                                       | 1864.7                                   | 7705.16          | 1864.71  | 0.00   | 195.13                           | OE             |  |
| JODHPUR    | BALESAR     | 87095                              | 87095                     | 435.33                                | 22.02  | 16.14                                      | 65.48   | 538.97                             | 53.90                    | 485.07                                   | 1750.15                                    | 0.00                                       | 471.68                                   | 2221.83          | 526.08   | 0.00   | 458.04                           | OE             |  |
| JODHPUR    | BAORI       | 114906                             | 114906                    | 2309.75                               | 100.56                                       | 62.70                                      | 301.47  | 2774.48                            | 277.45                   | 2497.03                                  | 8040.60                                    | 0.00                                       | 1478.4                                   | 9519.00          | 1478.40  | 0.00   | 381.21                           | OE             |  |
| JODHPUR    | BAP         | 383390                             | 383390                    | 3359.33                               | 23.09  | 366.32                                     | 64.96   | 3813.70                            | 381.37                   | 3432.33                                  | 1761.13                                    | 0.00                                       | 1150.4                                   | 2911.53          | 1153.40  | 520.80                                       | 84.83                            | SC             |  |
| JODHPUR    | BAPINI      | 126020                             | 126020                    | 2152.10                               | 65.37  | 74.53                                      | 195.00  | 2487.00                            | 248.70                   | 2238.30                                  | 5207.34                                    | 0.00                                       | 2206.7                                   | 7414.06          | 2206.72  | 0.00   | 331.24                           | OE             |  |
| JODHPUR    | BHOPALGARH  | 120584                             | 120584                    | 3155.03                               | 79.90  | 3.60                                       | 235.19  | 3473.72                            | 347.37                   | 3126.35                                  | 6301.86                                    | 0.00                                       | 765.80                                   | 7067.66          | 765.80   | 0.00   | 226.07                           | OE             |  |
| JODHPUR    | BILARA      | 101279                             | 101279                    | 1882.58                               | 0.00   | 0.00                                       | 275.07  | 2157.65                            | 215.77                   | 1941.88                                  | 5501.44                                    | 0.00                                       | 590.56                                   | 6092.00          | 612.32   | 0.00   | 313.72                           | OE             |  |
| JODHPUR    | DECHOO      | 127348                             | 127348                    | 2027.45                               | 48.61  | 70.21                                      | 145.83  | 2292.10                            | 229.21                   | 2062.89                                  | 3888.90                                    | 0.00                                       | 1353.6                                   | 5242.50          | 1353.60  | 0.00   | 254.13                           | OE             |  |
| JODHPUR    | LOHAWAT     | 122420                             | 122420                    | 1914.26                               | 53.45  | 68.44                                      | 160.33  | 2196.48                            | 219.65                   | 1976.83                                  | 4275.54                                    | 0.00                                       | 1697.6                                   | 5973.14          | 1697.60  | 0.00   | 302.16                           | OE             |  |
| JODHPUR    | LUNI        | 197895                             | 197895                    | 2294.40                               | 0.00   | 12.02                                      | 95.89   | 2402.31                            | 240.23                   | 2162.08                                  | 1917.76                                    | 0.00                                       | 32.32                                    | 1950.08          | 65.60  | 212.00                                       | 90.19                            | C              |  |
| JODHPUR    | MANDOR      | 126096                             | 126096                    | 1581.74                               | 27.43  | 8.29                                       | 81.60   | 1699.06                            | 169.91                   | 1529.15                                  | 2180.64                                    | 0.00                                       | 89.28                                    | 2269.92          | 110.72   | 0.00   | 148.44                           | OE             |  |
| JODHPUR    | OSIAN       | 106467                             | 106467                    | 1806.59                               | 71.38  | 62.72                                      | 214.12  | 2154.81                            | 107.74                   | 2047.07                                  | 5709.96                                    | 0.00                                       | 1809.6                                   | 7519.56          | 1809.60  | 0.00   | 367.33                           | OE             |  |
| JODHPUR    | PHALODI     | 186601                             | 186601                    | 2253.28                               | 81.72  | 246.61                                     | 245.04  | 2826.65                            | 282.66                   | 2543.99                                  | 6535.20                                    | 0.00                                       | 1284.8                                   | 7820.00          | 1284.80  | 0.00   | 307.39                           | OE             |  |
| JODHPUR    | PIPAR CITY  | 120970                             | 120970                    | 2439.02                               | 0.00   | 0.00                                       | 297.94  | 2736.96                            | 273.69                   | 2463.27                                  | 5958.72                                    | 0.00                                       | 242.88                                   | 6201.60          | 242.88   | 0.00   | 251.76                           | OE             |  |
| JODHPUR    | SHEKHALA    | 95309                              | 95309                     | 1517.37                               | 48.00  | 52.55                                      | 144.00  | 1761.92                            | 176.20                   | 1585.72                                  | 3840.00                                    | 0.00                                       | 1189.4                                   | 5029.44          | 1189.44  | 0.00   | 317.17                           | OE             |  |
| JODHPUR    | SHERGARH    | 120888                             | 120888                    | 2259.71                               | 26.08  | 65.21                                      | 78.49   | 2429.49                            | 242.95                   | 2186.54                                  | 2091.36                                    | 0.00                                       | 522.56                                   | 2613.92          | 635.84   | 0.00   | 119.55                           | OE             |  |
| JODHPUR    | TIWARI      | 87732                              | 87732                     | 1862.37                               | 81.76  | 60.33                                      | 245.27  | 2249.73                            | 224.97                   | 2024.76                                  | 6540.48                                    | 0.00                                       | 768.00                                   | 7308.48          | 768.00   | 0.00   | 360.96                           | OE             |  |
| KARAULI    | HINDAUN     | 63770                              | 57520                     | 4507.50                               | 366.90                                       | 330.42                                     | 1644.62   | 6849.44                            | 684.95                   | 6164.49                                  | 12179.00                                   | 0.00                                       | 1006.0                                   | 13185.01         | 1006.01  | 0.00   | 213.89                           | OE             |  |
| KARAULI    | KARAULI     | 126209                             | 108446                    | 8310.22                               | 0.90   | 522.27                                     | 1130.03   | 9963.42                            | 996.34                   | 8967.08                                  | 8699.46                                    | 0.00                                       | 1154.8                                   | 9854.30          | 1154.84  | 0.00   | 109.89                           | OE             |  |
| KARAULI    | MANDRAIL    | 63430                              | 49341                     | 3597.81                               | 22.55  | 56.62                                      | 199.86  | 3876.84                            | 387.69                   | 3489.15                                  | 3360.77                                    | 0.00                                       | 568.23                                   | 3929.00          | 568.23   | 0.00   | 112.61                           | OE             |  |
| KARAULI    | NADOTI      | 65050                              | 57106                     | 2562.97                               | 56.16  | 148.21                                     | 237.36  | 3004.70                            | 175.46                   | 2829.24                                  | 1654.36                                    | 0.00                                       | 562.98                                   | 2217.34          | 562.98   | 1640.09                                      | 78.37                            | SC             |  |

Dynamic Ground Water Resources of Rajasthan-2020

| District | Block            | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |  |
|----------|------------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|--|
|          |                  | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  | %              |  |
| KARAULI  | SAPOTRA          | 195881                             | 72608                     | 5561.99                               | 46.75  | 0.00                                       | 486.48  | 6095.22                            | 609.53                   | 5485.69                                  | 8423.78                                    | 0.00                                       | 625.83                                   | 9049.60          | 625.83   | 0.00   | 164.97                           | OE             |  |
| KARAULI  | TODABHIM         | 52950                              | 45221                     | 3863.95                               | 0.09   | 0.00                                       | 457.37  | 4321.41                            | 432.14                   | 3889.27                                  | 9149.03                                    | 0.00                                       | 890.13                                   | 10039.15         | 890.13   | 0.00   | 258.12                           | OE             |  |
| KOTA     | ITAWA            | 89851                              | 89751                     | 6141.45                               | 527.97                                       | 0.00                                       | 6484.13   | 13153.55                           | 1315.35                  | 11838.20                                 | 8678.58                                    | 0.00                                       | 889.87                                   | 9568.45          | 889.87   | 2269.76                                      | 80.83                            | SC             |  |
| KOTA     | LADPURA          | 154080                             | 152135                    | 7039.42                               | 144.87                                       | 0.00                                       | 1007.29   | 8191.58                            | 819.16                   | 7372.42                                  | 3118.32                                    | 0.00                                       | 2974.9                                   | 6093.28          | 2974.96  | 1279.14                                      | 82.65                            | SC             |  |
| KOTA     | SANGOD           | 105780                             | 104414                    | 6428.13                               | 1198.6                                       | 0.00                                       | 4293.58   | 11920.39                           | 1192.04                  | 10728.35                                 | 12184.13                                   | 0.00                                       | 1131.8                                   | 13316.00         | 1131.88  | 985.68                                       | 124.12                           | OE             |  |
| KOTA     | SULTANPUR        | 91257                              | 90957                     | 5773.05                               | 524.55                                       | 0.00                                       | 5431.63   | 11729.23                           | 1172.93                  | 10556.30                                 | 7028.04                                    | 0.00                                       | 1202.8                                   | 8230.91          | 1202.87  | 2498.74                                      | 77.97                            | SC             |  |
| NAGOUR   | DEGANA           | 146334                             | 146334                    | 3101.06                               | 0.00   | 18.95                                      | 340.38  | 3460.39                            | 346.04                   | 3114.35                                  | 6807.50                                    | 0.00                                       | 1265.6                                   | 8073.10          | 1457.60  | 0.00   | 259.22                           | OE             |  |
| NAGOUR   | DIDWANA          | 97718                              | 97718                     | 2374.18                               | 0.00   | 98.93                                      | 77.99   | 2551.10                            | 255.11                   | 2295.99                                  | 1559.75                                    | 0.00                                       | 1016.0                                   | 2575.75          | 1016.00  | 0.00   | 112.18                           | OE             |  |
| NAGOUR   | JAYAL            | 167771                             | 167771                    | 3499.11                               | 0.00   | 202.94                                     | 228.36  | 3930.41                            | 393.04                   | 3537.37                                  | 4567.25                                    | 0.00                                       | 1544.0                                   | 6111.25          | 1608.00  | 0.00   | 172.76                           | OE             |  |
| NAGOUR   | KHEENV SAR       | 191741                             | 191741                    | 4186.68                               | 147.28                                       | 90.09                                      | 441.83  | 4865.88                            | 243.30                   | 4622.58                                  | 11782.10                                   | 0.00                                       | 1460.0                                   | 13242.10         | 1460.00  | 0.00   | 286.47                           | OE             |  |
| NAGOUR   | KUCHAMAN CITY    | 71031                              | 71031                     | 2483.79                               | 0.00   | 120.39                                     | 219.13  | 2823.31                            | 282.33                   | 2540.98                                  | 4382.50                                    | 0.00                                       | 407.84                                   | 4790.34          | 407.84   | 0.00   | 188.52                           | OE             |  |
| NAGOUR   | LADNU            | 153008                             | 153008                    | 3659.07                               | 0.00   | 356.86                                     | 157.29  | 4173.22                            | 208.66                   | 3964.56                                  | 3145.75                                    | 0.00                                       | 1498.9                                   | 4644.69          | 1594.94  | 0.00   | 117.16                           | OE             |  |
| NAGOUR   | MAKRANA          | 114008                             | 114008                    | 3510.80                               | 0.00   | 86.78                                      | 156.16  | 3753.74                            | 375.37                   | 3378.37                                  | 3123.25                                    | 0.00                                       | 1545.6                                   | 4668.85          | 1603.20  | 0.00   | 138.20                           | OE             |  |
| NAGOUR   | MERTA            | 154192                             | 154192                    | 5277.99                               | 0.00   | 0.00                                       | 742.69  | 6020.68                            | 602.07                   | 5418.61                                  | 14853.75                                   | 0.00                                       | 1098.4                                   | 15952.15         | 1194.40  | 0.00   | 294.40                           | OE             |  |
| NAGOUR   | MOLASAR          | 66042                              | 66042                     | 3249.97                               | 0.00   | 126.02                                     | 187.69  | 3563.68                            | 356.37                   | 3207.31                                  | 3753.75                                    | 0.00                                       | 912.00                                   | 4665.75          | 912.00   | 0.00   | 145.47                           | OE             |  |
| NAGOUR   | MUNDWA           | 151537                             | 151537                    | 4174.66                               | 0.00   | 79.07                                      | 559.24  | 4812.97                            | 481.30                   | 4331.67                                  | 11184.75                                   | 0.00                                       | 1336.8                                   | 12521.55         | 1336.80  | 0.00   | 289.07                           | OE             |  |
| NAGOUR   | NAGOUR           | 157778                             | 157778                    | 3286.36                               | 30.52  | 35.70                                      | 91.55   | 3444.13                            | 172.19                   | 3271.93                                  | 2441.32                                    | 0.00                                       | 550.40                                   | 2991.72          | 582.40   | 280.21                                       | 91.44                            | C              |  |
| NAGOUR   | NAWA             | 79682                              | 79682                     | 2209.32                               | 0.00   | 99.97                                      | 227.49  | 2536.78                            | 253.68                   | 2283.10                                  | 4549.75                                    | 0.00                                       | 208.80                                   | 4758.55          | 214.40   | 0.00   | 208.42                           | OE             |  |
| NAGOUR   | PARBATSAR        | 107170                             | 107170                    | 3385.24                               | 0.00   | 64.43                                      | 148.63  | 3598.30                            | 359.83                   | 3238.47                                  | 2972.50                                    | 0.00                                       | 734.72                                   | 3707.22          | 734.72   | 0.00   | 114.47                           | OE             |  |
| NAGOUR   | RIYAN BARI       | 113814                             | 113814                    | 3663.64                               | 0.00   | 0.00                                       | 357.55  | 4021.19                            | 402.12                   | 3619.07                                  | 7151.00                                    | 0.00                                       | 354.56                                   | 7505.56          | 354.56   | 0.00   | 207.39                           | OE             |  |
| PALI     | BALI             | 144980                             | 94375                     | 3755.84                               | 179.80                                       | 0.00                                       | 388.64  | 4324.28                            | 432.42                   | 3891.86                                  | 5352.74                                    | 0.00                                       | 371.35                                   | 5724.09          | 371.35   | 0.00   | 147.08                           | OE             |  |
| PALI     | DESURI           | 81540                              | 56531                     | 2350.72                               | 136.35                                       | 0.00                                       | 546.47  | 3033.54                            | 303.36                   | 2730.18                                  | 4354.95                                    | 0.00                                       | 337.45                                   | 4692.40          | 337.45   | 0.00   | 171.87                           | OE             |  |
| PALI     | JAITARAN         | 137741                             | 124610                    | 5808.34                               | 0.02   | 0.00                                       | 432.66  | 6241.02                            | 624.11                   | 5616.91                                  | 8652.70                                    | 0.00                                       | 797.98                                   | 9450.68          | 797.98   | 0.00   | 168.25                           | OE             |  |
| PALI     | KHARCHI (MARWAR) | 140407                             | 125288                    | 3994.61                               | 112.94                                       | 0.00                                       | 270.92  | 4378.47                            | 437.85                   | 3940.62                                  | 6256.44                                    | 0.00                                       | 470.25                                   | 6726.69          | 470.25   | 0.00   | 170.70                           | OE             |  |

Dynamic Ground Water Resources of Rajasthan-2020

| District       | Block             | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |
|----------------|-------------------|------------------------------------|---------------------------|---------------------------------------|--|--|--|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|
|                |                   | (ha)                               |                           |                                       | (ham)  |  |  |                                    |                          |  |  |  |  |                  |  |  | %                                |                |
| PALI           | PALI              | 138703                             | 127991                    | 1107.23                               | 40.68  | 0.00                                       | 121.53   | 1269.44                            | 126.94                   | 1142.50                                  | 886.37                                     | 0.00                                       | 51.53                                    | 937.90           | 56.14  | 204.60                                       | 82.09                            | SC             |
| PALI           | RAIPUR            | 109222                             | 65625                     | 2078.07                               | 42.51  | 0.00                                       | 133.17   | 2253.75                            | 225.38                   | 2028.37                                  | 3401.58                                    | 0.00                                       | 122.45                                   | 3524.03          | 122.45   | 0.02   | 173.74                           | OE             |
| PALI           | RANI STATION      | 78204                              | 73906                     | 2714.02                               | 53.67  | 0.00                                       | 161.71   | 2929.40                            | 292.94                   | 2636.46                                  | 3418.77                                    | 0.00                                       | 401.38                                   | 3820.15          | 401.38   | 0.00   | 144.90                           | OE             |
| PALI           | ROHAT             | 140775                             | 137790                    | 391.04                                | 4.25   | 0.00                                       | 12.66  | 407.95                             | 40.80                    | 367.15                                   | 67.66                                      | 0.00                                       | 6.92                                     | 74.58            | 6.92   | 292.57                                       | 20.31                            | safe           |
| PALI           | SOJAT             | 168155                             | 154535                    | 3483.93                               | 66.82  | 0.00                                       | 200.55   | 3751.30                            | 375.14                   | 3376.16                                  | 4244.04                                    | 0.00                                       | 295.01                                   | 4539.05          | 295.01   | 0.00   | 134.44                           | OE             |
| PALI           | SUMERPUR          | 95973                              | 94488                     | 2948.56                               | 149.49                                       | 0.00                                       | 1216.15  | 4314.20                            | 431.43                   | 3882.77                                  | 4588.89                                    | 0.00                                       | 286.04                                   | 4874.93          | 286.04   | 0.00   | 125.55                           | OE             |
| PRATAPGARH     | ARNOD             | 66307                              | 56335                     | 2953.48                               | 0.95   | 107.46                                     | 1236.37  | 4298.26                            | 429.82                   | 3868.44                                  | 5500.00                                    | 0.00                                       | 111.25                                   | 5611.25          | 111.25   | 0.00   | 145.05                           | OE             |
| PRATAPGARH     | CHHOTI SADRI      | 70304                              | 54238                     | 2502.39                               | 0.69   | 108.02                                     | 373.48   | 2984.58                            | 298.46                   | 2686.12                                  | 3938.00                                    | 0.00                                       | 52.97                                    | 3990.97          | 52.97  | 0.49   | 148.58                           | OE             |
| PRATAPGARH     | DHARIAWAD         | 88294                              | 45856                     | 1367.60                               | 5.54   | 60.09                                      | 816.95   | 2250.18                            | 225.02                   | 2025.16                                  | 1834.20                                    | 0.00                                       | 122.68                                   | 1956.88          | 122.68   | 68.28  | 96.63                            | C              |
| PRATAPGARH     | PEEPALKHOONT      | 84086                              | 48350                     | 1879.49                               | 46.54  | 58.02                                      | 1544.44  | 3528.49                            | 176.79                   | 3351.70                                  | 2117.24                                    | 0.00                                       | 88.27                                    | 2205.51          | 88.27  | 1146.19                                      | 65.80                            | safe           |
| PRATAPGARH     | PRATAPGARH        | 126989                             | 90260                     | 5360.24                               | 115.97                                       | 313.93                                     | 3372.99  | 9163.13                            | 915.77                   | 8247.35                                  | 11625.50                                   | 0.00                                       | 144.98                                   | 11770.48         | 144.98   | 10.14  | 142.72                           | OE             |
| RAJSAMAND      | AMET              | 52356                              | 46519                     | 984.44                                | 10.61  | 0.00                                       | 200.08   | 1195.13                            | 119.51                   | 1075.62                                  | 1139.19                                    | 118.26                                     | 173.02                                   | 1430.47          | 173.02   | 0.00   | 132.99                           | OE             |
| RAJSAMAND      | BHIM              | 68739                              | 33716                     | 868.48                                | 9.46   | 9.26                                       | 214.40   | 1101.60                            | 110.16                   | 991.44                                   | 1203.33                                    | 0.00                                       | 150.00                                   | 1353.33          | 150.00   | 0.00   | 136.50                           | OE             |
| RAJSAMAND      | DEOGARH           | 61701                              | 39076                     | 746.39                                | 20.09  | 0.00                                       | 190.94   | 957.42                             | 47.87                    | 909.55                                   | 829.08                                     | 0.00                                       | 197.82                                   | 1026.90          | 197.82   | 0.00   | 112.90                           | OE             |
| RAJSAMAND      | KHAMNOR           | 79168                              | 67586                     | 1799.83                               | 73.91  | 0.00                                       | 508.27   | 2382.01                            | 238.21                   | 2143.80                                  | 1336.15                                    | 8.52                                       | 659.81                                   | 2004.48          | 659.81   | 144.42                                       | 93.50                            | C              |
| RAJSAMAND      | KUMBHALGARH       | 78835                              | 53656                     | 1807.12                               | 0.00   | 0.00                                       | 239.82   | 2046.94                            | 204.69                   | 1842.25                                  | 1393.00                                    | 3.00                                       | 352.75                                   | 1748.75          | 352.75   | 93.50  | 94.92                            | C              |
| RAJSAMAND      | RAILMAGRA         | 60814                              | 60018                     | 1123.62                               | 41.84  | 0.00                                       | 498.92   | 1664.38                            | 166.45                   | 1497.93                                  | 1954.15                                    | 0.00                                       | 245.90                                   | 2200.05          | 245.90   | 0.00   | 146.87                           | OE             |
| RAJSAMAND      | RAJSAMAND         | 61933                              | 53438                     | 762.59                                | 161.35                                       | 0.00                                       | 1175.80  | 2099.74                            | 209.98                   | 1889.76                                  | 2061.76                                    | 126.52                                     | 359.07                                   | 2547.35          | 359.07   | 240.20                                       | 134.80                           | OE             |
| SAWAI MADHOPUR | BAMANWAS          | 72110                              | 65655                     | 4903.49                               | 23.35  | 0.00                                       | 2561.37  | 7488.21                            | 748.83                   | 6739.38                                  | 11655.18                                   | 0.00                                       | 874.08                                   | 12529.26         | 874.08   | 0.00   | 185.91                           | OE             |
| SAWAI MADHOPUR | BONLI             | 100450                             | 98338                     | 4456.46                               | 612.85                                       | 0.00                                       | 1597.96  | 6667.27                            | 666.73                   | 6000.54                                  | 8176.13                                    | 0.00                                       | 1610.3                                   | 9786.51          | 1610.38  | 0.00   | 163.09                           | OE             |
| SAWAI MADHOPUR | CHAUTH KA BARWARA | 43900                              | 40666                     | 2200.77                               | 60.47  | 0.00                                       | 382.41   | 2643.65                            | 264.36                   | 2379.29                                  | 3329.93                                    | 0.00                                       | 649.58                                   | 3979.51          | 649.58   | 0.00   | 167.26                           | OE             |
| SAWAI MADHOPUR | GANGAPUR          | 64550                              | 49892                     | 4478.20                               | 685.43                                       | 0.00                                       | 1762.95  | 6926.58                            | 692.66                   | 6233.92                                  | 10060.96                                   | 0.00                                       | 2201.1                                   | 12262.14         | 2201.18  | 0.00   | 196.70                           | OE             |



Dynamic Ground Water Resources of Rajasthan-2020

| District       | Block          | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Categorization |
|----------------|----------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------------|
|                |                | (ha)                               |                           |                                       | (ham)  |  |   |                                    |                          |  |  |  |  |                  | %  |  |                                  |                |
| SAWAI MADHOPUR | KHANDAR        | 145381                             | 105075                    | 5869.58                               | 103.60                                       | 0.00                                       | 1357.42   | 7330.60                            | 733.06                   | 6597.54                                  | 10622.18                                   | 0.00                                       | 1471.6                                   | 12093.86         | 1471.68  | 0.00   | 183.31                           | OE             |
| SAWAI MADHOPUR | SAWAI MADHOPUR | 75674                              | 73224                     | 5390.92                               | 456.90                                       | 0.00                                       | 1227.93   | 7075.75                            | 707.57                   | 6368.18                                  | 12514.42                                   | 0.00                                       | 1029.4                                   | 13543.90         | 1029.48  | 0.00   | 212.68                           | OE             |
| SIKAR          | DANTA RAMGARH  | 121051                             | 114045                    | 5233.04                               | 282.16                                       | 683.46                                     | 391.17  | 6589.83                            | 658.98                   | 5930.85                                  | 10580.25                                   | 0.00                                       | 928.67                                   | 11508.93         | 928.67   | 0.00   | 194.05                           | OE             |
| SIKAR          | DHOND          | 91115                              | 90400                     | 4606.06                               | 172.95                                       | 681.34                                     | 312.62  | 5772.97                            | 577.30                   | 5195.67                                  | 9079.43                                    | 0.00                                       | 1184.9                                   | 10264.32         | 1184.90  | 0.00   | 197.56                           | OE             |
| SIKAR          | FATEHPUR       | 129123                             | 129123                    | 3650.35                               | 23.62  | 851.79                                     | 43.79   | 4569.55                            | 456.96                   | 4112.59                                  | 1279.27                                    | 0.00                                       | 2447.9                                   | 3727.17          | 2447.90  | 385.42                                       | 90.63                            | C              |
| SIKAR          | KHANDELA       | 74346                              | 69399                     | 3023.96                               | 166.43                                       | 439.34                                     | 223.51  | 3853.24                            | 385.33                   | 3467.91                                  | 3554.93                                    | 0.00                                       | 932.30                                   | 4487.23          | 932.30   | 0.00   | 129.39                           | OE             |
| SIKAR          | LACHHMAN-GARH  | 105162                             | 105162                    | 3048.14                               | 95.92  | 701.78                                     | 188.01  | 4033.85                            | 201.69                   | 3832.16                                  | 5552.36                                    | 0.00                                       | 1889.6                                   | 7442.04          | 1889.68  | 0.00   | 194.20                           | OE             |
| SIKAR          | NEEM KA THANA  | 71823                              | 58562                     | 2661.04                               | 153.54                                       | 330.71                                     | 205.69  | 3350.98                            | 335.10                   | 3015.88                                  | 5503.38                                    | 0.00                                       | 632.99                                   | 6136.37          | 632.99   | 0.00   | 203.47                           | OE             |
| SIKAR          | PATAN          | 47889                              | 28956                     | 1056.86                               | 46.82  | 131.34                                     | 52.31   | 1287.33                            | 128.74                   | 1158.59                                  | 1307.13                                    | 0.00                                       | 340.34                                   | 1647.47          | 340.34   | 0.00   | 142.20                           | OE             |
| SIKAR          | PIPRALI        | 80766                              | 74383                     | 3597.38                               | 201.37                                       | 532.14                                     | 212.03  | 4542.92                            | 454.30                   | 4088.62                                  | 5159.98                                    | 0.00                                       | 2492.7                                   | 7652.69          | 2492.71  | 0.00   | 187.17                           | OE             |
| SIKAR          | SRIMADHOPUR    | 66810                              | 65662                     | 4061.59                               | 45.16  | 572.80                                     | 350.09  | 5029.64                            | 502.97                   | 4526.67                                  | 7278.45                                    | 0.00                                       | 564.40                                   | 7842.85          | 564.40   | 0.00   | 173.26                           | OE             |
| SIROHI         | ABU ROAD       | 83817                              | 33106                     | 2277.53                               | 126.88                                       | 0.00                                       | 463.85  | 2868.26                            | 286.83                   | 2581.43                                  | 2773.40                                    | 144.00                                     | 284.16                                   | 3201.56          | 284.16   | 0.00   | 124.02                           | OE             |
| SIROHI         | PINDWARA       | 115690                             | 88290                     | 5359.10                               | 88.13  | 0.00                                       | 264.40  | 5711.63                            | 571.16                   | 5140.47                                  | 3422.63                                    | 129.00                                     | 268.80                                   | 3820.43          | 268.80   | 1320.04                                      | 74.32                            | SC             |
| SIROHI         | REODAR         | 108676                             | 98580                     | 6156.63                               | 221.45                                       | 0.00                                       | 664.36  | 7042.44                            | 704.25                   | 6338.19                                  | 11504.10                                   | 4.00                                       | 327.68                                   | 11835.78         | 327.68   | 0.00   | 186.74                           | OE             |
| SIROHI         | SHEOGANJ       | 88742                              | 77289                     | 5250.77                               | 0.00   | 0.00                                       | 308.94  | 5559.71                            | 555.97                   | 5003.74                                  | 6178.77                                    | 19.00                                      | 245.76                                   | 6443.53          | 245.76   | 0.00   | 128.77                           | OE             |
| SIROHI         | SIROHI         | 116675                             | 110305                    | 5821.04                               | 111.28                                       | 0.00                                       | 333.85  | 6266.17                            | 626.62                   | 5639.55                                  | 5780.90                                    | 31.00                                      | 432.00                                   | 6243.90          | 432.00   | 0.00   | 110.72                           | OE             |
| TONK           | DEOLI          | 124209                             | 124209                    | 6070.19                               | 419.05                                       | 0.00                                       | 1313.59   | 7802.83                            | 780.28                   | 7022.55                                  | 4326.31                                    | 0.00                                       | 1414.2                                   | 5740.56          | 1414.25  | 1281.99                                      | 81.74                            | SC             |
| TONK           | MALPURA        | 146447                             | 71178                     | 2720.20                               | 107.23                                       | 0.00                                       | 1500.77   | 4328.20                            | 221.00                   | 4107.20                                  | 4920.89                                    | 0.00                                       | 0.00                                     | 4920.89          | 0.00   | 82.66  | 119.81                           | OE             |
| TONK           | NIWAI          | 106187                             | 59453                     | 2569.24                               | 375.48                                       | 0.00                                       | 968.99  | 3913.71                            | 391.37                   | 3522.34                                  | 3213.60                                    | 0.00                                       | 1129.9                                   | 4343.57          | 1129.97  | 14.87  | 123.31                           | OE             |
| TONK           | TODARAISINGH   | 102702                             | 91114                     | 3689.09                               | 267.62                                       | 0.00                                       | 1096.71   | 5053.42                            | 306.29                   | 4747.13                                  | 2523.66                                    | 0.00                                       | 947.93                                   | 3471.59          | 947.93   | 1428.48                                      | 73.13                            | SC             |
| TONK           | TONK           | 141423                             | 116490                    | 7170.76                               | 1016.0                                       | 0.00                                       | 2788.00   | 10974.85                           | 1097.49                  | 9877.36                                  | 7602.94                                    | 0.00                                       | 2194.4                                   | 9797.41          | 2194.47  | 301.02                                       | 99.19                            | C              |
| TONK           | UNIARA         | 99038                              | 96230                     | 6119.98                               | 111.64                                       | 0.00                                       | 2385.27   | 8616.89                            | 861.68                   | 7755.21                                  | 9338.08                                    | 0.00                                       | 0.00                                     | 9338.08          | 0.00   | 1988.19                                      | 120.41                           | OE             |
| UDAIPUR        | BARGAON        | 46644                              | 26284                     | 877.04                                | 23.31  | 0.00                                       | 201.30  | 1101.65                            | 110.17                   | 991.48                                   | 465.46                                     | 788.44                                     | 100.80                                   | 1354.70          | 100.80   | 18.88  | 136.63                           | OE             |

Dynamic Ground Water Resources of Rajasthan-2020

| District | Block      | 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 Recharge | Total Natural Discharges | Annual Extractable Ground Water Resource | Ground Water Extraction for Irrigation Use | Ground Water Extraction for Industrial Use | Ground Water Extraction for Domestic Use | Total Extraction | Annual GW Allocation for Domestic Use as on 2025 | Net Ground Water Availability for future use | Stage of Ground Water Extraction | Category |  |
|----------|------------|------------------------------------|---------------------------|---------------------------------------|--|--|---|------------------------------------|--------------------------|--|--|--|--|------------------|--|--|----------------------------------|----------|--|
|          |            | (ha)                               |                           | (ham)                                 |  |  |   |                                    |                          |  |  |  |  |                  |  |  |                                  | %        |  |
| UDAIPUR  | BHINDAR    | 108631                             | 90615                     | 2478.99                               | 49.67  | 0.00                                       | 902.88  | 3431.54                            | 343.16                   | 3088.38                                  | 2470.26                                    | 94.71                                      | 290.12                                   | 2855.10          | 290.12   | 233.29                                       | 92.45                            | C        |  |
| UDAIPUR  | GIRWA      | 89919                              | 64600                     | 2151.27                               | 46.42  | 0.00                                       | 531.28  | 2728.97                            | 272.90                   | 2456.07                                  | 1690.38                                    | 475.88                                     | 189.31                                   | 2355.57          | 189.31   | 100.50                                       | 95.91                            | C        |  |
| UDAIPUR  | GOGUNDA    | 51400                              | 34022                     | 1178.66                               | 12.51  | 0.00                                       | 326.80  | 1517.97                            | 151.80                   | 1366.17                                  | 1209.46                                    | 3.06                                       | 117.84                                   | 1330.36          | 117.84   | 35.81  | 97.38                            | C        |  |
| UDAIPUR  | JHADOL     | 72752                              | 37443                     | 875.06                                | 13.66  | 0.00                                       | 222.37  | 1111.09                            | 111.11                   | 999.98                                   | 752.81                                     | 0.19                                       | 161.83                                   | 914.83           | 161.83   | 85.15  | 91.48                            | C        |  |
| UDAIPUR  | JHALARA    | 53503                              | 38944                     | 1276.97                               | 0.29   | 0.00                                       | 811.00  | 2088.26                            | 208.82                   | 1879.44                                  | 1506.58                                    | 0.99                                       | 106.77                                   | 1614.34          | 106.76   | 265.10                                       | 85.89                            | SC       |  |
| UDAIPUR  | KHERWARA   | 66729                              | 48568                     | 967.99                                | 10.87  | 0.00                                       | 299.41  | 1278.27                            | 127.83                   | 1150.44                                  | 821.16                                     | 16.98                                      | 263.95                                   | 1102.09          | 263.94   | 48.35  | 95.80                            | C        |  |
| UDAIPUR  | KOTRA      | 176112                             | 62780                     | 1709.79                               | 46.40  | 0.00                                       | 738.30  | 2494.49                            | 249.45                   | 2245.04                                  | 2107.50                                    | 0.00                                       | 167.48                                   | 2274.98          | 167.48   | 69.90  | 101.33                           | OE       |  |
| UDAIPUR  | KURAWAR    | 50361                              | 36180                     | 997.16                                | 31.19  | 0.00                                       | 604.48  | 1632.83                            | 163.28                   | 1469.56                                  | 923.88                                     | 387.10                                     | 128.36                                   | 1439.35          | 128.36   | 266.43                                       | 97.94                            | C        |  |
| UDAIPUR  | LASADIYA   | 49375                              | 34814                     | 882.55                                | 0.00   | 0.00                                       | 176.69  | 1059.24                            | 105.92                   | 953.32                                   | 1012.20                                    | 0.00                                       | 107.56                                   | 1119.76          | 107.56   | 0.00   | 117.46                           | OE       |  |
| UDAIPUR  | MAVLI      | 80858                              | 78357                     | 2360.20                               | 10.29  | 0.00                                       | 613.41  | 2983.90                            | 298.39                   | 2685.51                                  | 2958.31                                    | 152.44                                     | 313.49                                   | 3424.24          | 313.49   | 19.36  | 127.51                           | OE       |  |
| UDAIPUR  | PHALASIYA  | 74222                              | 38200                     | 892.76                                | 0.00   | 0.00                                       | 189.18  | 1081.94                            | 108.20                   | 973.74                                   | 701.02                                     | 11.69                                      | 236.84                                   | 949.55           | 236.84   | 24.19  | 97.52                            | C        |  |
| UDAIPUR  | RISHABHDEV | 42128                              | 30662                     | 629.23                                | 56.19  | 0.00                                       | 815.35  | 1500.77                            | 150.08                   | 1350.69                                  | 1302.59                                    | 10.54                                      | 115.71                                   | 1428.84          | 115.71   | 0.00   | 105.79                           | OE       |  |
| UDAIPUR  | SALUMBAR   | 48797                              | 35519                     | 1164.66                               | 92.07  | 0.00                                       | 1098.91   | 2355.64                            | 235.56                   | 2120.08                                  | 1714.01                                    | 9.96                                       | 177.36                                   | 1901.33          | 177.36   | 218.74                                       | 89.68                            | SC       |  |
| UDAIPUR  | SARADA     | 72759                              | 55684                     | 1250.41                               | 125.19                                       | 0.00                                       | 1090.42   | 2466.02                            | 246.60                   | 2219.42                                  | 1839.32                                    | 2.75                                       | 205.59                                   | 2047.66          | 205.58   | 171.76                                       | 92.26                            | C        |  |
| UDAIPUR  | SAYRA      | 56356                              | 37241                     | 1082.24                               | 0.00   | 0.00                                       | 273.21  | 1355.45                            | 135.54                   | 1219.91                                  | 1087.38                                    | 1.19                                       | 103.59                                   | 1192.16          | 103.59   | 27.75  | 97.72                            | C        |  |
| UDAIPUR  | SEMARI     | 35514                              | 27179                     | 639.23                                | 2.33   | 0.00                                       | 260.42  | 901.98                             | 90.20                    | 811.78                                   | 595.59                                     | 0.00                                       | 124.84                                   | 720.43           | 124.84   | 91.33  | 88.75                            | SC       |  |