भारत सरकार / GOVERNMENT OF INDIA

जल शक्ति मंत्रालय / MINISTRY OF JAL SHAKTI

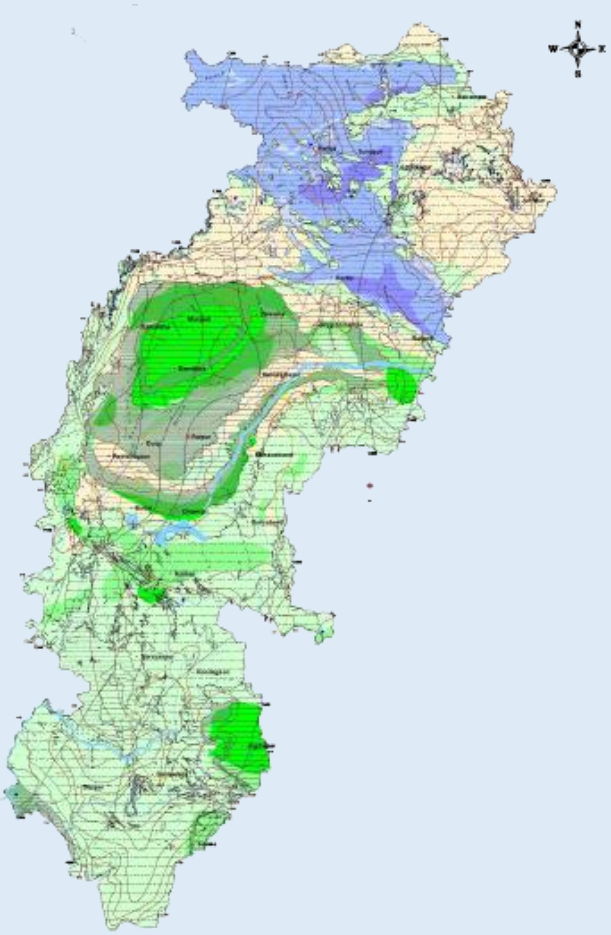
जल संसाधनए नदी विकास और गंगा संरक्षण विभाग /

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION

केन्द्रीय भूमि जल बोर्डए उत्तर मध्य छत्तीसगढ़ क्षेत्र / CENTRAL GROUND WATER BOARD, NORTH CENTRAL CHHATTISGARH REGION

भूजल वार्षिक पुस्तिका २०२३ – २०२४ छत्तीसगढ़ राज्य

GROUND WATER YEARBOOK 2023 – 2024 OF CHHATTISGARH STATE



उत्तर मध्य छत्तीसगढ़ क्षेत्र, रायपुर

North Central Chhattisgarh Region, Raipur

FOREWORD

Central Ground Water Board, the Apex Organization, has been entrusted with the mission to develop and disseminate technologies for scientific and sustainable development and management of Ground Water Resources of the country. The National Ground Water Regime Monitoring Programme has become one of the most important and frontal activities of the Board. The monitoring programme was initiated in a small way in 1970 by establishing one station per Degree Sheet and has been continuously strengthened ever since, with a view to create high-density regional network so as to obtain the comprehensive scenario of ground water regime. High priority is accorded for accomplishing the measurements within the stipulated time during each monitoring schedule.

Central Ground Water Board monitors ground water levels four times in a year i.e., during May (2023), August (2023), November (2023) and January (2024), through a network of Ground Water Monitoring Wells (GWMWs) for effective planning, management and maintenance of quality of the ground water resources and a total of 1308 Monitoring wells including 246 nos. of Piezometers are being monitored in Chhattisgarh State. The data collected from monitoring wells for each monitoring schedule is compiled, processed and the salient features are brought out as a "Ground Water Yearbook" issued once in a ground water year depicting temporal as well as spatial changes in ground water regime during the preceding year.

This report pertains to the ground water regime scenario in the state of Chhattisgarh State for the year 2023 - 2024. It gives an overview of the status of ground water levels monitored, Pre & Post monsoon fluctuation and fluctuation between two consecutive seasons, long term changes in water level and the chemical quality of the ground water of the year 2023 - 2024.

The ground water regime monitoring work is a joint endeavor of all the officers and staff of this region and their contribution in this activity is highly appreciated. The preparation of this report is mainly due to the untiring efforts of Smt. Priyanka B. Sonbarse, Scientist "D" for preparation of report on 'Ground Water Yearbook of Chhattisgarh for Year 2023 - 2024 in the present form is appreciable.

I hope that the State Government and other user agencies would utilise the data incorporated in the report for proper planning of the ground water resources development and management activities in the Chhattisgarh State.

(Dr. Prabir K. Naik)
Regional Director
CGWB, NCCR, Raipur

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to Shri Satish Kumar, Chairman, Central Ground Water Board, Ministry of Water Resources, River Development and Ganga Rejuvenation, Govt. of India for giving me an opportunity to estimate the Ground Water Yearbook of Year 2023 – 2024 for the state of Chhattisgarh.

I express my sincere thanks to Er. Narasiman Varadaraj, Member (East), Central Ground Water Board, Ministry of Jal Shakti, Govt. of India for his valuable suggestions at the time of preparation of the report.

I am deeply thankful to Dr. Prabir K. Naik, Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, Raipur for his valuable guidance at the time for preparation of Ground Water Yearbook 2023 - 2024 of Chhattisgarh state.

I would like to express my deepest thanks to Ms Gurpreet Kaur, Scientist-B of CGWB, NCCR for their consistent efforts.

I am also thankful to Sh. Kamal Kishore Sahu, YP & Map section for rendering help during the preparation of report.

At last, I would like to express my deepest thanks to all the monitoring officers whom have collected the monitoring data during the monitoring period.

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GROUND WATER YEARBOOK OF CHHATTISGARH STATE (YEAR 2022-2023)

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GROUND WATER YEARBOOK OF CHHATTISGARH STATE

(YEAR 2023-2024)

EXECUTIVE SUMMARY

Chhattisgarh is the 10th largest state of India endowed with natural resources and thick forest cover. It is basically a backward, agrarian and tribal dominated state. It has been divided into 33 districts and 146 development blocks with 20306 numbers of villages and 168 towns. Demographically it is the 16th largest state of India with a total population of 30,638,000 15,365,000, or 1.54 crore, males and 15,273,000, or 1.53 crore, females in Chhattisgarh. comprising 50.15% male and 49.85% female population. Nearly 80 % of the total population lives in rural areas.

Physiographically, the state of Chhattisgarh can be divided into 3 distinct units namely, 1) Bastar plateau in southern part 2) Chhattisgarh Plain in central part and 3) Northern hills in northern part. These three units have their own distinctive characteristics and form part of three basins namely Ganga, Mahanadi and Godavari basins. About 66.1 % network stations fall in Mahanadi basin, 16.3 % fall in Ganga Basin, 14.7 % fall in Godavari basin. Central Ground Water Board, Central Region, Raipur has set up a network of 1308 nos of observation wells known as the Ground Water Monitoring Wells (GWMW's) located all over Chhattisgarh which comprises 1062 dug wells and 246 piezometers.

Distribution of Hydrograph Stations in the major river basins				
S.N.	**River basin**	**River Basin Area (Sq. Km.)**	**Number of Hydrograph stations**	
			Dug wells	**Piezometers**
1.	Mahanadi	75858.12	689	167
2.	Ganga	18406.64	170	66
3.	Godavari	38694.37	154	9
4.	Narmada	743.65	5	-
5.	Bramhini	1394.45	23	4
Total		**135097.23**	**1041**	**246**

Chhattisgarh receives rainfall starting from the month of June and extending till September. Depressions and low-pressure systems form in the Bay of Bengal, which then move in the north-westerly direction crossing Orissa/Bengal coast. The monsoon sets in around 10th June in the southernmost point of Dantewada district and finally extends over the entire area by 25th June. Rainfall during July and August is high (about 350- 400 mm) at all places. It is assured and stable till mid-September. The monsoon normally starts withdrawing from northern part from 15th September and withdraws from the entire area by 1st October.

The hydrogeological framework of Chhattisgarh state consists of both fracture and porous aquifer. Based on the prevailing porosity type, the rocks of the state have been divided into two broad types, (1) fractured aquifer and (2) porous aquifer and on the basis of hydogeological properties of these aquifer system

During May 2023, 971 nos. of ground water samples were collected from monitoring wells and analysed. Ground Water Level Scenario During a hydrological year, the existing

monitoring wells were monitored four times, i.e., during May (pre-monsoon), August (to assess the impact of monsoon on the ground water resources), October/November (to assess the cumulative effect of ground water recharge and withdrawal of ground water for various purposes) and January (to assess the effect of withdrawal for Rabi crops).

For data analysis, preparation of maps and interpretation purposes, the depth to ground water data (DTW) was categorized into various ranges beginning with less than 2 m, 2-5 m, 5-10 m, 10-20 m & more than 20 m. (a) During May 2023: monitoring depth to water level range up to 10 mbgl WL is observed in 86.9 % of the wells in the state. Deeper water levels ranging between 10 - 20 and 20 - 40 m bgl occur respectively in 12.34 % and 0.71% of the observation wells only in parts of Bilaspur, Durg, Kawardha, Mahasamund, Raigarh districts (b) During August 2023: monitoring In general, the depth to water level range up to 2 m bgl is observed in approximately 33.11% of the wells and depth to water level range up to 5 m bgl is observed in approximately 48.85% of the wells in the state. Deeper water levels ranging between 5 and 10 mbgl occur only in 16.06 % of the observation wells and mostly in parts of Jashpur, Raigarh and Surguja, Kawardha and Bilaspur districts. (c) During November 2023: In general, the depth to water level range up to 2 m bgl is observed in approximately in 17.57% of wells, water level range up to 5 m bgl is observed in approximately 58.30% of the wells and depth to water level range up to 10 m bgl is observed in approximately 22.61% of the wells in the state. Deeper water levels ranging between 10 and 20 m bgl occur only in 1.26% of the observation wells and mostly in parts of Surguja Raigarh, Kanker Durg and Kawardha districts (d) In January 2023: In general, the depth to water level range up to 5 m bgl is observed in approximately 60.95% of the wells and depth to water level range up to 10 m bgl is observed in approximately 35.46% of the wells in the state. Deeper water levels ranging between 10 and 20 m bgl occur only in 3.36% of the observation wells and mostly in parts of Surguja, Mahasamund, Korba Bilaspur and Durg districts. It has been observed that, there is a progressive rise in DTW from May-2023 to Aug-2023 due to monsoon rainfall recharge and fall in DTW has been observed from August 2023 to Nov-2023, as ground water naturally flows out as base flow or is utilized for agriculture.

The declining trend during Premonsoon season indicates that the aquifer is being de-watered every year either due to deficient rainfall or the ground water developmental activities in the area, whereas the rising trend indicates that either the developmental activities have reduced or the recharge due to other sources such as applied irrigation has increased.

छत्तीसगढ़ राज्य की भूजल ईयर बुक

(वर्ष 2023-2024)

कार्यकारी सार

छत्तीसगढ़ भारत का 10वां सबसे बड़ा राज्य है, जो प्राकृतिक संसाधनों और घने वन क्षेत्र से समृद्ध है। यह मुख्यतः पिछड़ा, कृषि प्रधान और जनजातीय बहुल राज्य है। इसे 33 जिलों और 146 विकासखंडों में विभाजित किया गया है, जिनमें 20,306 गांव और 168 शहर शामिल हैं। जनसांख्यिकी दृष्टि से यह भारत का 16वां सबसे बड़ा राज्य है, जिसकी कुल जनसंख्या 3.06 करोड़ है, जिसमें 1.54 करोड़ पुरुष (50.15%) और 1.53 करोड़ महिलाएं (49.85%) शामिल हैं। राज्य की लगभग 80% आबादी ग्रामीण क्षेत्रों में निवास करती है।

भौगोलिक दृष्टिकोण से छत्तीसगढ़ राज्य को 3 अलग-अलग इकाइयों में विभाजित किया गया है; 1) दक्षिणी भाग में बस्तर का पठार 2) मध्य भाग में छत्तीसगढ़ का मैदान और 3) उत्तरी भाग में उत्तरी पहाड़ियाँ है । इन तीन इकाइयों की अपनी विशेषताएं हैं और ये तीन बेसिनों अर्थात् गंगा, महानदी और गोदावरी बेसिन का हिस्सा हैं | महानदी बेसिन में लगभग 66.1% , गंगा बेसिन में 16.3% तथा गोदावरी बेसिन में 14.7% नेटवर्क स्टेशन है। केंद्रीय भूमि जल बोर्ड, उत्तर मध्य छत्तीसगढ़ क्षेत्र, रायपुर ने पूरे छत्तीसगढ़ राज्य में 1308 मॉनिटरिंग कूपों का नेटवर्क स्थापित किया है, जिसे ग्राउंड वॉटर मॉनिटरिंग वेल्स (जीडब्ल्यूएमडब्ल्यू) के रूप में जाना जाता है, जिनमें 1062 डग वेल और 246 पीज़ोमीटर शामिल हैं।

प्रमुख नदी बेसिनों में हाइड्रोग्राफ स्टेशनों का वितरण

क्र. सं.	नदी बेसिन	नदी बेसिन क्षेत्र (वर्ग किमी।)	हाइड्रोग्राफ स्टेशनों की संख्या	
			डग वेल	पीज़ोमीटर
1.	**महानदी**	75858.12	689	167
2.	**गंगा**	18406.64	170	66
3.	**गोदावरी**	38694.37	154	9
4.	**नर्मदा**	743.65	5	-
5.	**ब्रहमणि**	1394.45	23	4
कुल		**135097.23**	**1041**	**246**

छत्तीसगढ़ में जून से सितंबर तक वर्षा होती है। बंगाल की खाड़ी में डिप्रेशन और कम दबाव बनता हैं, जो उड़ीसा/बंगाल तट को पार करते हुए उत्तर-पश्चिमी दिशा में आगे बढ़ता हैं। वर्षा की शुरूआत लगभग 10 जून से दंतेवाड़ा जिले के सबसे दक्षिणी छोर से होती है और अंततः 25

जून तक पूरे क्षेत्र में होने लगती है। जुलाई और अगस्त महीने के दौरान सभी स्थानों पर वर्षा अधिक (लगभग 350- 400 मिमी) होती है। यह सितंबर महीने के मध्य तक रहती है। जो आम तौर पर 15 सितंबर से उत्तरी भाग से कम होना शुरू होती है और 1 अक्टूबर तक पूरे क्षेत्र में थम जाती है।

छत्तीसगढ़ राज्य के भूजलीय (हाइड्रोजियोलॉजिकल) ढांचे में फ्रैक्चर तथा छिद्रपूर्ण दोनों प्रकार के जलभृत पाए जाते हैं। प्रचलित सरंध्रता के आधार पर, राज्य की चट्टानों को दो व्यापक भागों में विभाजित किया गया है, (1) खंडित (फ्रैक्चर) जलभृत और (2) छिद्रपूर्ण जलभृत | मई 202 के दौरान इन जलभृतों के हाइड्रोजियोलॉजिकल गुणों के आधार पर 971 मॉनिटरिंग कूपों से भूजल के नमूने एकत्र किए गए एवं इनका विश्लेषण किया गया | भूजल स्तर के परिदृश्य अनुसार मौजूदा हाइड्रोलॉजिकल वर्ष के दौरान मॉनिटरिंग कूपों का चार बार मॉनिटर किया गया जो कि, मई में (पूर्व-मानसून), अगस्त में (भूजल संसाधनों पर मानसून के प्रभाव का आकलन करने हेतु), अक्टूबर/नवंबर में (भूजल पुनर्भरण और विभिन्न प्रयोजनों के लिए भूजल की निकासी के संचयी प्रभाव का आकलन करने हेतु) और जनवरी में (रबी फसलों के लिए निकासी के प्रभाव का आकलन करने हेतु) किया गया |

डेटा विश्लेषण, मानचित्र तैयार करने और व्याख्या उद्देश्यों के लिए, भूजल डेटा की गहराई (डीटीडब्ल्यू) को 2 मीटर से कम, 2-5 मीटर, 5-10 मीटर, 10-20 मीटर और 20 मी. से अधिक से शुरू होने वाली विभिन्न श्रेणियों में वर्गीकृत किया गया था। क) मई 2023 में राज्य के 86.9% कुओं में 10 एम.बी.जी.एल. जलस्तर पाया गया है। केवल बिलासपुर, दुर्ग, कवर्धा, महासमुंद, रायगढ़ जिलों के कुछ हिस्सों में क्रमशः 12.34% और 0.714% मॉनिटरिंग कूपों में 10-20 और 20-40 मीटर बीजीएल तक गहरा जल स्तर पाया जाता है। ख) अगस्त 2023 के दौरान, 5 और 10 एमबीजीएल जलस्तर केवल 16.06 % मॉनिटरिंग कूपों में जो अधिकतर दुर्ग, जशपुर, रायगढ़ और सरगुजा जिलों के कुछ हिस्सों में पाया गया| ग) नवंबर 2023 के दौरान, राज्य के लगभग 22.61% कुओं में 10 एमबीजीएल जलस्तर पाया गया है। 10 से 20 मीटर बीजीएल के बीच गहरा जल स्तर केवल 1.26% मॉनिटरिंग कूपों में होता है जो अधिकतर महासमुंद और कवर्धा जिलों के कुछ हिस्सों में पाया जाता है। यह देखा गया है कि, मानसून वर्षा पुनर्भरण के कारण मई-2023 से अगस्त-2023 तक डीटीडब्ल्यू में उल्लेखनीय वृद्धि हुई है और भूजल स्वाभाविक रूप से बेस फ़्लो के रूप में बह जाता है या फिर कृषि के लिए उपयोग किए जाने के कारण अगस्त-2023 से नवंबर-2023 के दौरान डीटीडब्ल्यू में गिरावट देखी गई है। (घ) जनवरी 2023 में राज्य के लगभग 60.95% कुओं में 5 एमबीजीएल जलस्तर पाया गया है | 10 से 20 मीटर बीजीएल गहरा जल स्तर केवल 3.36% मॉनिटरिंग कूपों में होता है जो अधिकतर दुर्ग, कवर्धा, महासमुंद, जिलों के कुछ हिस्सों में पाया जाता है।

वर्षा से पूर्व जल स्तर में गिरावट की प्रवृत्ति यह दर्शाती है कि क्षेत्र में कम वर्षा या भूजल दोहन गतिविधियों के कारण हर वर्ष जलभृत का जल कम हो रहा है, जबकि बढ़ती प्रवृत्ति यह दर्शाती है कि या तो दोहन गतिविधियाँ कम हो गई है या अनुप्रयुक्त सिंचाई स्रोतों में वृद्धि जैसे अन्य कारणों से पुनर्भरण हो रहा है।

मई 2023 के दौरान एकत्र किए गए 971 भूजल नमूनों के रासायनिक विश्लेषण से यह पता चलता है कि अधिकांश स्थानों पर भूजल की रासायनिक गुणवत्ता पीने, घरेलू, औद्योगिक और कृषि उपयोग के लिए उपयुक्त है, जबकि कुछ स्थानों पर स्थलीय घटनाओं के कारण संदूषण की प्रवृत्ति देखी गई है ।

GROUND WATER YEARBOOK OF CHHATTISGARH STATE
(YEAR: 2023 – 2024)

1. INTRODUCTION

The State of Chhattisgarh lies between North Latitude 17°47' to 24°06' and East Longitude 80°14' to 84°24' **(Fig. 1.1)**. Central Ground Water Board, North Central Chhattisgarh Region, Raipur is carrying out ground water regime monitoring in the State. The State covers a geographical area of 1,37,360 sq. km. Nearly 65.90 % of the total area is covered by tribal and hence it is said as tribal dominated State. The ground water regime is monitored through a network of observation dug wells and piezometers. Dug wells represent the shallow phreatic aquifer system whereas piezometers represent the shallow un-confined as well as deeper semi-confined aquifer system. The network of observation stations forms a part of All India Network Hydrograph Stations, which is being monitored by various Regional offices of the department, located at different parts of the country.

As on March 2022, a network of **1308 nos.** observation wells (both dug wells and purpose-built piezometers) are monitored four times a year. The monitoring includes measurement of ground water level and quality. The purpose is to observe the behavior of ground water and their levels in different hydro geological environments in order to estimate the ground water resource from time to time and to know the water quality changes.

The monitoring database on water levels and chemical parameters helps to simulate models of forecasting, planning and management of ground water resources. The behavior of the ground water level and quality during the year 2023 i.e from January 2023 to November 2023 presented in this report with the idea that it will enable the user agencies to plan the development strategy for optimum utilization of ground water resources in the state.

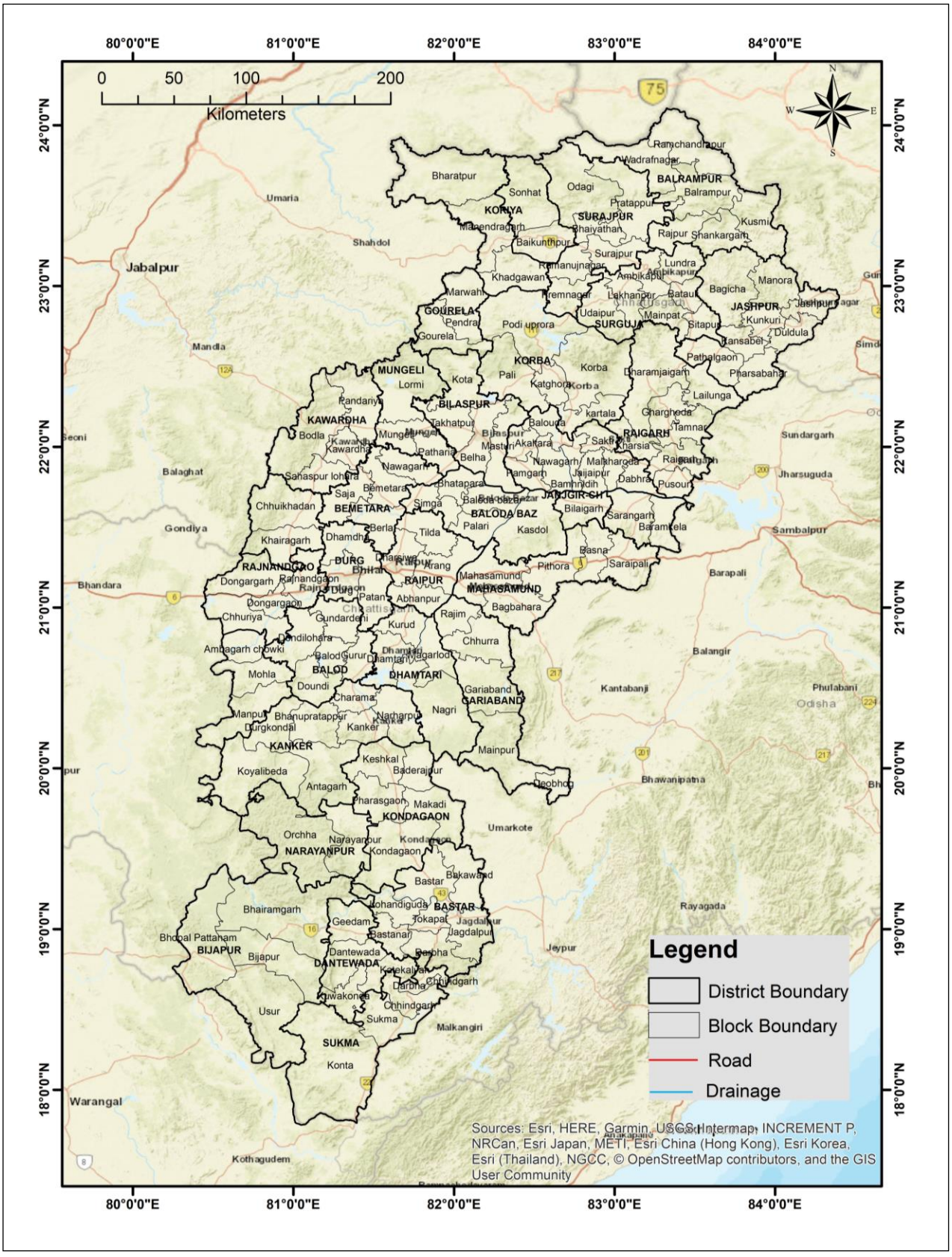


Fig 1.1: Administrative divisions of Chhattisgarh state

2. GEOMORPHOLOGY

2.1 Physiography

Physiographically, Chhattisgarh can be divided into three distinct units i.e.

i) Bastar plateau region on the southern part,

ii) Chhattisgarh Plain region on the central part and

iii) Northern hilly region on the northern parts of the State.

The Bastar Plateau Region

It covers Bastar, Kondagaon, Narayanpur, Kanker, Bijapur, Sukma and Dantewada districts lying on the southern parts of the State. Except Indravati River plains, most of the area is covered by evergreen dense reserve forests and hilly tracts. The major landforms are high-level plateaus, structural hills and valleys and pediments and pediplains. The altitude varies from 400 to 600 m amsl. In the plains of Indravati River covering central parts, and along the Shabri River, covering southeastern parts the altitude varies from 250 to 300 m amsl.

The Chhattisgarh Plain

It is spread over the central part of the State and covers parts of Bilaspur, Mungeli, Janjgir-Champa, Mahasamund, Dhamtari, Raipur, Balodabazar, Gariyaband Durg, Balod, Bemetara, Rajnandgaon and Kawardha districts. It forms the structural plains on Proterozoic rocks and matures Pediplain with remnants of few isolated hills and ridges in between flood plains of numerous tributaries of Mahanadi River system. It is characterized by a gently undulating and flat terrain. The overall altitude varies from 750 m amsl on northwestern parts of the area to 284 m amsl on southeastern parts.

Northern Hilly Region

It covers from north to the north central part of the area and occupies parts of Sarguja, Balrampur, Surajpur Koriya, Korba, Bilaspur, Jashpur and Raigarh districts. It is a part of Maikal and Hazaribagh hill ranges of central India. It represents structural plains of Gondwana rocks, pediment/pediplains, structural and denudational plateaus, structural and denudational hills and valleys. It supports north flowing tributaries of Son River and south flowing Hasdeo and other

tributaries of Mahanadi River. The Narmada, an important west-flowing River of central India, originates from Amarkantak in the central part of this physiographic unit.

The highest point in the State is 1197 m amsl at Tulisi Dongri range in Dantewada district and the lowest point is 50 m amsl at Konta in Dantewada district.

2.2 Drainage

The major Rivers flowing in Chhattisgarh State are given in **Table 2.1.** The Mahanadi River and its tributaries Seonath, Hasdeo, Mand and Arpa drain part of Raipur, Durg, Rajnandgaon, Bilaspur, Raigarh and Surguja districts. The Indravati River is a tributary to Godavari River and drains the districts of Kanker, Bastar and Dantewada. Most of the Rivers are perennial in nature. In general, the drainage patterns are dendritic, parallel, angular and radial types. Son is the tributary of Ganga River and drains part of Sarguja and Koriya districts. **Fig. 2.1** shows the physiography and drainage pattern existing in the area.

Table 2.1: Major River Basins in Chhattisgarh State

Sl. No.	Major Rivers	Tributaries	Districts
1.	Ganga 18407 Sq.Km.	Son	Surguja, Koriya, Jashpur and Bilaspur
2.	Mahanadi 75858 Sq.Km.	Ib, Hasdeo, Seonath, Tel, Mand	Raipur, Mahasamund, Dhamtari and parts of Durg, Rajnandgaon, Kawardha, Korba, Kanker, Bastar, Surguja, Ramgarh and Bilaspur.
3.	Godavari 38694 Sq.Km.	Indravati, Sabari Wain ganga	Parts of Durg,Bastar, Rajnandgaon, Kanker and Dantewada
4.	Narmada 744 sq.Km.	Narmada	Parts of Rajnandgaon, Bilaspur, and Kawardha
5.	Bramhani 1394 sq.Km.	Sankh	Part of Jashpur

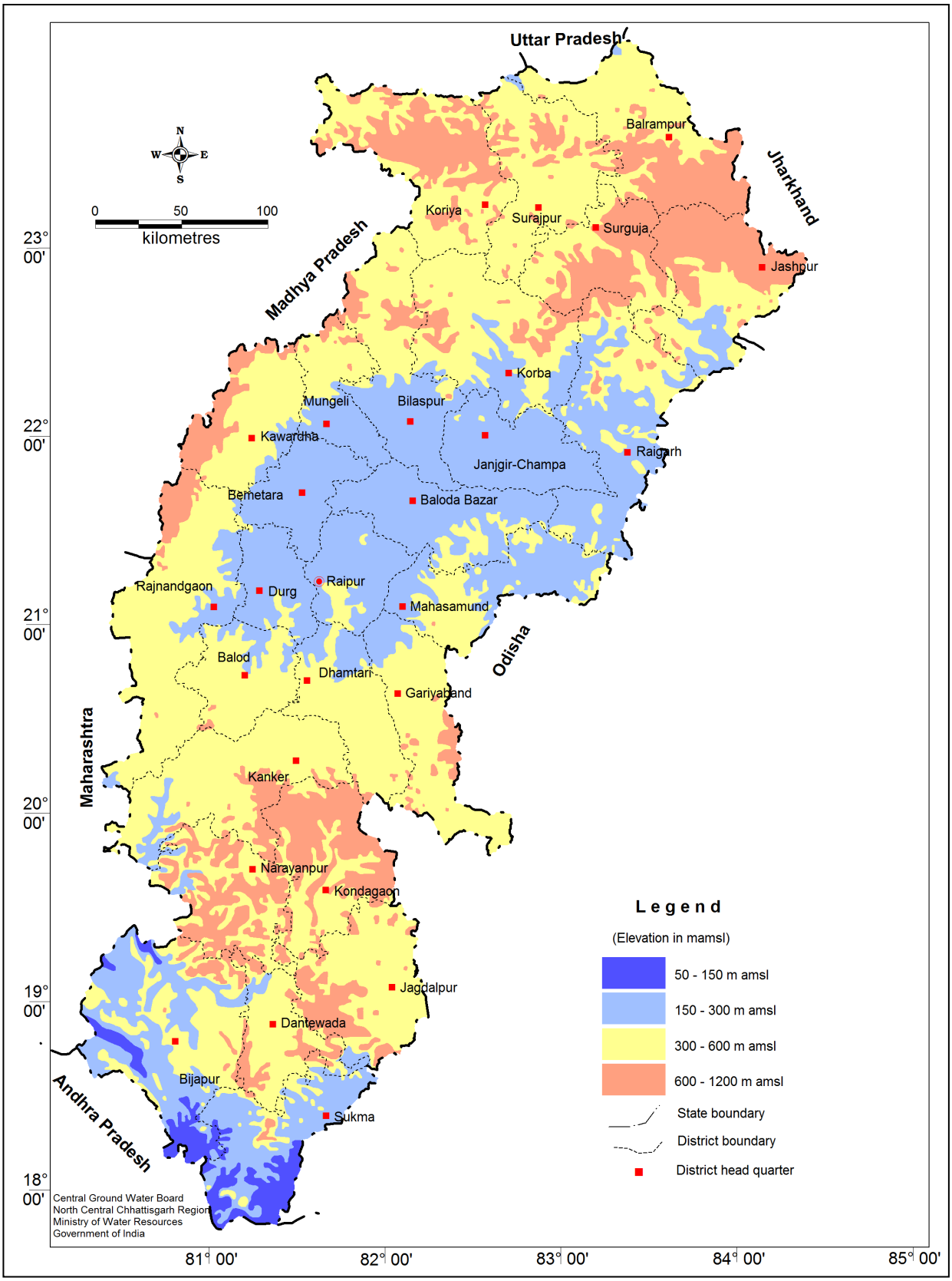


Fig 2.1: Physiography of Chhattisgarh state

3. CLIMATE AND RAINFALL

3.1 Rainfall

The region is endowed with sub-tropical monsoon climate with three distinct seasons i.e. summer, monsoon and winter. The south - west monsoon starts from June and continues until middle of September. Winter season spreads from October to February. Summer season extends from March to middle of June. Rainfall is the major source of ground water recharge in the area and receives maximum (90%) rainfall during the south - west monsoon season. The winter rainfall is meager (10%). The Indian Meteorological Department (IMD), various state government departments, agricultural universities, etc. are maintaining number of rain gauge stations which come to more than 200 in the state. The average annual rainfall for the Region has been estimated as 1399 mm. The rainfall decreases as we move from South - East to North - West. The annual rainfall varies with highest 2685 mm in Bijapur and 2044 mm in Bastar district to lowest 790 mm in Surguja district. Distribution of annual rainfall is depicted in **Fig. 3.1**. The district - wise annual rainfall is presented in **Table 3.1**.

Table 3.1: District wise annual rainfall (in mm) of Chhattisgarh for the last five years.

Sl. No.	District	Year						
		2017	2018	2019	2020	2021	2022	2023
1	Balod	1025.2	1036.4	1132.9	1122.9	1122.9	1455.4	1013.5
2	Baloda Bazar	736.4	915.9	1005.8	1385.61	1385.61	1257.8	946.1
3	Balrampur	1103.2	1066.3	1096.1	1317	1317	1208.7	1165.6
4	Bastar	1476	1240	2011.1	1362.6	1362.6	2044.1	1171
5	Bemetara	762.3	880.4	971.2	1122.9	1122.9	813	1008.9
6	Bijapur	1475.1	1953.5	2374	1528.1	1528.1	2685.5	1323.4
7	Bilaspur	841.9	843.1	1134.9	1229.8	1114.46	1475	1090.8
8	Dantewada	1264.2	1196.9	1779.9	1327.9	1327.9	1825.6	1290.2
9	Dhamtari	892.1	1250	1236.1	1385.3	1385.3	1385.2	1031.3

10	Durg	705.8	865.8	932.5	1122.9	1122.9	1101.4	984
11	Gariaband	991.1	1149.4	1288.9	1385.3	1385.3	1434.4	1079.1
12	Janjgir-Champa	925.8	987.3	1108.9	1386	1229.8	1458.3	1174.3
13	Jashpur	1186.9	1000.1	1297.6	1476.92	1209.32	1278.7	1405.7
14	Kawardha	862.6	644.4	893.8	1117	1117	1244.3	858.5
15	Kanker	1125.5	1345.3	1501.3	1397.51	1397.51	1749.6	1291.4
16	Kondagaon	1375.4	1261.3	1774.3	1362.4	1362.4	1475.2	1174.1
17	Korba	1099.2	1026.4	1372.7	1392	1392	1352.4	1310.5
18	Koriya	776.1	903.4	1099	1317	1317	943	1132.1
19	Mahasamund	1010.8	1069.9	1240.6	1406.24	1406.24	1227.7	1048.3
20	Mungeli	640.9	835.4	813.7	1351	1351	1411.7	967.7
21	Narayanpur	1097.7	1226.3	2027.3	1404.1	1404.1	1650.9	1202.4
22	Raigarh	961.8	942.9	1350.2	1468.16	1468.12	1342	1202.7
23	Raipur	762.1	877.2	977.1	1376.34	1376.31	1003.2	1051.5
24	Rajnandgaon	790	941.2	966.4	1208.7	1208.7	1346.5	976.8
25	Sukma	1767.4	1778.3	1821.9	1403.85	1403.81	1665.3	1124
26	Surajpur	1529.1	1557.8	1282.7	1317	1317	1158.3	1116.6
27	Surguja	1171.3	966	926.9	1317	1369.16	790.2	1223.2

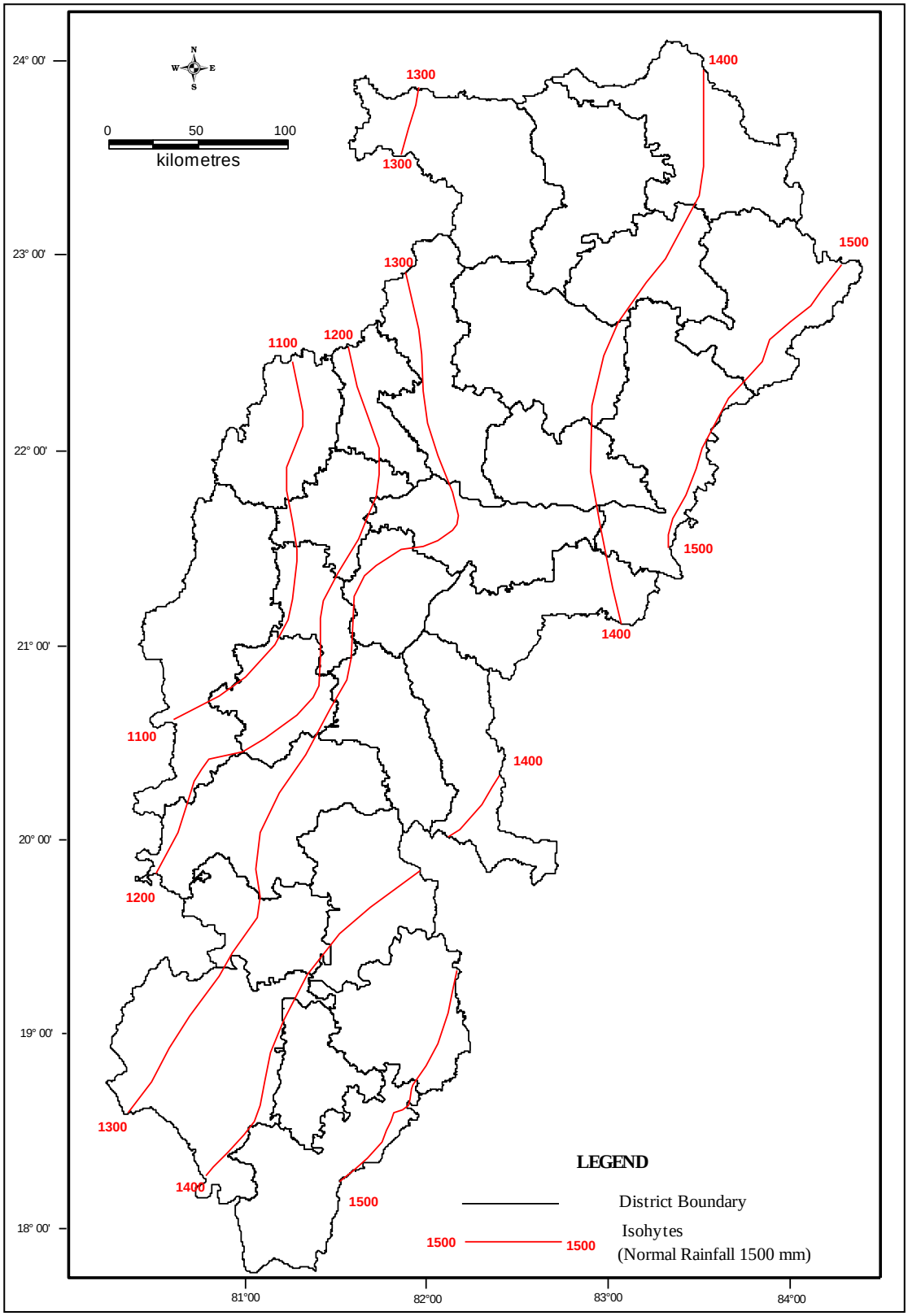


Fig 3.1: Rainfall Map of Chhattisgarh state

3.2 Temperature

The State experiences sub-tropical climate characterized by extreme summer and moderate winter. The summer extends from March to mid-June and May is the hottest month. The mean daily maximum temperature during the month of May goes up to 46^0C. The winter season lasts until end of February. January is the coldest month with the mean daily maximum temperature at 30°C and the mean daily minimum temperature at 10.2°C. In Raipur area, the average temperature varies from 13°C during winter to 46°C in summer. However, in the plateau areas on the northern part, the variation was from 10°C in winters to 39°C in summers.

4. SOIL AND LANDUSE

4.1 Soil

The soils in the upper reaches of the drainage are shallow, young and are eroding in nature. Changes in soil properties indicate the drainage conditions, transport of eroded material and redeposition of soil constituents. Down the slope, the soil depth, water holding capacity, ion exchange capacity, and preponderance of calcium and magnesium increases. The color changes from red to dark brown. The texture also changes from sandy loam to clayey, and sticky to very sticky. The various soil types existing in the State and their suitability for various crops is enumerated in **Table 4.1** and **Fig. 4.1**.

Table 4.1: Distributions of Soils and suitability of crops in Chhattisgarh State			
Type of soil	**Parent Rock**	**Distribution (Districts/ Tehsils)**	**Suitable Crops**
Red-yellow soil (Matasi)	Gondwana, Chhattisgarh Supergroup	Surguja, Koriya, Jashpur, Raigarh, Korba, Bilaspur Kawardha, Durg, Raipur, Dhamtari and and Mahasamund districts	Paddy
Red-sandy soil	Archaean Granite	Bastar, Dantewada, Kanker, Durg, Rajnandgaon and Dhamtari districts	Kodo-Kutki, Jawar, Maize, Potato Coarse grains etc
Red-domat soil	Archaean Granite	Dantewara and Konta tehsils	Paddy
Laterite soil	Mixed	Bagicha, Samri, Sitapur, Ambikapur, Kawardha, Chhui-Khaddan, Saja, Bemetera and Jagdalpur tehsils	Potato, Jawar, Kuddo-Kutti, Oilseeds, Pulses etc.
Black soil	Mixed	Mungeli, Ariya, Raipur, Rajim, Mahasamund, Kurud and Kawardha tehsils	Paddy, Wheat, Cotton, Gram, Sugarcane and Rabi crops

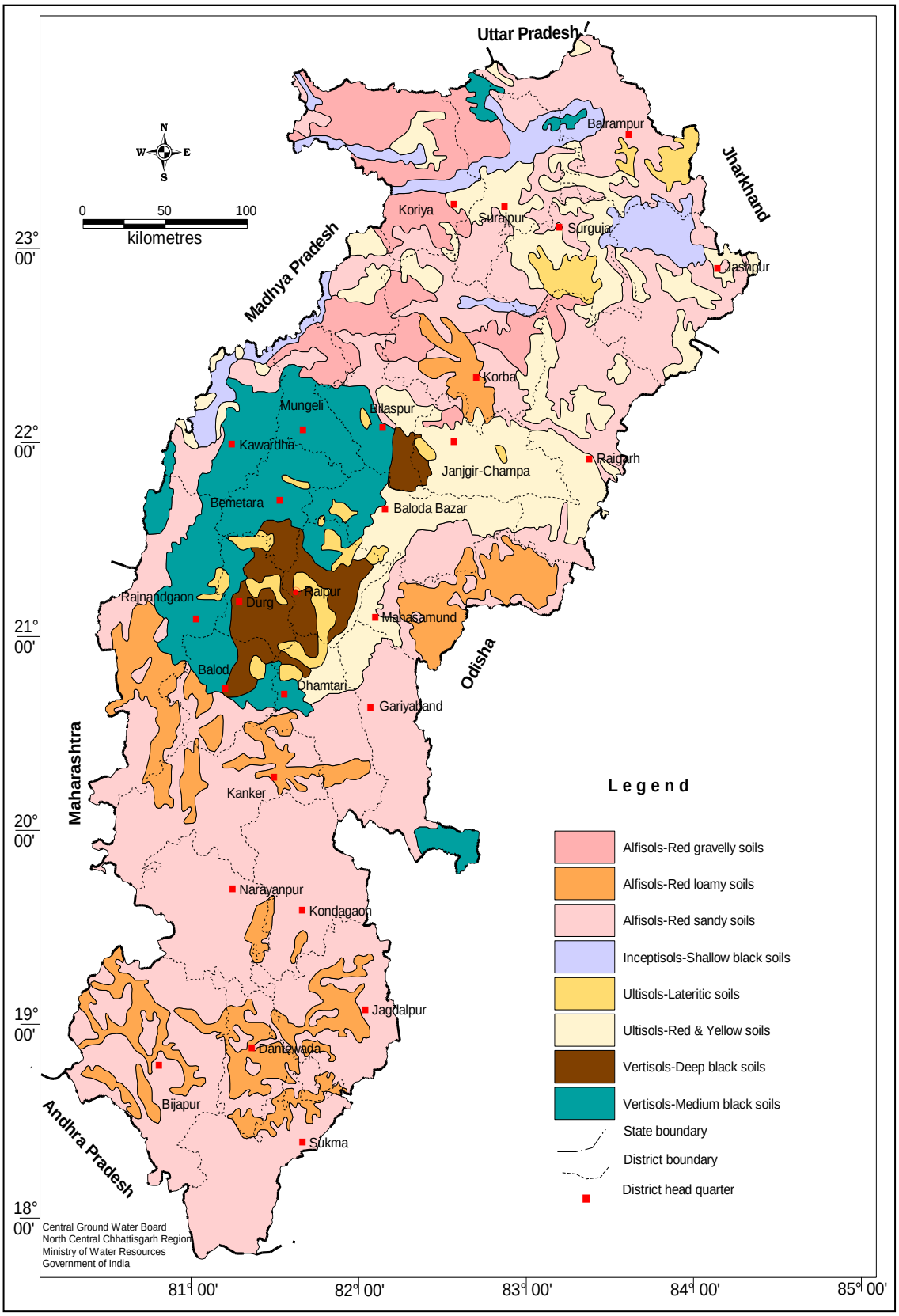


Fig 4.1: Distribution of soil in Chhattisgarh state

4.2 Land use

The land use pattern is an important index of the human, social, cultural, and economic developments. As per the available statistics (Department of Statistics, Govt. of Chhattisgarh), 6352413 Ha. (46 %) of the total area in the State is covered by forests. The forests include protected forests, reserved forests, revenue forests and others. Nearly, 85.14 % of Narayanpur district (638801 Ha) is covered and area wise Narayanpur district has the maximum forest cover (638801 Ha). Bemetara district has the lowest forest cover in terms of percentage of the total area (0.015 %, 40 Ha) and area wise Bemetara has the lowest forest cover (40 Ha). The net sown area for Chhattisgarh is just 33.87% (4671469Ha). The double cropped area is 1019386 Ha. Nearly 37 % of the net sown area has irrigation facilities. Land use map is presented in **Fig. 4.2**.

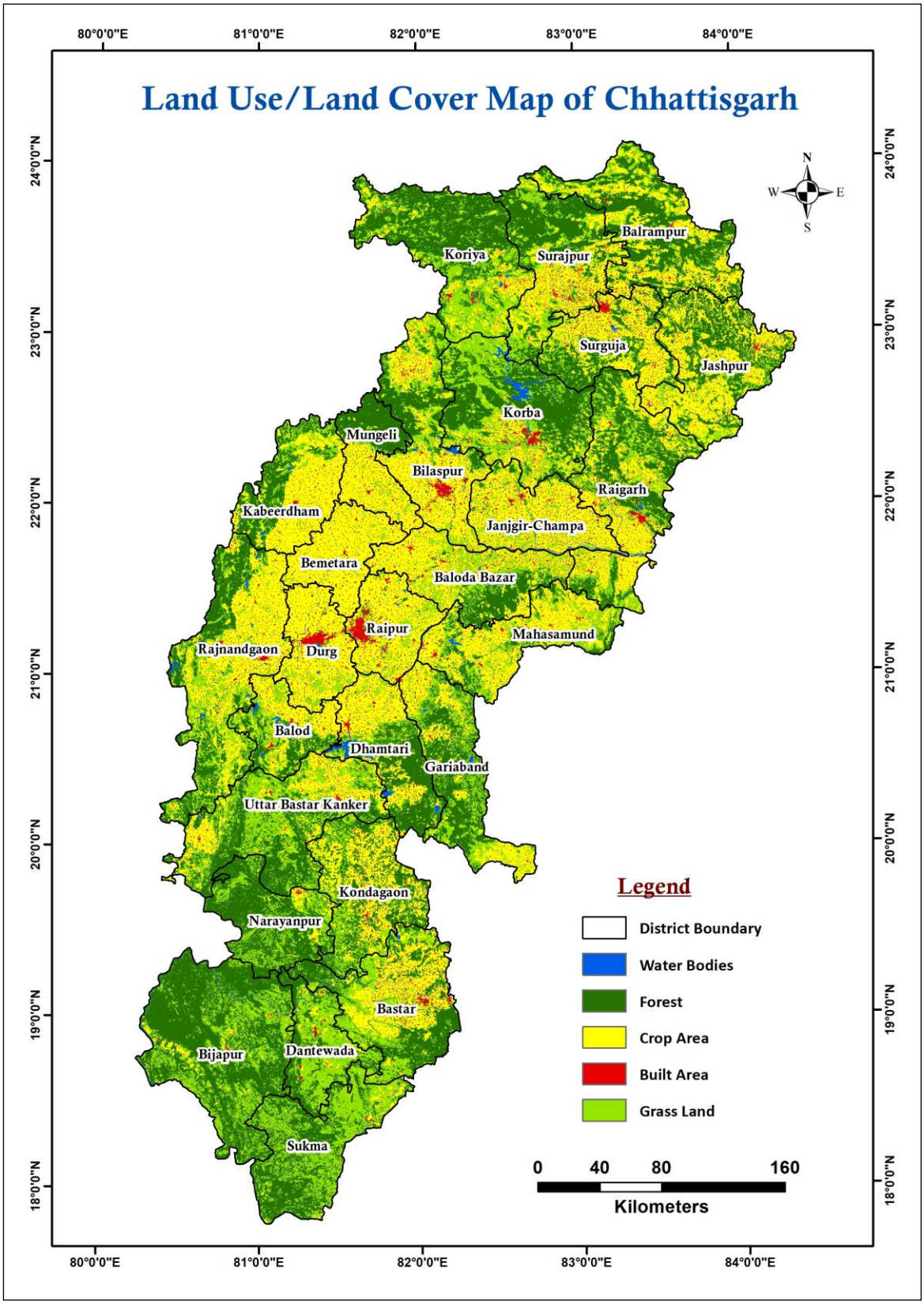


Fig. 4.2: Landuse map of the Chhattisgarh state

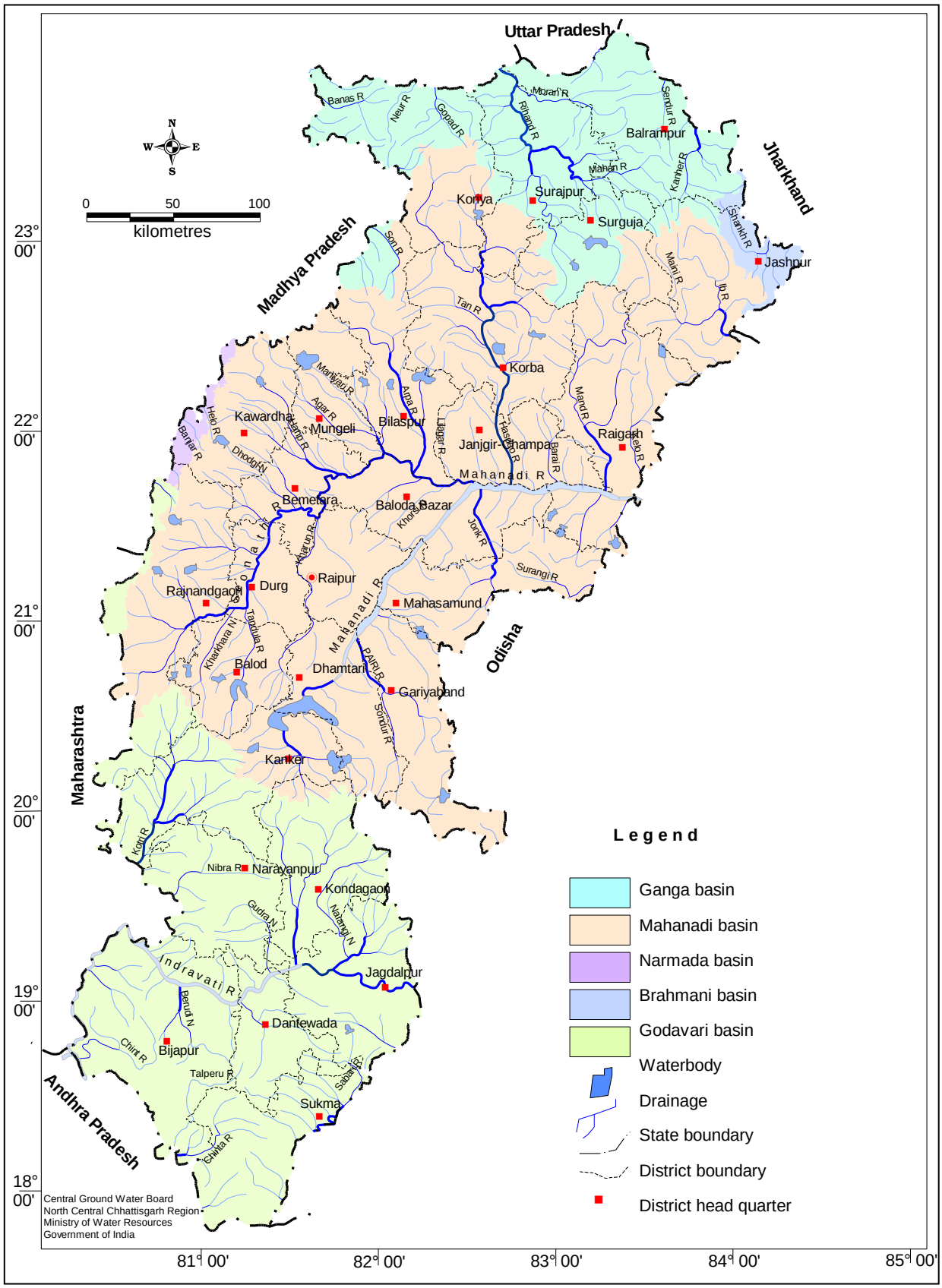


Fig. 4.3: Basin and Drainage map of the Chhattisgarh state

5. HYDROGEOLOGICAL CONDITIONS

The occurrence and movement of ground water is related to the existing geology of the area. The State is underlain by various rock types belonging to different geological ages, from Azoic to Quaternary. The major litho-units are shown in **Fig. 5.1** and the general geological succession is given in **Table 5.1**.

Nearly 58 % of the State is covered by Crystalline and metamorphic rocks; around 27 % of the area is covered by Chhattisgarh Group of rocks. The semi-consolidated Gondwana Supergroup of rocks covers 13 % of the area and the remaining 2 % by Daccan trap, Lameta, Laterite and River Alluvium.

The Archaean crystalline rocks comprise of granites and gneisses form the major litho-unit in the area. The ground water occurs under unconfined to semi-confined conditions. All the districts except Janjgir- Champa are covered by crystalline. The weathered formation and the fractures form the main repository for ground water in these rocks. The second important litho-unit in the area is the Proterozoic arenaceous–argillaceous- calcareous rocks of Chhattisgarh, Indravati, Khariyar and Sukma Groups. The weathered formation, caverns, fractures and formation contacts form the potential ground water zones. The karstified argillo –calcareous rocks are much more productive than compact –silicified arenaceous sediments. The gypsum karsts are more intense than calcareous karsts in the Chhattisgarh basin. The overall karstification in Indravati basin is much higher than in the Chhattisgarh basin. Karsts, though few and far in between are the best repository for ground water. These rocks cover the districts of Bastar, Narayanpur, Kondagaon, Dantewada, Bijapur, Sukma, Kanker, Raipur, Dhamtari, Mahasamund, Durg, Rajnandgaon, Kawardha, Bilaspur, Mungeli, Janjgir- Champa, Korba and Raigarh.

The rocks belonging to Gondwana Supergroup are the third major litho-unit in the area. The sandstone shows primary and occasional secondary porosity. They form thick and extensive unconfined to confined aquifers extending to a depth of 300 mbgl. At some places free flow conditions are existing and at places the temperature goes up to 50^0C. The Gondwana formations are covering the districts of Raigarh, Korba, Koriya and Surguja and are exhibiting confined conditions.

Table 5.1: Geological Succession of Chhattisgarh state		
Age	**Formation**	**Lithology**
Quaternary	Recent to sub recent	Alluvium – clay, silt, sand pebble, gravel, laterite ferruginous concretions
Cenozoic	Deccan traps	Traps with or without intertrappean sediments
Cenozoic, Mesozoic, Upper Paleozoic	Gondwana Super group	Sandstone, shale, conglomerate, quartzite, silt – stone, clay stone.
Proterozoic	Chhattisgarh Super group Chilipi, Kotri, Dongargarh, Iron Ore Super group	Limestone and shale Arkose, conglomerate, sandstone, silt stone, shale Schist, phyllite, slate, gneiss, marble, BHQ.
Azoic	Basement crystalline Basement crystalline	Charnockite, Khondalite, granulite, gneisses and meta sediments Granites, gneisses and associated basic and ultra-basic intrusive

The unconsolidated formation of Quaternary age comprises of alluvium, clay, silt and laterite form as a thin and extensive unconfined aquifer in several isolated patches along major River courses. The thickness extending up to a depth of 30 mbgl along Mahanadi, Arpa, Hasdeo, Seonath, Kharun, Mand, Kelo Rivers.

From the hydrogeological point of view, all rock types existing in the State can broadly be divided into three groups as i) the consolidated formations, ii) the semi consolidated formations and iii) the unconsolidated formations. The hydrogeological map of the state is presented in **Fig. 5.2.**

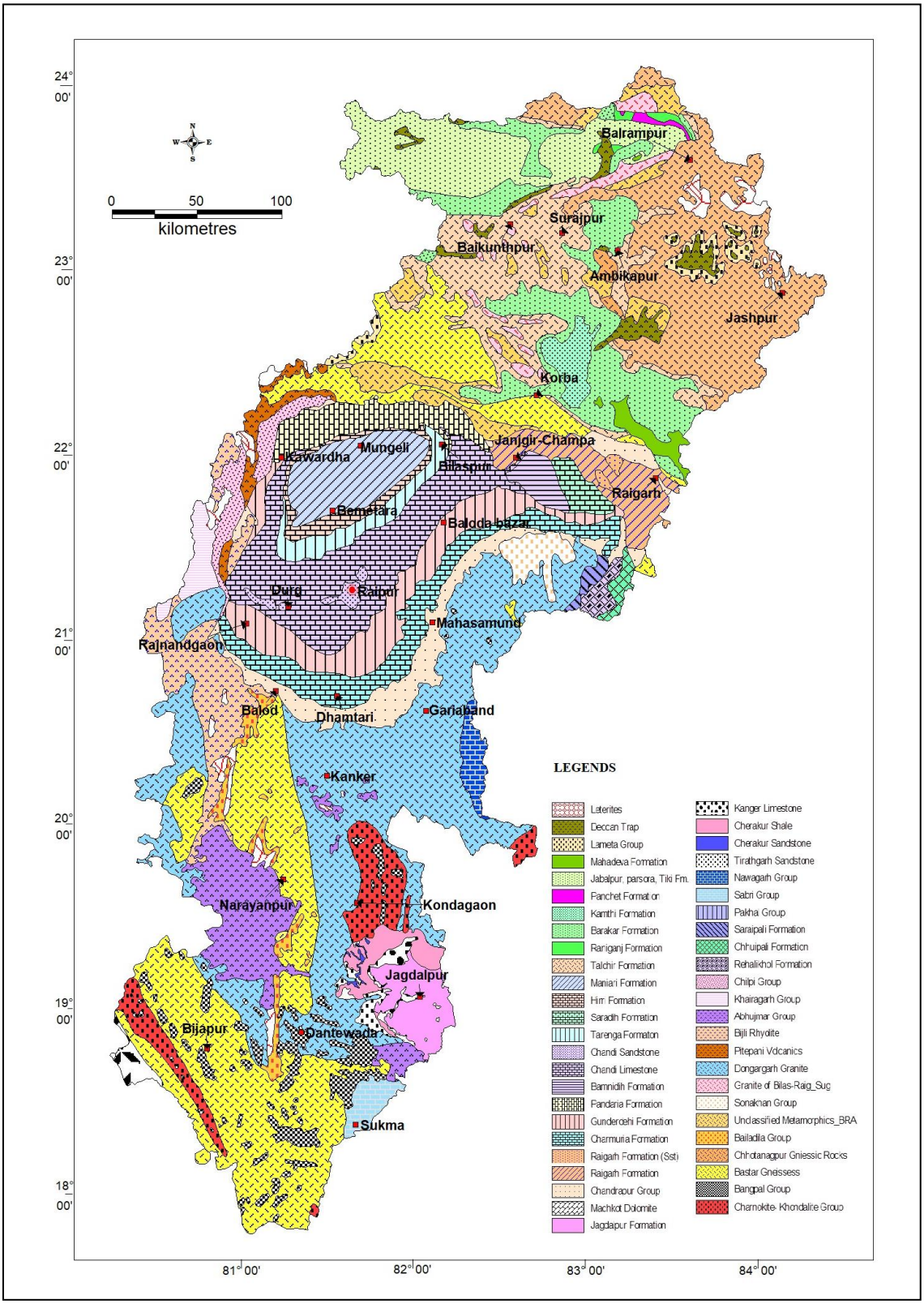


Fig. 5.1: Geological map of Chhattisgarh state

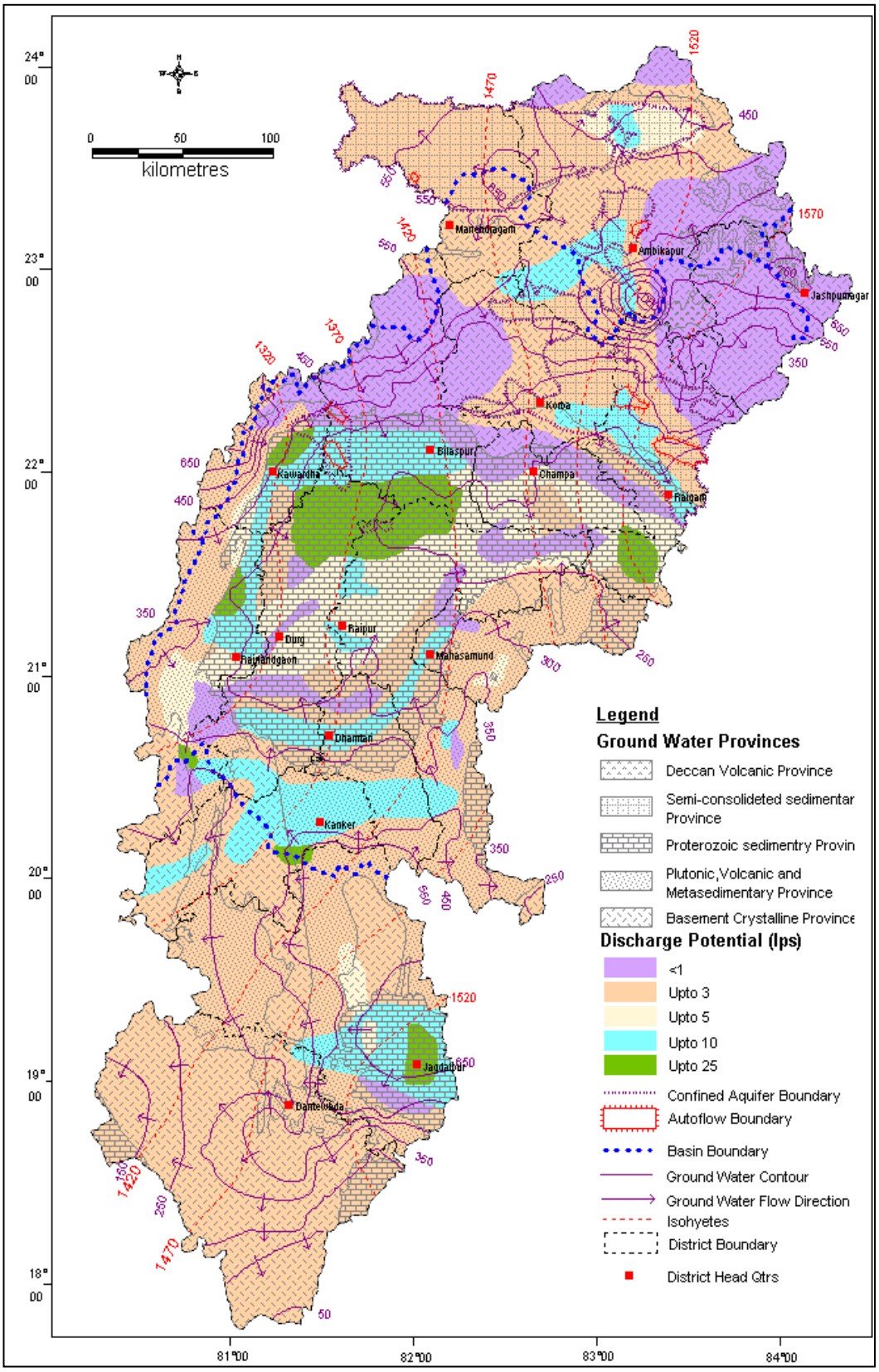


Fig. 5.2: Hydrogeological map of Chhattisgarh State

5.1 Consolidated Formation

The consolidated formations include the crystalline and the metamorphosed sedimentary formations belonging to Proterozoic age. They are mainly granites, granite gneisses, schistose rocks, charnockites, quartzites, calcsilicate rocks, shales, phyllites and limestones. These rocks are devoid of primary porosity. The ground water occurs in the secondary porosity resulting from fracturing, jointing and weathering. These hard rock aquifers exhibit considerable variations laterally as well as depth wise. The weathered formation is composed of loose regolith with secondary intergranular porosity, which facilitates free circulation of ground water. Also, the fractures at depth form potential repository of ground water. In general, the average thickness of weathered formation varies from 15 to 20 m. The ground water occurs under water table conditions. The water bearing fracture zones are generally occurring within a depth of 100m, but deeper potential fractures are also encountered in some of the boreholes.

Deccan Trap basalts are typical hard rock formations. The lava flows are generally 10 to 20 m thick. The top of each flow comprises of 25 to 40 % vesicular/fragmentary basalt. The vesicles are generally filled with secondary minerals like calcite and zeolite. The characteristic red bole beds form the marker horizons and occur as inter- trappean beds between successive flows. Deccan Traps with primary vesicular structure and secondary fractures and joints are moderately productive from ground water point of view. The ground water occurs under both unconfined to semi confined conditions. The Deccan Trap basalts are occurring at few places.

5.2 Semi-consolidated Formation

The semi-consolidated formations include Gondwana Supergroup of sedimentary rocks and ranging in age from Upper Carboniferous to Cretaceous. This group includes sandstone, shale, siltstone and conglomerate beds. These formations are generally highly compact and possess less intergranular porosity. The coarse to medium grained, weathered, fractured and friable sandstone forms good aquifer. The ground water occurs under water table conditions in the near surface aquifers and under confined conditions in the deeper aquifers. The depth of weathering in Gondwana Group of rocks generally extends to a depth of 15 m.

5.3 Unconsolidated Formation

The unconsolidated formations include alluvium and laterite. Alluvium occurs as discontinues patches along the River courses where the thickness is limited. The sand and gravel layers act as a good repository for ground water. The ground water occurs under unconfined conditions. The laterites occur as cap rocks on basalts or granites. The laterites are vesicular, essentially ferruginous and form good repository of ground water.

6. GROUND WATER REGIME MONITORING

Ground water level is not static. It is always under the influence of time-dependent recharge and discharge factors. As a result, the water level in the aquifer system fluctuates and the range depends on the period of influence. The recharge is due to many factors such as rainfall, seepage from reservoirs, lakes, ponds, rivers and irrigation, etc. The discharge includes ground water withdrawal through manual and pumping systems, natural seepage to rivers and sea, evaporation from shallow water table and transpiration through vegetation.

Central Ground Water Board is monitoring the ground water regime through the length and breadth of the country since the year 1969 through a network of Hydrograph Stations (NHS). The density of observation wells is increased from year to year. As on 30th November 2022, a total of 1287 number of observation wells, which included both dug wells (1041) and piezometers (246) were established in Chhattisgarh for monitoring purposes. Location of the NHS wells is shown in **Fig. 6.1**. The details of NHS are given in Annexure-I.

The hydrograph network stations (NHS) are established permanently and are monitored during every set of measurements. The existing network provides information on ground water regime with fair degree of accuracy. The NHS wells are monitored four times in a year during the following months. They are;

January ***- 1st to 10th of the month- represents the recession stage of water level***

May ***- 21st to 31st of the month - represents water level of Pre-monsoon period.***

August ***- 21st to 31st of the month - represents peak monsoon water level***

November ***- 1st to 10th of the month- represents water level of post-monsoon period.***

Water samples were collected from each network station during the month of May 2023(Pre - monsoon) to assess the chemical quality of ground water.

6.1 Distribution of Hydrograph Network Stations (NHS)

a) District-wise - The total number of hydrograph network stations (NHS) in the state are 1308. Out of these, 1062 are dug wells tapping the shallow aquifer and 246 are piezometers and Exploratory Wells (EW) tapping both shallow and deeper aquifers. District-wise distribution of the hydrograph network stations is given in **Table 6.1** and shown in **Fig. 6.1 & 6.1.1**.

Sl. No.	Name of the District	Total No. of Ground Water Monitoring Wells (As on 1st January 2022)			Total No. of Ground Water Abandoned Wells			Total No. of Ground Water Monitoring Wells Established			Total No. of Ground Water Monitoring Wells (As on1st January 2023)		
		DW	PZ	Total	DW	PZ	Total	DW	PZ	Total	DW	PZ	Total
1	Bastar	29	13	42	1	0	1	0	0	0	28	13	41
2	Bilaspur	117	16	133	2	0	2	0	0	0	115	16	131
3	Dhamtari	33	11	44	3	3	6	0	0	0	30	8	38
4	Durg	139	23	162	0	0	0	2	4	6	141	27	168
5	Janjgir-Champa	60	14	74	4	0	4		0	0	56	14	70
6	Jashpur	77	10	87	0	0	0	6	0	6	83	10	93
7	Kanker	11	2	13	0	0	0	0	0	0	11	2	13
8	Kawardha	14	8	22	0	0	0	0	0	0	14	8	22
9	Korba	82	30	112	0	0	0	5	1	6	87	31	118
10	Koriya	58	5	63	0	0	0	6	0	6	64	5	69
11	Mahasamund	31	32	63	0	1	1	1	0	1	32	31	63
12	Raigarh	113	10	123	6	0	6	0	2	2	107	12	119
13	Raipur	96	34	130	0	4	4	7	0	7	103	30	133
14	Rajnandgaon	68	19	87	3	1	4	0	0	0	65	18	83
15	Surguja	113	19	132	0	0	0	13	2	15	126	21	147
Total		**1041**	**246**	**1287**	**19**	**9**	**28**	40	9	49	**1062**	**246**	**1308**

Table-1: District-wise distribution of water level monitoring stations as per January 2024

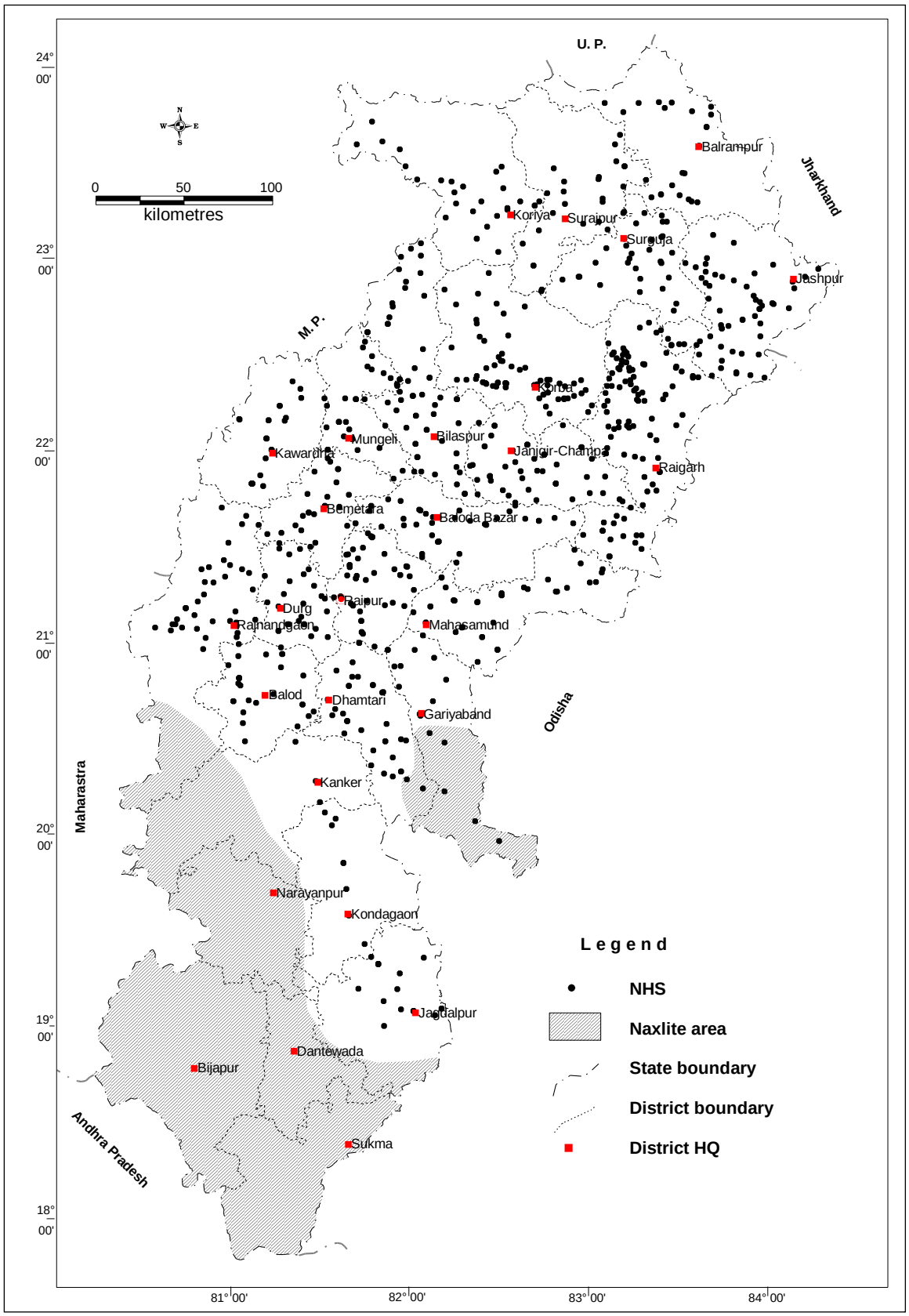


Fig. 6.1: Location of NHS monitoring stations of Chhattisgarh State.

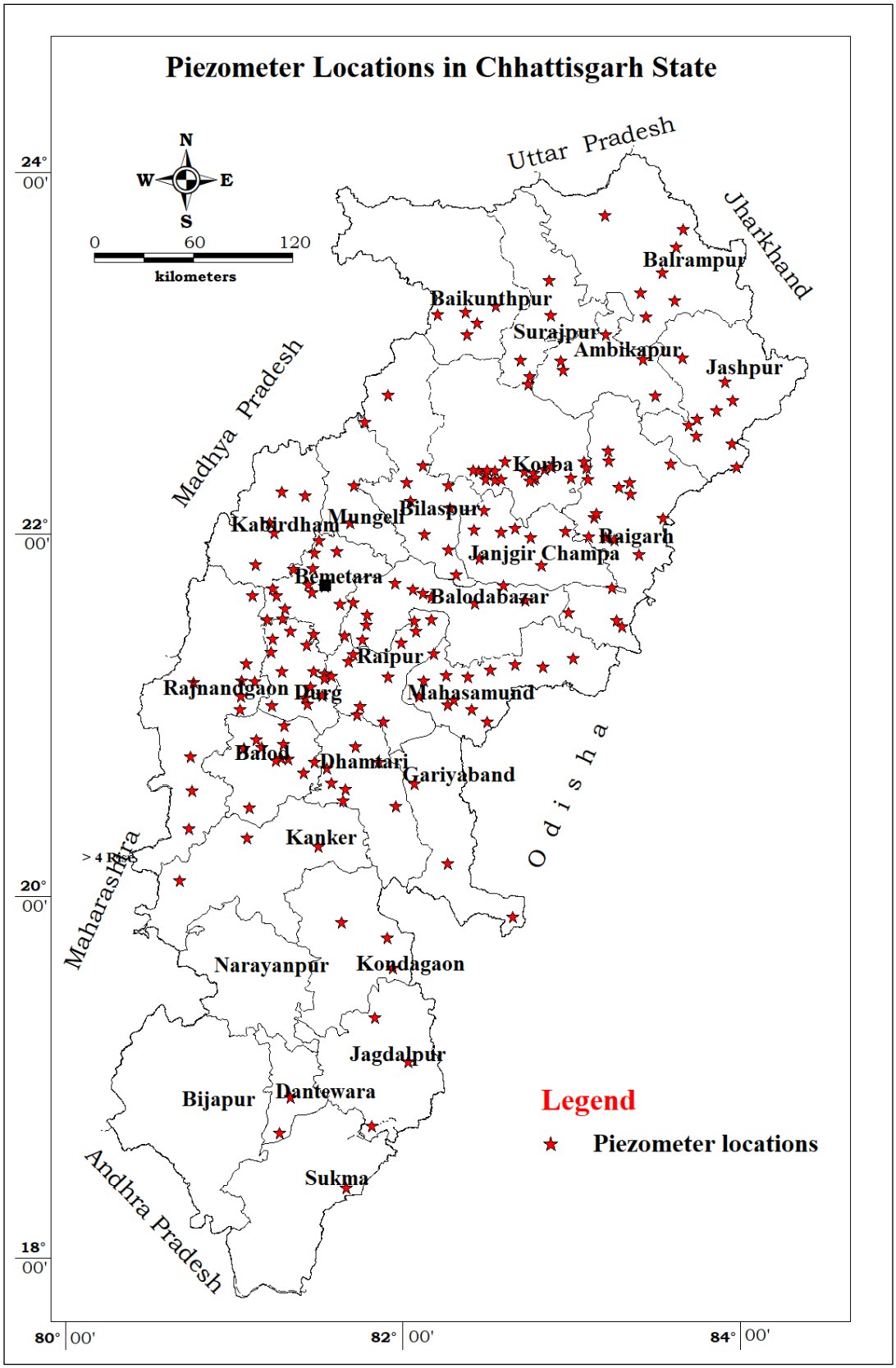


Fig. 6.1.1: Piezometer Location Map of Chhattisgarh State.

7. ANALYSIS OF WATER LEVEL

The ground water levels observed over a period provides valuable information on the behavior of the ground water regime, which is constantly subjected to changes due to recharge and discharge phenomena. A balance between these two factors is resulting in the decline or rise in the ground water storage. When the recharge exceeds discharge there will be a rise in the ground water storage and vice versa. The decline in water level may be due to increase in draft (for different purposes) or decrease in precipitation (less recharge to ground water). On the other hand, a rise in water level may be due to an increase in rainfall and/or due to changes in irrigation practices.

The dug wells are tapping the phreatic aquifer which is mostly limited to a depth of 15 m. The depth of piezometers which are tapping both the phreatic and deeper aquifers varies from 18 to 90 m. Hence the water level recorded in the piezometers may not be the same as that of dug wells for a particular period though both the structures are in the same place. In this report the water level data collected from the dug wells and the piezometers are presented. The water level in some of the wells on the southern part of the State could not be measured due to various reasons. Hence those areas are left blank while preparing different maps.

The NHS (dug wells) water level data collected four times during the year 2023 was analyzed and for every set of measurements, write up and maps were prepared and are presented here under various paragraphs. The NHS (dug well) water level data is given in **Annexure-II**. The purpose of water level data analysis are:

i) Four measurements of depth to water level gives an overall idea regarding the ground water level in the state during the year of measurement.

ii) The fluctuation in comparison to the same month in the previous year gives an idea about the change in the ground water level for a particular period with respect to that of the level during the same month in the previous year. This gives an idea about the change in the amount of draft and rainfall between the two years.

iii) The water level fluctuation during the pre-monsoon period in comparison to last year gives an idea about the seasonal fluctuation, which ultimately reflects the change in dynamic ground water resources.

iv) The water level fluctuation during a particular month of measurement with reference to the decadal mean for the same months gives an idea of the behavior of the ground water level on long-term basis.

7.1 Depth to Water Level

7.1.1 May 2023

In general, the depth to water level ranges ranges 0 to 2 m bgl is observed in approximately 2.24 % of the wells, 2 to 5 m bgl is observed in approximately 32.24% of the wells and depth to water level range up to 10 m bgl is observed in 52.44% of the wells in the state. Deeper water levels ranging between 10 - 20 and 20 - 40 m bgl occur respectively in 12.34% and 0.714% of the observation wells only in parts of Bilaspur, Durg, Janjgir Champa Dhamtari, Mahasamund, Raigarh districts. The deepest water level of 25.31m bgl was monitored in Sikharipalli, Pithora observation well of Mahasamund district.

22 numbers of wells (approximately 2.24% of the monitored wells) in the state are showing water levels between 0 - 2 m bgl in almost all the districts of Chhattisgarh State. Water levels in the range of 2 - 5 m bgl are recorded in about 316 of the observation wells monitored. The highest percentages of wells in this range are in Raipur (63.44%), Dhamtari (56.25m bgl) Durg (45.45%), Kanker (57.14%), Mahasamund (25.81%), Rajnandgaon (32.31 %), Bastar (25.93%) and Janjgir champa (29.41%) districts. Nearly, 32.24% of observation wells are exhibiting water level in the range of 2 – 5 m bgl in most of the districts of the state.

The district wise frequency distribution of different ranges of depth to water level is furnished in Annexure-I. District wise distribution of percentage of observation wells at different ranges of depth to water level as observed in May 2023 are given in **Table 7.1** and represented on a map and appendeix as **Fig. 7.1**.

7.1.2 August 2023

In general, the depth to water level range up to 2 m bgl is observed in approximately 33.11% of the wells and depth to water level range up to 5 m bgl is observed in approximately 48.85% of the wells in the state. Deeper water levels ranging between 5 and 10 mbgl occur only in 16.06 % of the observation wells and mostly in parts of Jashpur, Raigarh and Surguja, Kawardha and Bilaspur districts. The deepest water level of 50 m bgl was monitored in Ganiyari Pz observation well of Bilaspur district.

305 numbers of wells (approximately 33.116% of the monitored wells) in the state are showing water levels between 0 - 2 m bgl in almost all the districts of Chhattisgarh state. Water levels in the range of 2 - 5 m bgl are recorded in 450 observation wells monitored (approximately 48.85%) The highest percentages of wells in this range are in Surguja

(48.35%), Raipur(70.65%), Jashpur (51.28%), Koriya (54.17%), Raigarh (46.15%), Rajnanadgaon (43.18%), Mahasamund (84.62%), Kawardha (50.00%), Dhamtari (35.90%), Korba (67.16%) and Bilaspur(40%) districts. Nearly, 16.06% of the observation wells are exhibiting water level in the range of 5-10 m bgl in most of the districts of the state.

The district wise frequency distribution of different ranges of depth to water level are furnished in **Annexure-I**. District wise distribution of percentage of observation wells at different ranges of depth to water level as observed in August 2023 are given in **Table 7.2** and represented on a map and appended as **Fig. 7.2.**

7.1.3 November 2023

In general, the depth to water level range up to 2 m bgl is observed in approximately in 17.57% of wells, water level range up to 5 m bgl is observed in approximately 58.30% of the wells and depth to water level range up to 10 m bgl is observed in approximately 22.61% of the wells in the state. Deeper water levels ranging between 10 and 20 m bgl occur only in 1.26% of the observation wells and mostly in parts of Surguja Raigarh, Kanker Durg and Kawardha districts. The deepest water level of 50 mbgl was monitored in Ganiyari new observation well of Bilaspur district.

164 numbers of wells (approximately 17.57% of the monitored wells) in the state are showing water levels between 0-2 m bgl in almost all the districts of Chhattisgarh State. Water levels in the range of 2-5 m bgl are recorded in about **544** (58.30%) of the observation wells monitored. The highest percentages of wells in this range are in Korba (61.11%), Kanker (57.14%), Koriya (70.83%), Jashpur (58.23%), Janjgir-champa (56.25%), and Sarguja (61.11%) districts. Nearly 22.61% of observation wells are exhibiting water level in the range of 5-10 mbgl in most of the districts of the state.

The district wise frequency distribution of different ranges of depth to water level are furnished in **Annexure-I**. District wise distribution of percentage of observation wells at different ranges of depth to water level as observed in November 2023 are given in **Table 7.3** and represented on a map and appended as **Fig. 7.3.**

7.1.4 January 2024

In general, the depth to water level range up to 5 m bgl is observed in approximately 60.95% of the wells and depth to water level range up to 10 m bgl is observed in approximately 35.46% of the wells in the state. Deeper water levels ranging between 10 and 20 m bgl occur

only in 3.36% of the observation wells and mostly in parts of Surguja, Mahasamund, Korba Bilaspur and Durg districts. The deepest water level of 89 m bgl was monitored in Chandrakhuri Pz observation well of Bilaspur district.

71 numbers of wells (approximately 7.7% of the monitored wells) in the state are showing water levels between 0-2 m bgl in almost all the districts of Chhattisgarh State except Kanker and Kawardha districts. Water levels in the range of 2 - 5 m bgl are recorded in about 491 (53.25%) of the observation wells monitored. The highest percentages of wells in this range are in Kanker (71.43%), Raipur(65.52%), Rajnandgaon(63%), Dhamtari (56.67%), Mahasamund (61.54%), Bastar (59.26%) and Durg (57.69%) districts. Nearly 35.46% of observation wells are exhibiting water levels in the range of 5-10 m bgl in all districts.

The district wise frequency distribution of different ranges of depth to water level are furnished in **Annexure-I**. The district wise frequency distributions of different ranges of depth to water level are furnished in **Table 7.4**. Different ranges of depth to water table as observed in January 2024 are represented on a map and appended as **Fig 7.4.**

Table 7.2: District wise distribution of percentage of observation wells at different ranges of depth to water level in May, 2023

State	Chhattisgarh								
District	No. of Wells Analysed	Depth to Water Table (mbgl)		No. / Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
		Min	Max	0.0-2.0	2.0-5.0	5.0-10.0	10.0-20.0	20.0-40.0	>40.0
Bastar	27	2.93	11.00	0	7 25.93%	18 66.67%	2 7.41%	0	0
Bilaspur	113	1.49	31.20	2 1.77%	29 25.66%	57 50.44%	23 1.77%	2 1.77%	0
Dhamtari	32	1.32	26.43	3 9.38%	18 56.25%	7 21.88%	3 9.38%	1 3.13%	0
Durg	132	1.01	24.98	4 3.03%	60 45.45%	47 35.61%	19 14.39%	2 1.52%	0
Janjgir - champa	51	0.93	14.69	4 7.84%	15 29.41%	27 52.94%	5 9.80%	0	0
Jashpur	77	1.35	20.00	2 2.60%	14 18.18%	53 68.83%	8 10.39%	0	0
Kanker	7	3.89	9.60	0	4 57.14%	3 42.86%	0	0	0
Kawardha	15	4.07	16.70	0	2 13.33%	11 73.33%	2 13.33%	0	0
Korba	76	2.20	18.99	0	19 25.00%	47 61.84%	10 13.16%	0	0
Koriya	50	1.05	12.30	2 4.00%	20 40.00%	24 48.00%	4 8.00%	0	0
Mahasamund	31	2.71	20.44	0	8 25.81%	14 45.16%	8 25.81%	1 3.23%	0
Raigarh	105	0.75	27.12	3 2.86%	24 22.86%	67 63.81%	10 9.52%	1 0.95%	0
Raipur	93	1.64	15.95	1 1.08%	59 63.44%	27 29.03%	6 6.45%	0	0
Rajnandgaon	65	1.90	15.00	1 1.54%	21 32.31%	35 53.85%	8 12.31%	0	0
Surguja	106	2.70	18.42	0	16 15.09%	77 72.64%	13 12.26%	0	0
Total	980	0.75	31.20	22	316	514	121	7	0

Table 7.2: District wise distribution of percentage of observation wells at different ranges of depth to water level in August, 2023									
		Depth to Water Table (mbgl)		No. / Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
Districts	No. of Wells Analysed	Min	Max	0.0-2.0	2.0-5.0	5.0-10.0	10.0-20.0	20.0-40.0	>40.0
Bastar	27	0.52	9.54	17 62.96%	8 29.63%	2 7.41%	0	0	0
Bilaspur	100	0.20	50.00	35 35.00%	40 40.00%	20 20.00%	4 4%	0	1 1.00%
Dhamtari	32	1.02	7.43	10 31.25%	21 65.63%	1 3.13%	0	0	0
Durg	128	0.34	19.23	66 51.56%	38 29.69%	21 16.41%	3 2.34%	0	0
Janjgir - champa	47	0.40	8.55	19 40.43%	23 48.94%	5 10.64%	0	0	0
Jashpur	78	0.75	14.24	16 20.51%	40 51.28%	21 26.92%	1 1.28%	0	0
Kanker	6	1.07	1.87	6 100.00%	0	0	0	0	0
Kawardha	14	0.80	6.90	3 21.43%	7 50.00%	4 28.57%	0	0	0
Korba	67	0.95	12.75	11 16.42%	45 67.16%	10 14.93%	1 1.49%	0	0
Koriya	48	0.95	10.75	13 27.08%	26 54.17%	8 16.67%	1 2.08%	0	0
Mahasamund	26	1.16	7.22	1 3.85%	22 84.62%	3 11.54%	0	0	0
Raigarh	104	0.60	30.73	35 33.65%	48 46.15%	19 18.27%	1 0.96%	1 0.96%	0
Raipur	92	0.75	6.52	23 25.00%	65 70.65%	4 4.35%	0	0	0
Rajnandgaon	61	0.41	15.00	31 50.82%	23 37.70%	6 9.84%	1 1.64%	0	0
Surguja	91	0.75	13.35	19 20.88%	44 48.35%	24 26.37%	4 4.40%	0	0
Total	921	0.20	50.00	305	450	148	16	1	1

Table 7.3: District wise distribution of percentage of observation wells at different ranges of depth to water level in November, 2023

District	No. of Wells Analysed	Depth to Water Table (mbgl)		No. / Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
		Min	Max	0.0-2.0	2.0-5.0	5.0-10.0	10.0-20.0	20.0-40.0	>40.0
Bastar	27	1.20	8.25	3 11.11%	12 44.44%	12 44.44%	0	0	0
Bilaspur	106	0.79	50.00	18 16.98%	55 51.89%	30 28.30%	2 1.89%	0	1 0.94%
Dhamtari	32	1.20	10.00	7 21.88%	14 43.75%	11 34.38%	0	0	0
Durg	130	0.55	15.91	21 16.15%	80 61.54%	26 20.00%	3 2.31%	0	0
Janjgir - champa	48	0.98	7.80	15 31.25%	27 56.25%	6 12.50%	0	0	0
Jashpur	79	0.65	14.10	11 13.92%	46 58.23%	21 26.58%	1 1.27%	0	0
Kanker	7	1.70	18.68	1 14.29%	4 57.14%	1 14.29%	1 14.29%	0	0
Kawardha	15	1.50	13.50	2 13.33%	8 53.33%	4 26.67%	1 6.67%	0	0
Korba	72	1.20	9.50	9 12.50%	44 61.11%	19 26.39%	0	0	0
Koriya	48	1.20	9.80	5 10.42%	34 70.83%	9 18.75%	0	0	0
Mahasamund	28	1.80	8.50	2 7.14%	0 64.29%	8 28.57%	0	0	0
Raigarh	101	0.20	20.50	17 16.83%	1 56.44%	25 24.75%	1 0.99%	1 0.99%	0
Raipur	90	1.00	10.22	27 30.00%	1 1.11%	6 6.67%	1 1.11%	0	0
Rajnandgaon	60	0.80	8.70	18 30.00%	34 56.67%	8 13.33%	0	0	0
Surguja	90	1.25	13.00	8 8.89%	55 61.11%	25 27.78%	2 2.22%	0	0
Total	933	0.20	50.00	164	544	211	12	1	1

Table 7.4: District wise distribution of percentage of observation wells at different ranges of depth to water level in January, 2024

		Depth to Water Table (mbgl)		No. / Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
District	**No. of Wells Analysed**	**Min**	**Max**	**0.0-2.0**	**2.0-5.0**	**5.0-10.0**	**10.0-20.0**	**20.0-40.0**	**>40**
Bastar	27	1.40	8.65	1 3.70%	16 59.26%	10 37.04%	0	0	0
Bilaspur	104	0.60	89.00	10 9.62%	51 49.04%	36 34.62%	6 5.77%	0	1 0.96%
Dhamtari	30	1.15	9.40	5 16.67%	17 56.67%	8 26.67%	0	0	0
Durg	130	1.00	20.56	13 10.00%	76 57.69%	36 27.69%	4 3.85%	1 0.77%	0
Janjgir - champa	49	0.70	8.52	7 14.29%	22 44.90%	20 40.82%	0	0	0
Jashpur	78	1.10	15.70	6 7.69%	41 52.56%	30 38.46%	1 1.28%	0	0
Kanker	7	2.60	9.85	0	5 71.43%	2 28.57%	0	0	0
Kawardha	15	2.25	9.00	0	8 53.33%	7 46.67%	0	0	0
Korba	70	1.30	14.47	3 4.29%	33 47.14%	31 44.29%	3 4.29%	0	0
Koriya	48	1.20	11.30	3 6.25%	29 60.42%	14 29.17%	2 4.17%	0	0
Mahasamund	26	2.60	13.41	0	16 61.54%	9 34.62%	1 3.85%	0	0
Raigarh	101	0.40	12.20	9 8.91%	48 47.52%	42 41.58%	2 1.98%	0	0
Raipur	87	1.10	15.00	7 8.05%	57 65.52%	21 24.14%	2 2.30%	0	0
Rajnandgaon	60	1.30	11.53	5 8.33%	38 63.33%	16 26.67%	1 1.67%	0	0
Surguja	90	1.80	15.30	2 2.22%	35 38.89%	45 50.00%	8 8.89%	0	0
Total	922	0.40	89.00	71	491	327	31	1	1

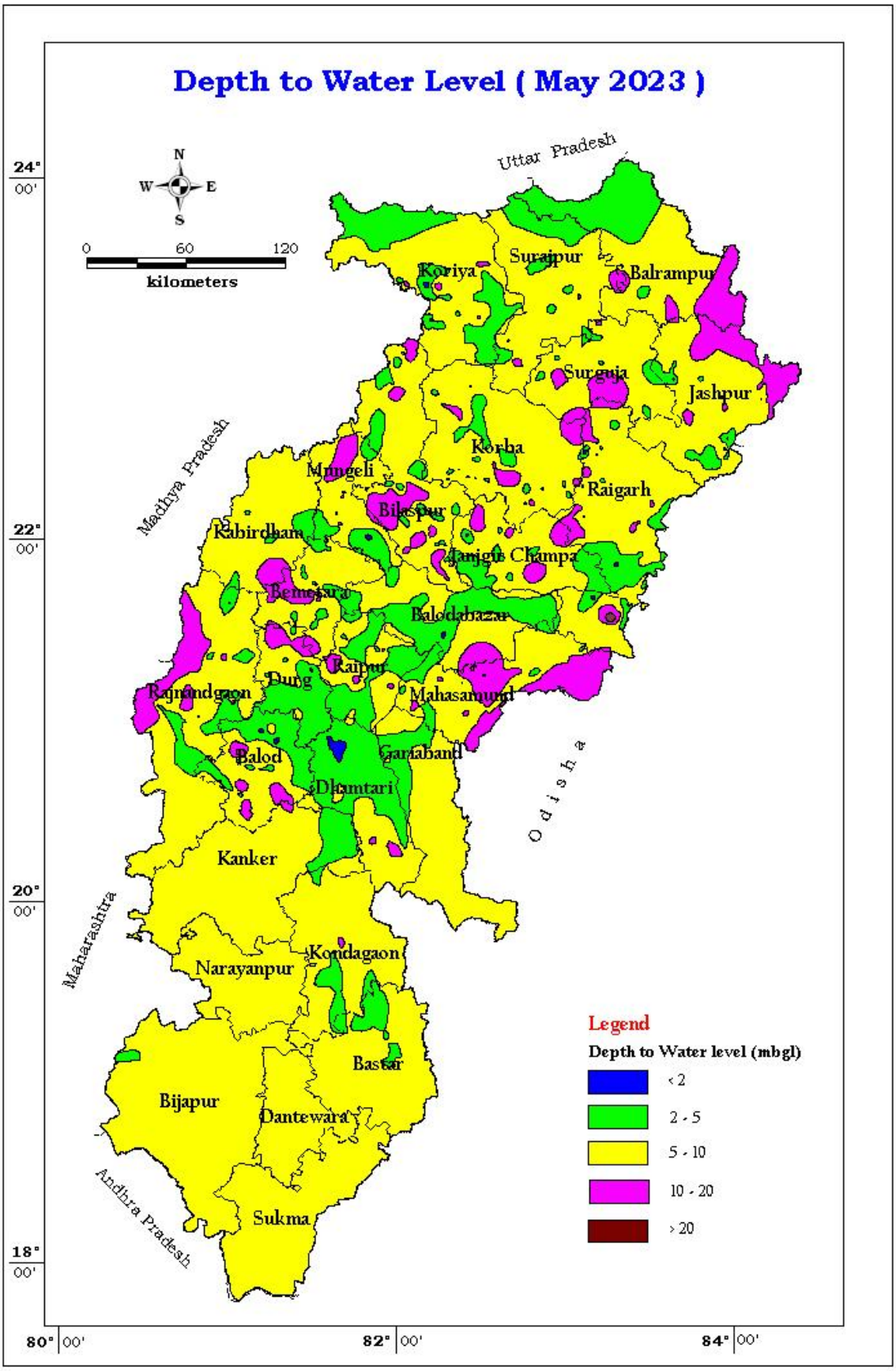


Fig. 7.1: Depth to Water Level (May, 2023)

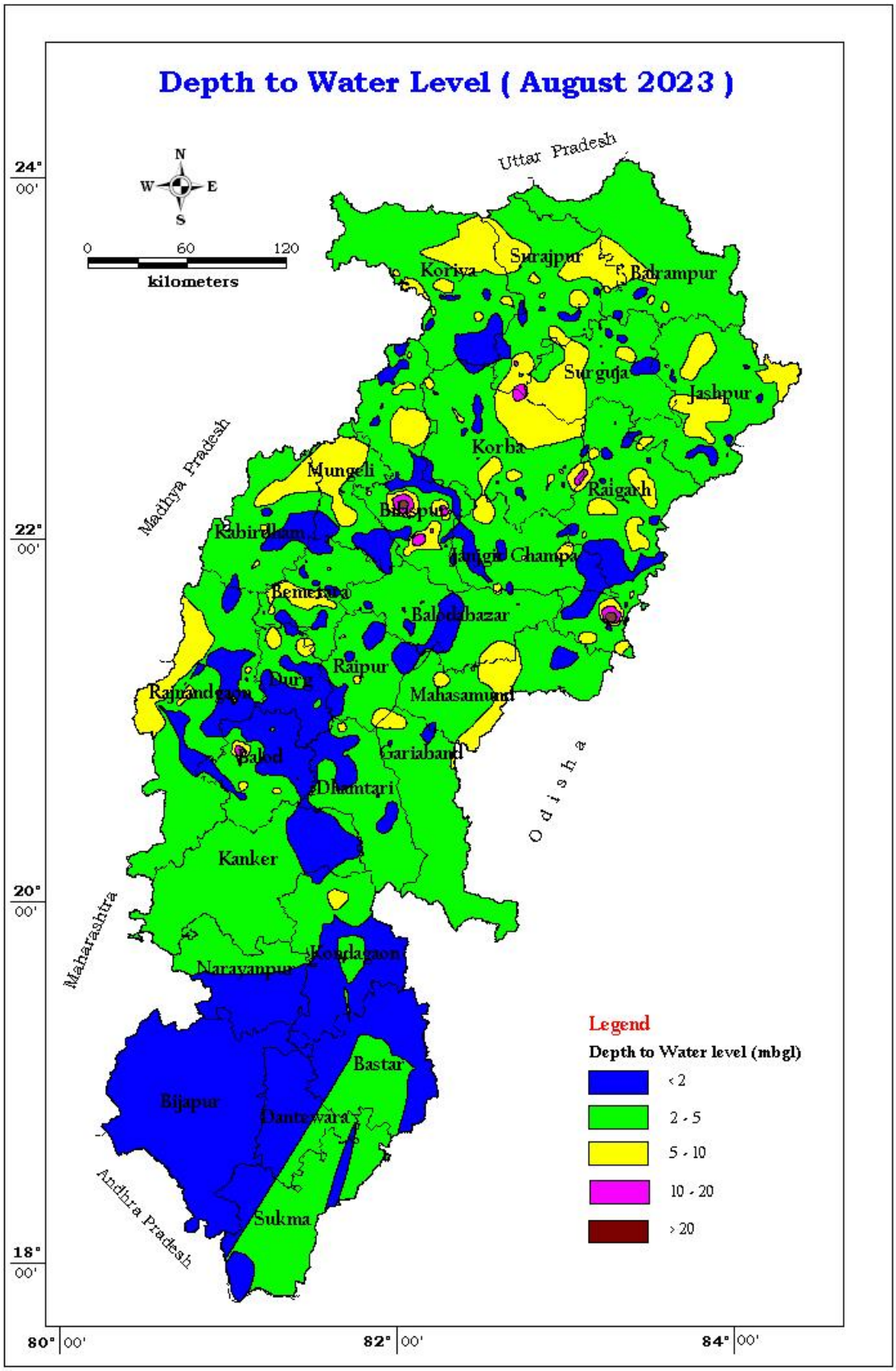


Fig. 7.2: Depth to Water Level (August, 2022)

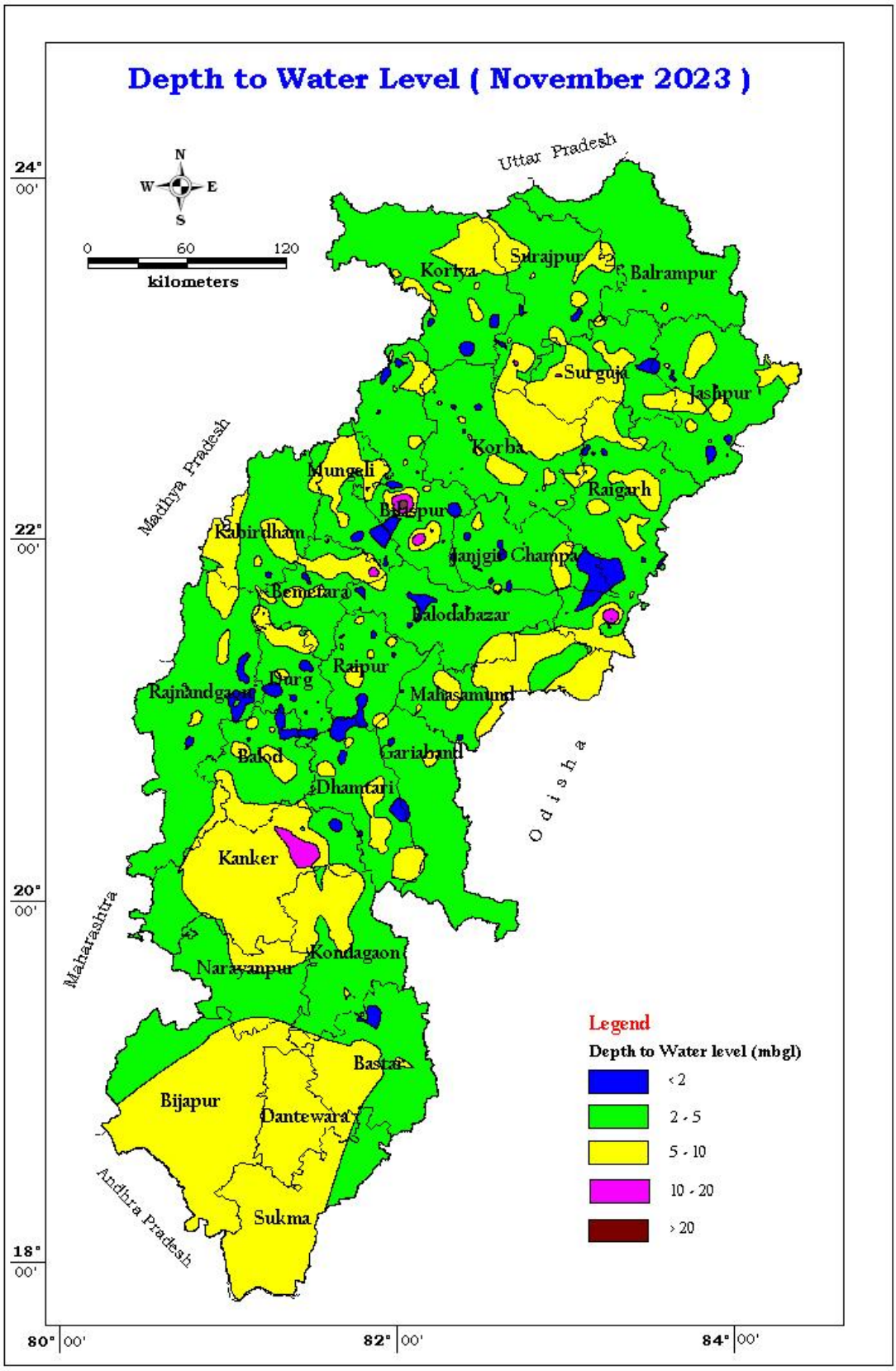


Fig. 7.3: Depth to Water Level (November 2023)

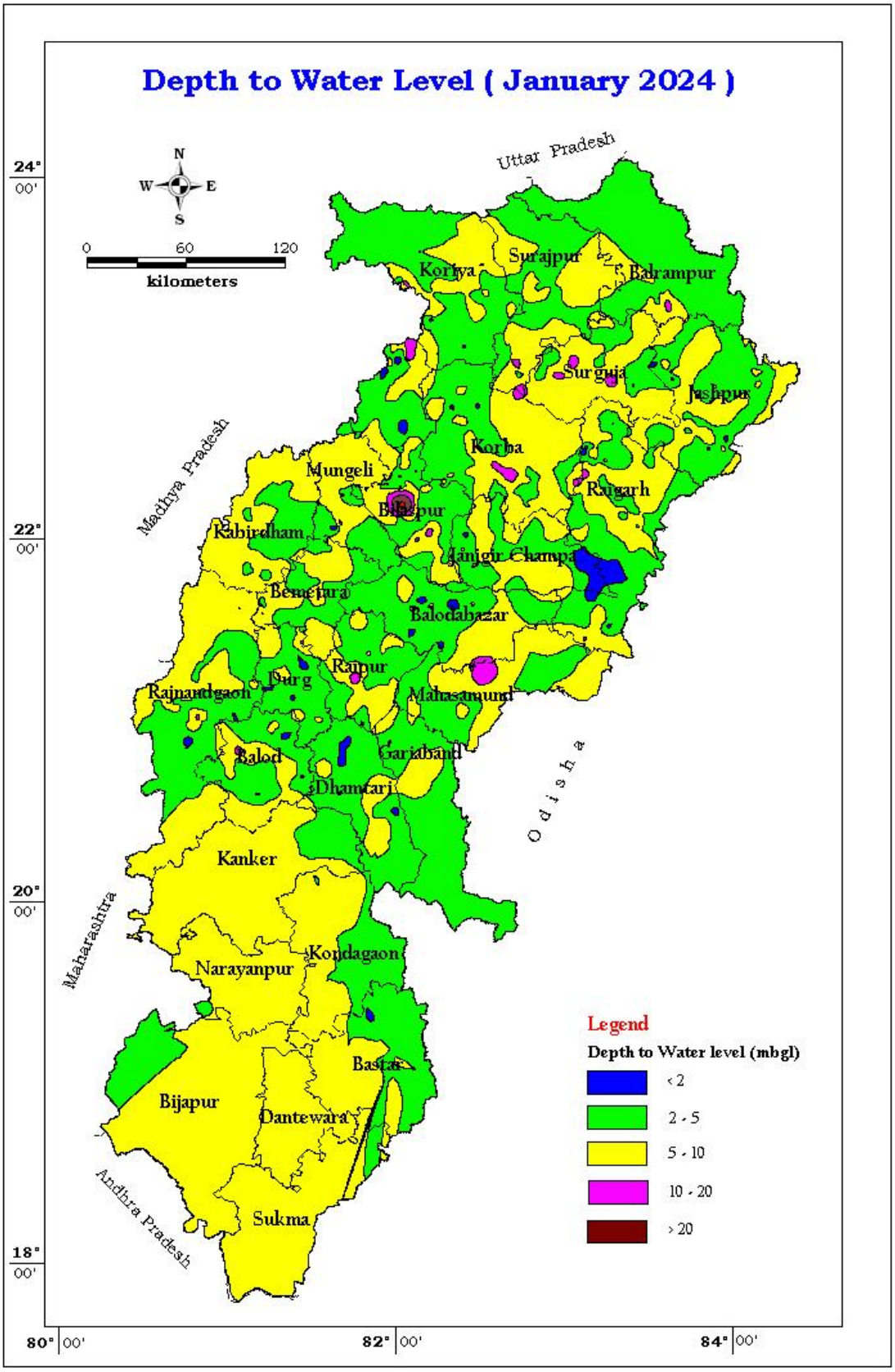


Fig. 7.4: Depth to Water Level (January, 2023)

7.2 WATER LEVEL FLUCTUATION

7.2.1 May 2022 Vs May 2023

When compared to water level in May 2022, nearly 43.30% of the observation wells are showing rise in water level in May 2023. Rise of water level in the range of 0-2 m is observed in 31.59% of the wells distributed in all the districts. Rise of water level in the range of 2-4 m is observed in 78.89 % of the wells distributed in almost all the districts except Kanker and Jashpur districts. Rise of water level by more than 4 m is also observed in 17.20% of the monitored wells in Bilaspur, Dhamtari, Durg, Janjgir-Champa, Korba, Koriya, Mahasamund, Raigarh, Raipur and Surguja districts. Rise of more than 4 % is observed in 12.01% of wells. Fall of water level is recorded in nearly 51.23% of the monitored wells. Fall of water level in the range of 0-2 m, 2-4 m and more than 4 m are observed in 13.95%, 7.86% and 84.51% of the monitored wells, respectively in the state.

The district wise frequency for different fluctuation ranges is presented in **Table 7.5**. Different ranges of fluctuation in May 2022 as compared to May 2023 are represented on a map and appended as **Fig. 7.5.**

7.2.2 August 2022 Vs August 2023

When compared to water level in August 2022, nearly 28.72% of the observation wells are showing rise in water level in August 2023. Rise of water level in the range of 0 -2 m is observed in 82.278% of the wells distributed in all the districts. Rise of water level in the range of 2 - 4 m is observed in 12.236% except Bastar, Janjgir – champa, Jashpur districts. Rise of water level by more than 4 m is observed in 5.48% of the monitored wells in most districts except Bilaspur, Dhamtari, Rajnandgaon, Janjgir – champa, Jashpur, Kanker and Kawardha. Fall of water level is recorded in nearly 70.42% of the monitored wells. Fall of water level in the range of 0 - 2 m, 2 - 4 m and more than 4 m are observed in 75.73%, 16.35% and 7.91% of the monitored wells, respectively in the State.

The district wise frequency for different fluctuation ranges is presented in **Table 7.6**. Different ranges of fluctuation in August 2022 as compared to August 2023 are represented on a map and appended as **Fig. 7.6.**

7.2.3 ovember 2022 Vs November 2023

When compared to water level in November 2022, nearly 31.64% of the observation wells are showing rise in water level in November 2023. Rise of water level in the range of 0-2 m is observed in 88.64% of the wells distributed in almost all the districts. Rise of water level in the range of 2-4 m is observed in 8.42% distributed in almost all the districts except in Bastar, Kanker, Kawardha, Koriya and Raipur. Rise of water level by more than 4 m is observed 2.93 % of the monitored wells except in Bastar, Bilaspur, Dhamtari, Janjgir – champa, Jashpur, Kanker, Kawardhaand Rajnandgaon. Fall of water level is recorded in nearly 66.43% of the monitored wells. Fall of water level in the range of 0-2 m, 2-4 m and more than 4 m are observed in 82.30%, 12.02% and 5.67% of the monitored wells, respectively in the State.

The district wise frequency for different fluctuation ranges is presented in **Table 7.7**. Different ranges of fluctuation in Nov 2022 as compared to Nov' 2023 are represented on a map and appended as **Fig. 7.7.**

7.2.4 January 2023 Vs January 2024

When compared to water level in January 2023, nearly 52.42% of the observation wells are showing rise in water level in January 2024. Rise of water level in the range of 0 - 2 m is observed in 84.26 % of the wells distributed in all districts. Rise of water level in the range of 2 - 4 m is observed in 9.48% of the wells monitored in the state except Kanker and Kawardha. Rise of water level by more than 4 m is observed in 6.25% of the monitored wells except in Bastar, Dhamtari, Kanker and Raigarh districts. Fall of water level is recorded in nearly 45.76% of the monitored wells. Fall of water level in the range of 0 - 2 m, 2 - 4 m and more than 4 m are observed in 80.74%, 14.079% and 5.185% of the monitored wells, respectively in the State.

The district wise frequency for different fluctuation ranges is presented in **Table 7.8**. Different ranges of fluctuation in January 2023 as compared to January 2024 are represented on a map and appended as **Fig. 7.8.**

Table 7.5: District wise frequency for different fluctuation ranges between May 2022 Vs May 2023													
District	**No. of Wells**	**Range of Fluctuation (m)**				**No. of Wells/Percentage Showing Fluctuation**						**Total No. of Wells**	
		Rise		**Fall**		**Rise**			**Fall**				
		Min	**Max**	**Min**	**Max**	**0 to 2**	**2 to 4**	**>4**	**0 to 2**	**2 to 4**	**>4**	**Rise**	**Fall**
Bastar	20	0.17	3.23	0.02	7.25	8 40.00%	1 5.00%	0	9 45.00 %	0	1 5.00%	9	10
Bilaspur	89	0.01	7.15	0.02	8.50	28 31.46%	9 10.11%	3 3.37%	26 29.21 %	2 2.25%	1 1.12%	40	29
Dhamtari	25	0.70	8.29	0.13	3.59	5 20.00%	3 12.00%	2 8.00%	13 52.00 %	2 8.00%	0	10	15
Durg	98	0.02	6.67	0.01	9.78	34 34.69%	6 6.12%	7 7.14%	32 32.65 %	11 11.22 %	6 6.12%	47	49
Janjgir – champa	44	0.04	4.29	0.02	10.30	14 31.82%	5 11.36%	1 2.27%	14 31.82	4 9.09%	5 11.36 %	20	23
Jashpur	65	0.05	1.05	0.05	12.40	6 9.23%	0	0	51 78.46 %	4 6.15%	3 4.62%	6	58
Kanker	5	0.10	0.10	0.04	0.50	1 20.00%	0	0	4 80.00 %	0	0	1	4
Kawardha	9	0.23	2.06	0.30	2.28	4 44.44%	1 11.11%	0	3 33.33 %	1 11.11 %	0	5	4
Korba	64	0.15	8.45	0.01	10.92	24 37.50%	6 9.38%	3 4.69%	16 25.00 %	4 6.25%	6 9.38%	33	26
Koriya	49	0.01	9.30	0.05	4.40	23 46.94%	2 4.08%	6 12.24 %	11 22.45 %	3 6.12%	1 2.04%	31	15
Mahasamund	23	0.05	5.64	0.01	6.45	6 26.09%	1 4.35%	2 8.70%	7 30.43 %	2 8.70%	3 13.04 %	9	12
Raigarh	87	0.02	6.88	0.03	5.63	29 33.33%	1 1.15%	3 3.45%	49 56.32 %	2 2.30%	1 1.15%	33	52
Raipur	53	0.06	10.71	0.02	4.81	16 30.19%	2 3.77%	3 5.66%	27 50.94 %	2 3.77%	2 3.77%	21	31
Rajnandgaon	45	0.01	3.53	0.10	5.40	18 40.00%	4 8.89%	0	14 31.11 %	6 13.33 %	2 4.44%	22	22
Surguja	93	0.10	9.22	0.04	4.00	27 29.03%	12 12.90%	7 7.53%	32 34.41 %	12 12.90 %	0	46	44
Total	769	(0.70)	(0.10)	0.01	12.40	243	53	37	308	55	31	333	394

Table 7.6: District wise frequency for different fluctuation ranges between Aug 2022 Vs Aug 2023													
District	No. of Wells	Range of Fluctuation (m)				No. of Wells/Percentage Showing Fluctuation						Total No. of Wells	
		Rise		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
Bastar	21	0.06	1.40	0.06	7.91	2 9.52%	0	0	15 71.43%	2 9.52%	2 9.52%	2	19
Bilaspur	90	0.01	2.38	0.10	19.00	10 11.11%	1 1.11%	0	55 61.11%	18 20.00%	5 5.56%	11	78
Dhamtari	31	0.77	5.64	0.10	6.63	1 3.23%	2 6.45%	1 3.23%	24 77.42%	2 6.45%	1 3.23%	4	27
Durg	109	0.01	4.43	0.07	10.68	59 54.13%	5 4.59%	2 1.83%	26 23.85%	7 6.42%	10 9.17%	66	43
Janjgir - champa	43	0.58	0.78	0.22	4.75	2 4.65%	0	0	28 65.12%	12 27.91%	1 2.33%	2	41
Jashpur	68	0.10	0.67	0.08	4.00	4 5.88%	0	0	50 73.53%	12 17.65%	0	4	62
Kanker	6	0.06	0.72	1.02	1.02	5 83.33%	0	0	1 16.67%	0	0	5	1
Kawardha	12	0.73	3.31	0.10	3.63	1 8.33%	2 16.67%	0	4 33.33%	5 41.67%	0	3	9
Korba	56	0.21	7.52	0.10	10.66	5 8.93%	2 3.57%	2 3.57%	33 58.93%	10 17.86%	4 7.14%	9	47
Koriya	46	0.18	5.15	0.10	6.55	10 21.74%	1 2.17%	1 2.17%	27 58.70%	4 8.70%	3 6.52%	12	34
Mahasamund	26	0.03	5.09	0.40	4.66	4 15.38%	4 15.38%	2 7.69%	14 53.85%	1 3.85%	1 3.85%	10	16
Raigarh	91	0.03	2.07	0.02	9.49	20 21.98%	2 2.20%	0	61 67.03%	2 2.20%	2 2.20%	22	65
Raipur	84	0.02	3.78	0.01	4.19	14 16.67%	3 3.57%	0	58 69.05%	7 8.33%	2 2.38%	17	67
Rajnandgaon	57	0.05	4.85	0.03	12.50	29 50.88%	2 3.51%	1 1.75%	16 28.07%	4 7.02%	5 8.77%	32	25
Surguja	85	0.09	5.75	0.12	7.55	29 34.12%	5 5.88%	4 4.71%	28 32.94%	9 10.59%	10 11.76%	38	47
Total	825	(0.77)	(0.67)	0.01	19.00	195	29	13	440	95	46	237	581

Table 7.7: District wise frequency for different fluctuation ranges between Nov 2022 Vs Nov 2023													
District		**Range of Fluctuation (m)**				**No. of Wells/Percentage Showing Fluctuation**						**Total No. of Wells**	
		Rise		**Fall**		**Rise**			**Fall**			**Rise**	**Fall**
	No. of Wells	**Min**	**Max**	**Min**	**Max**	**0 to 2**	**2 to 4**	**>4**	**0 to 2**	**2 to 4**	**>4**		
Bastar	27	0.03	1.57	0.58	5.54	4 14.81%	0	0	12 44.44%	5 18.52%	5 18.52%	4	22
Bilaspur	100	0.01	3.77	0.01	10.00	26 26.00%	1 1.00%	0	56 56.00%	11 11.00%	6	27	73
Dhamtari	31	0.08	3.18	0.20	9.05	10 32.26%	2 6.45%	0	13 41.94%	3 9.68%	2 6.45%	12	18
Durg	122	0.05	8.35	0.05	6.70	27 22.13%	2 1.64%	1 0.82%	73 5984%	8 6.56%	7 5.74%	30	88
Janjgir - champa	45	0.03	2.47	0.04	4.46	8 17.78%	1 2.22%	0	26 57.78%	8 17.78%	1 2.22%	9	35
Jashpur	76	0.03	1.81	0.02	2.43	16 21.05%	0	0	55 72.37%	2 2.63%	0	16	57
Kanker	6	1.00	1.00	0.50	7.44	1 16.67%	0	0	3 50.00%	1 16.67%	1 16.67%	1	5
Kawardha	11	0.13	2.00	0.10	12.50	5 45.45%	0	0	5 45.45%	0	1 9.09%	5	6
Korba	68	0.08	6.76	0.04	7.37	11 16.18%	4 5.88%	1 1.47%	38 55.88%	9 13.24%	4 5.88%	16	51
Koriya	45	0.02	5.37	0.03	5.55	15 33.33%	0	1 2.22%	27 60.00%	1 2.22%	1 2.22%	16	29
Mahasamund	26	0.10	7.40	0.47	5.19	11 42.31%	1 3.85%	2 7.69%	7 26.92%	3 11.54%	1 3.85%	14	11
Raigarh	95	0.03	4.35	0.01	3.84	36 37.89%	2 2.11%	1 1.05%	50 52.63%	2 2.11%	0	39	52
Raipur	85	0.02	5.14	0.02	7.26	27 31.76%	0	1 1.18%	47 55.29%	7 8.24%	2 2.35%	28	56
Rajnandgaon	58	0.05	3.70	0.02	3.70	18 31.03%	5 8.62%	0	29 50.00%	3 5.17%	0	23	32
Surguja	81	0.07	5.53	0.02	6.08	27 33.3%	5 6.17%	1 1.23%	38 46.91%	7 8.64%	2 2.47%	33	47
Total	876	(1.00)	(1.00)	0.01	12.50	242	23	8	479	70	33	273	582

Table 7.8: District wise frequency for different fluctuation ranges between January 2023 Vs January 2024													
District		**Range of Fluctuation (m)**				**No. of Wells/Percentage Showing Fluctuation**						**Total No. of Wells**	
		Rise		**Fall**		**Rise**			**Fall**			**Rise**	**Fall**
	No. of Wells	**Min**	**Max**	**Min**	**Max**	**0 to 2**	**2 to 4**	**>4**	**0 to 2**	**2 to 4**	**>4**		
Bastar	27	0.05	2.76	0.24	3.26	8 29.63%	2 7.41%	0	11 40.74%	6 22.22%	0	10	17
Bilaspur	101	0.01	7.48	0.02	39.00	50 49.50%	8 7.92%	6 5.94%	25 24.75%	7 6.93%	5 4.95%	64	37
Dhamtari	30	0.09	3.70	0.02	4.75	4 13.33%	1 3.33%	0	20 66.67%	4 13.33%	1 3.33%	5	25
Durg	122	0.01	10.43	0.01	5.70	65 53.28%	9 7.38%	7 5.74%	31 25.41%	4 3.28%	3 2.46%	81	38
Janjgir - champa	48	0.04	4.51	0.10	2.70	27 56.25%	3 6.25%	1 2.08%	12 25.00%	2 4.17%	0	31	14
Jashpur	74	0.05	5.60	0.08	1.90	29 39.19%	2 2.70%	1 1.35%	42 56.76%	0	0	32	42
Kanker	7	0.03	0.35	0.11	6.69	2 28.57%	0	0	3 42.86%	1 14.29%	1 14.29%	2	5
Kawardha	14	0.05	11.90	0.06	2.13	9 64.29%	0	2 14.29%	2 14.29%	1 7.14%	0	11	3
Korba	68	0.09	5.75	0.05	8.75	22 32.35%	4 5.88%	4 5.88%	26 38.24%	5 7.35%	2 2.94%	30	33
Koriya	44	0.05	6.05	0.08	3.80	17 38.64%	3 6.82%	1 2.27%	21 47.73%	1 2.27%	0	21	22
Mahasamund	24	0.10	6.60	0.10	4.90	6 25.00%	1 4.17%	1 4.17%	13 54.17%	2 8.33%	1 4.17%	8	16
Raigarh	95	0.01	2.00	0.01	3.57	60 63.16%	0	0	29 30.53%	3 3.16%	0	60	32
Raipur	82	0.05	4.93	0.05	9.78	21 25.61%	1 1.22%	1 1.22%	38 46.34%	17 20.73%	3 3.66%	23	58
Rajnandgaon	60	0.01	8.40	0.01	4.71	36 60.00%	5 8.33%	3 5.00%	15 25.00%	0	1 1.67%	44	16
Surguja	89	0.05	6.80	0.15	7.90	35 39.33%	5 5.62%	2 2.25%	39 43.82%	4 4.49%	4 4.49%	42	47
Total	885	(0.10)	(0.35)	0.01	39.00	391	44	29	327	57	21	464	405

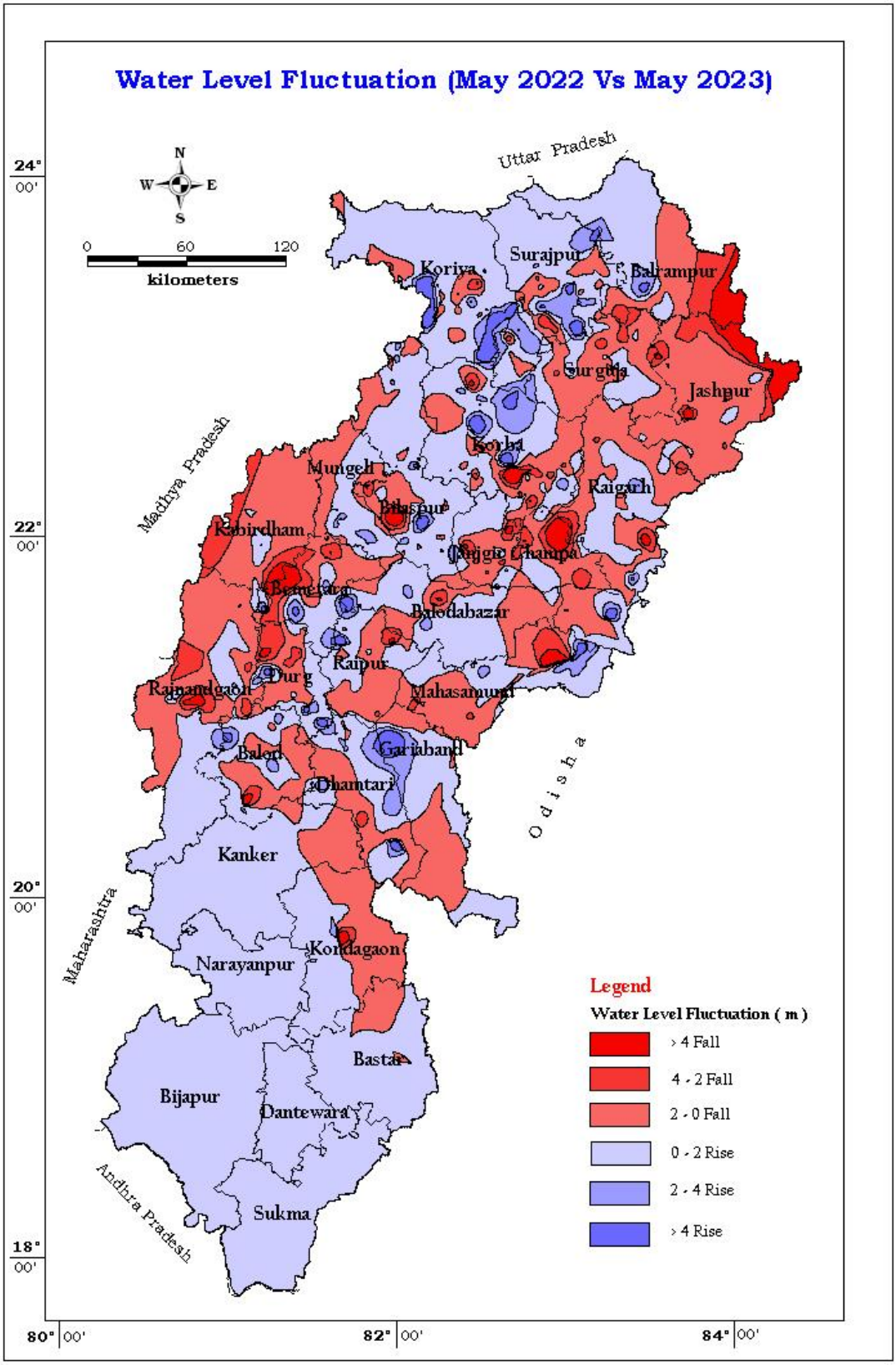


Fig. 7.5: Water Level Fluctuation (May 2022 Vs May 2023)

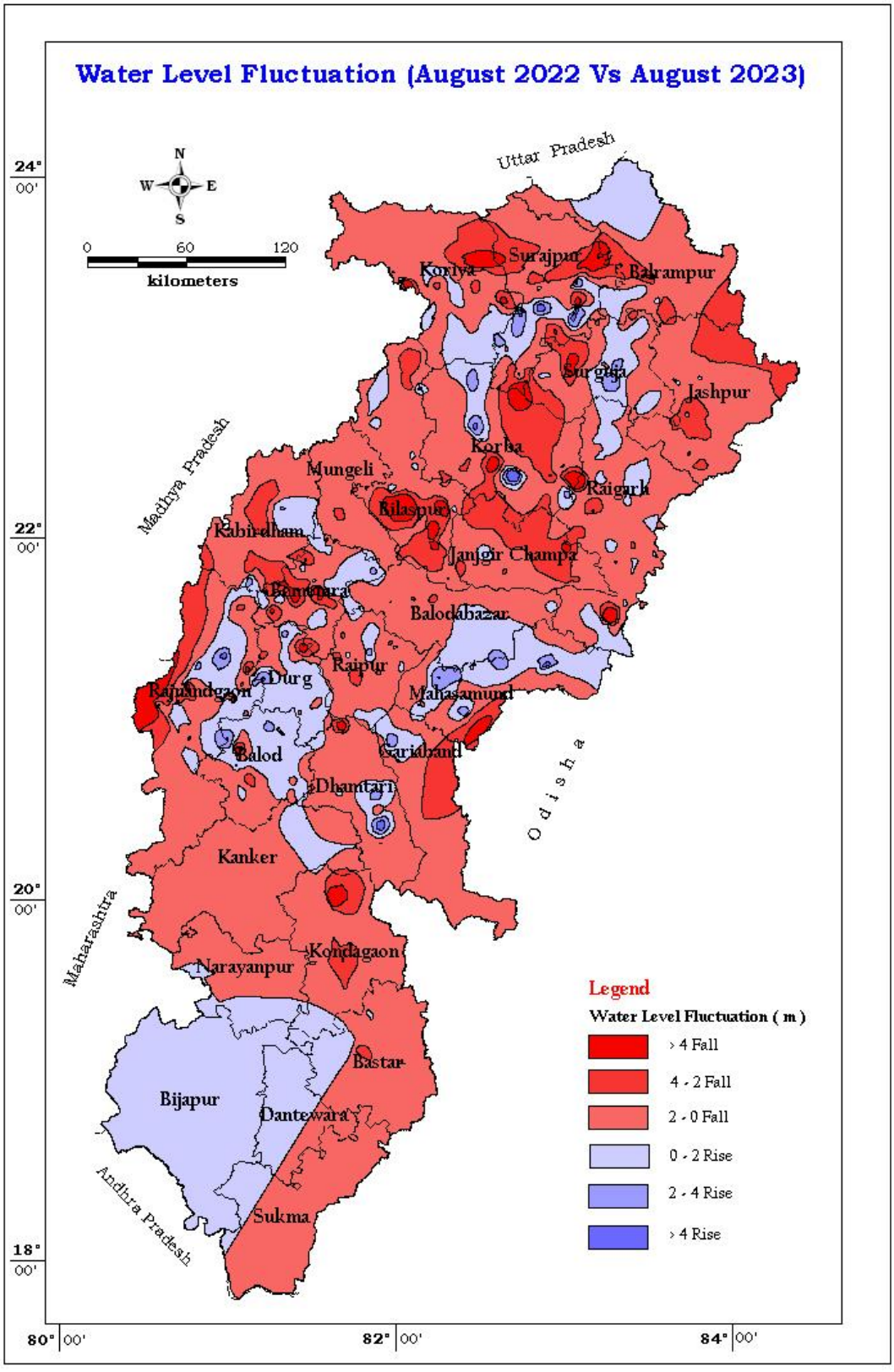


Fig.7.6: Water Level Fluctuation (August 2022 Vs August 2023)

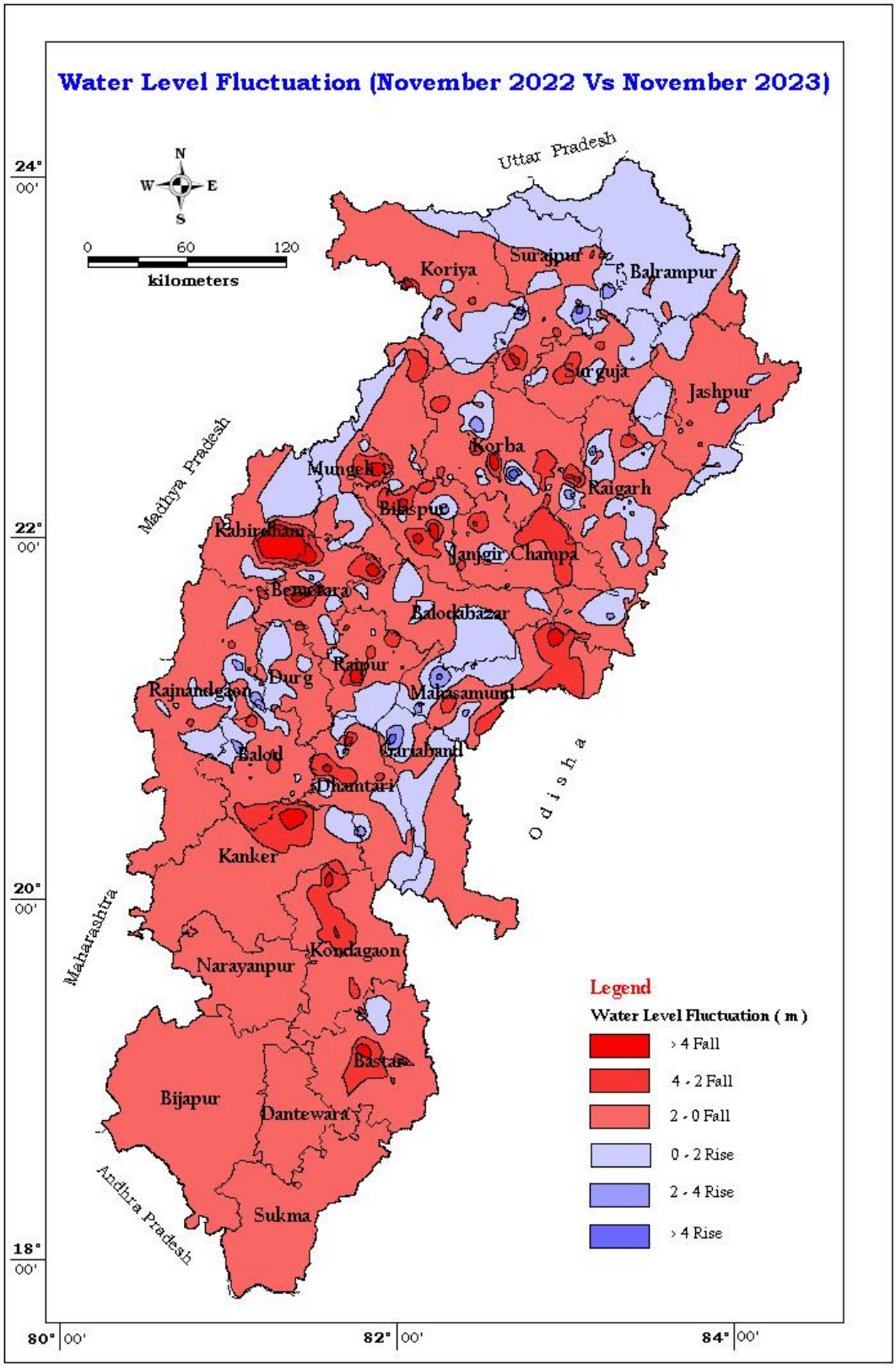


Fig. 7.7: Water Level Fluctuation (November 2022 Vs November 2023)

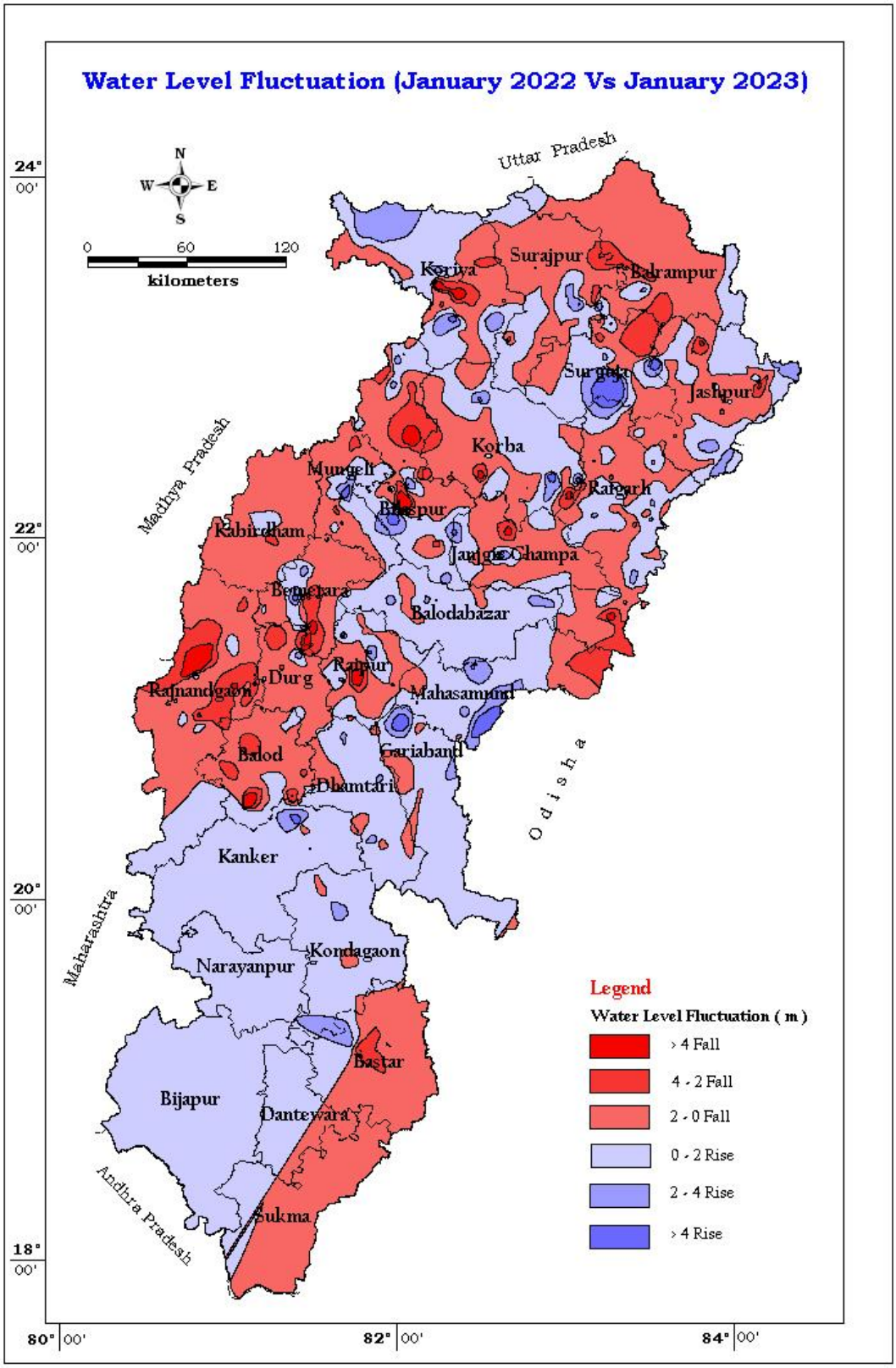


Fig. 7.8: Water Level Fluctuation (January 2023 Vs January 2024)

7.3 Water Level Fluctuation with Reference to Pre monsoon Water Level

7.3.1 May 2023 vs August 2023

There is mostly a rise in water levels in August 2023 when compared with the water levels of May 2023. About 94.74% of the monitored wells exhibits rise in the water level. Out of this, about 27.50% of the wells monitored show rise in the range of 0-2 m in almost all districts except Kanker district. In 37.54% of the monitored wells, the water levels show rise in the range of 2-4 m covering parts of all the districts monitored in the state and 34.94% of the wells show a rise of more than 4 m in the water level. Fall of water level as compared to May'23 is observed in about 4.47% of the observation wells monitored. Most of the wells around 70% exhibit falls in the range of 0 - 2 m mainly in Bilaspur, Dhamtari, Durg, Janjgir - champa, Kawardha, Korba, Koriya, Mahasamund, Raigarh, Raipur and Surguja districts.

The district wise frequency for different fluctuation ranges is presented in **Table 7.9**. Fluctuation of water level (May' 2023 vs Aug' 2023) is represented on a map appended as **Fig.7.9.**

7.3.2 May 2023 vs November 2023

There is mostly a rise in water level in November 2023 when compared to water level in May 2023. About 92.57% of the monitored wells exhibit rise in the water level. Out of this, about 38.27% of the monitored wells exhibit rise in the water level in the range of 0-2 m in parts of all the districts. In 34.62% of the monitored wells, the water levels show rise in the range of 2-4 m while the remaining 27.09% of the observation wells show rise of more than 4 m in the water level. Fall of water level as compared to May'23 is observed in about 7.08% of the observation wells monitored. Most of the wells exhibit falls in the range of 0-2m.

The district wise distribution of different fluctuation ranges is presented in **Table 7.10** and is also shown in **Fig. 7.10**.

7.3.3 May 2023 vs January 2024

There is mostly a rise in water level in January 2024 when compared to water level in May 2023. About 83.67% of the monitored wells exhibit rise in the water level. Out of this, about 51.62% of the monitored wells exhibit rise in the water level in the range of 0 - 2 m in parts of all the districts. In 32.79% of the monitored wells, the water levels show rise in the range of 2 - 4 m while the remaining 15.58% of the observation wells show rise of more than 4 m in the water level. Fall of water level as compared to May'23 is observed in about 15.192% of the observation wells monitored. Most of the wells exhibit falls in the range of 0 – 2 m.

The district wise distribution of different fluctuation ranges is presented in **Table 7.11** and is also shown in **Fig. 7.11**.

le 7.9: District Wise - Fluctuation and Frequency Distribution from Different Ranges from One Period to Other: May 2023 Vs Aug 2023													
District	**No. of Wells**	**Range of Fluctuation (m)**				**No. of Wells/Percentage Showing Fluctuation**						**Total No. of Wells**	
		Rise		**Fall**		**Rise**			**Fall**			**Rise**	**Fall**
		Min	**Max**	**Min**	**Max**	**0 to 2**	**2 to 4**	**>4**	**0 to 2**	**2 to 4**	**>4**		
Bastar	26	1.14	8.74	-	-	3 11.54%	9 34.62%	13 50.00%	0	0	0	25	0
Bilaspur	96	0.11	11.90	0.26	18.80	21 21.88%	26 27.08%	39 40.63%	4 4.17%	2 2.08%	2 2.08%	86	8
Dhamtari	31	0.11	8.88	0.08	5.12	15 48.39%	5 16.13%	7 22.58%	3 9.68%	0	1 3.23%	27	4
Durg	125	1.08	10.17	1.45	1.45	24 19.20%	61 48.80%	38 30.40%	1 0.80%	0	0	123	1
Janjgir - champa	47	0.01	10.60	0.47	0.75	18 38.30%	12 25.53%	13 27.66%	4 8.51%	0	0	43	4
Jashpur	76	0.25	13.80	2.20	2.20	18 23.68%	38 50.00%	19 25.00%	0	1 1.32%	0	75	1
Kanker	6	2.19	8.13	0	-	0	4 66.67%	2 33.33%	0	0	0	6	0
Kawardha	13	0.72	13.54	1.69	1.69	3 23.08%	6 46.15%	3 23.08%	1 7.69%	0	0	12	1
Korba	65	0.45	15.56	0.26	0.45	9 13.85%	28 43.08%	24 36.92%	4 6.15%	0	0	61	4
Koriya	45	0.30	7.55	0.20	2.55	20 44.44%	12 26.67%	10 22.22%	2 4.44%	1 2.22%	0	42	3
Mahasamund	26	0.03	9.72	0.27	0.27	5 19.23%	9 34.62%	11 42.31%	1 3.85%	0	0	25	1
Raigarh	102	0.10	12.40	1.40	3.61	24 23.53%	35 34.31%	39 38.24%	1 0.98%	1 0.98%	0	98	2
Raipur	89	0.12	13.28	0.23	2.81	46 51.69%	22 24.72%	18 20.22%	2 2.25%	1 1.12%	0	86	3
Rajnandgaon	60	0.45	11.40	-	-	8 13.33%	26 43.33%	25 41.67%	0	0	0	59	0
Surguja	87	0.60	12.55	0.15	2.40	19 21.84%	25 28.74%	35 40.23%	5 5.75%	3 3.45%	0	79	8
Total	894	(2.19)	(7.55)	0.00	18.80	233	318	296	28	9	3	847	40

Table 7.10: District Wise - Fluctuation and Frequency Distribution from Different Ranges from One Period to Other: May 2023 Vs Nov 2023													
District	**No. of Wells**	**Range of Fluctuation (m)**				**No. of Wells/Percentage Showing Fluctuation**						**Total No. of Wells**	
		Rise		**Fall**		**Rise**			**Fall**			**Rise**	**Fall**
		Min	**Max**	**Min**	**Max**	**0 to 2**	**2 to 4**	**>4**	**0 to 2**	**2 to 4**	**>4**		
Bastar	25	0.36	4.89	0.70	0.70	16 64.00%	5 20.00%	3 12.00%	1 4.00%	0	0	24	1
Bilaspur	101	0.03	15.45	0.18	18.80	36 35.64%	31 30.69%	28 27.72%	5 4.95%	0	1 0.99%	95	6
Dhamtari	29	0.07	6.17	1.34	8.00	19 65.52%	3 10.34%	3 10.34%	1 3.45%	2 6.90%	1 3.45%	25	4
Durg	124	0.07	16.60	0.01	5.52	44 35.48%	34 27.42%	24 19.35%	16 12.90%	5 4.03%	1 0.81%	102	22
Janjgir - champa	48	0.06	10.32	0.60	1.56	19 39.58%	11 22.92%	16 33.33%	2 4.17%	0	0	46	2
Jashpur	76	0.25	14.70	1.70	1.70	12 15.79%	49 64.47%	14 18.42%	1 1.32%	0	0	75	1
Kanker	6	0.37	2.36	-	-	5 83.33%	1 16.67%	0	0	0	0	6	0
Kawardha	14	0.40	14.50	-	-	4 28.57%	5 35.71%	5 35.71%	0	0	0	14	0
Korba	70	0.01	13.82	0.65	1.30	27 38.57%	17 24.29%	22 31.43%	3 4.29%	0	0	66	3
Koriya	44	0.15	6.90	0.08	2.85	20 45.45%	12 27.27%	7 15.91%	3 6.82%	1 2.27%	0	39	4
Mahasamund	26	0.01	8.11	0.04	1.05	5 19.23%	8 30.77%	10 38.46%	3 11.54%	0	0	23	3
Raigarh	96	0.05	8.10	0.10	0.20	30 31.25%	33 34.38%	30 31.25%	2 2.08%	0	0	93	2
Raipur	82	0.01	9.07	0.27	0.86	50 60.98%	15 18..29%	14 17.04%	3 3.66%	0	0	79	3
Rajnandgaon	59	0.23	11.44	0.65	4.10	13 22.03%	20 33.90%	23 38.98%	2 3.39%	0	1	56	3
Surguja	89	0.15	7.40	0.10	2.35	15 16.85%	41 46.07%	24 26.97%	8 8.99%	1 1.12%	0	80	9
Total	889	(0.40)	(2.36)	0.00	18.80	315	285	223	50	9	4	823	63

Table 7.11: District Wise - Fluctuation and Frequency Distribution from Different Ranges from One Period to Other: May 2023 Vs January 2024

District	No. of Wells	Range of Fluctuation (m)				No. of Wells/Percentage Showing Fluctuation							
		Rise		Fall		Rise			Fall			Total No. of Wells	
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
Bastar	25	0.25	7.40	0.23	0.56	10 40.00%	6 24.00%	1 4.00%	8 32.00%	0	0	17	8
Bilaspur	98	0.14	17.24	0.12	57.80	44 44.90%	23 23.47%	21 21.43%	6 6.12%	1 1.02%	1 1.02%	88	8
Dhamtari	29	0.20	5.09	0.18	3.91	17 58.62%	3 10.34%	3 10.34%	4 13.79%	2 6.90%	0	23	6
Durg	125	0.08	16.00	0.01	5.36	50 40.00%	26 20.80%	14 11.20%	23 18.40%	6 4.80%	4 3.20%	90	33
Janjgir - champa	49	0.01	7.47	0.09	2.36	24 48.98%	4 8.16%	11 22.45%	8 16.33%	1 2.04%	0	39	9
Jashpur	76	0.10	14.60	0.05	2.30	31 40.79%	31 40.79%	11 14.47%	1 1.32%	1 1.32%	0	73	2
Kanker	7	0.20	3.75	0.25	3.08	1 14.29%	2 28.57%	0	3 42.86%	1 14.29%	0	3	4
Kawardha	14	0.16	11.90	0.87	0.87	6 42.86%	5 35.7%	2 14.29%	1 7.14%	0	0	13	1
Korba	68	0.08	12.89	0.08	3.72	31 45.59%	16 23.53%	9 13.24%	8 11.76%	2 2.94%	0	56	10
Koriya	43	0.05	6.40	0.10	4.30	25 58.14%	7 16.28%	3 6.98%	5 11.63%	1 2.33%	1 2.33%	35	7
Mahasamund	24	0.15	7.11	0.03	2.14	6 25.00%	6 25.00%	8 33.33%	3 12.50%	1 4.17%	0	20	4
Raigarh	96	0.02	5.58	0.91	4.37	40 41.67%	39 40.63%	12 12.50%	1 1.04%	2 2.08%	1 1.04%	91	4
Raipur	80	0.07	6.85	0.26	8.63	44 55.00%	13 16.25%	4 5.00%	16 20.00%	2 2.50%	1 1.25%	61	19
Rajnandgaon	59	0.01	9.00	0.12	4.22	18 30.51%	22 37.29%	11 18.64%	7 11.86%	0	1 1.69%	51	8
Surguja	89	0.10	6.80	0.05	3.50	34 38.20%	39 43.82%	5 5.62%	8 8.99%	3 3.37%	0	78	11
Total	882	(0.25)	(3.75)	0.01	57.80	381	242	115	102	23	9	738	134

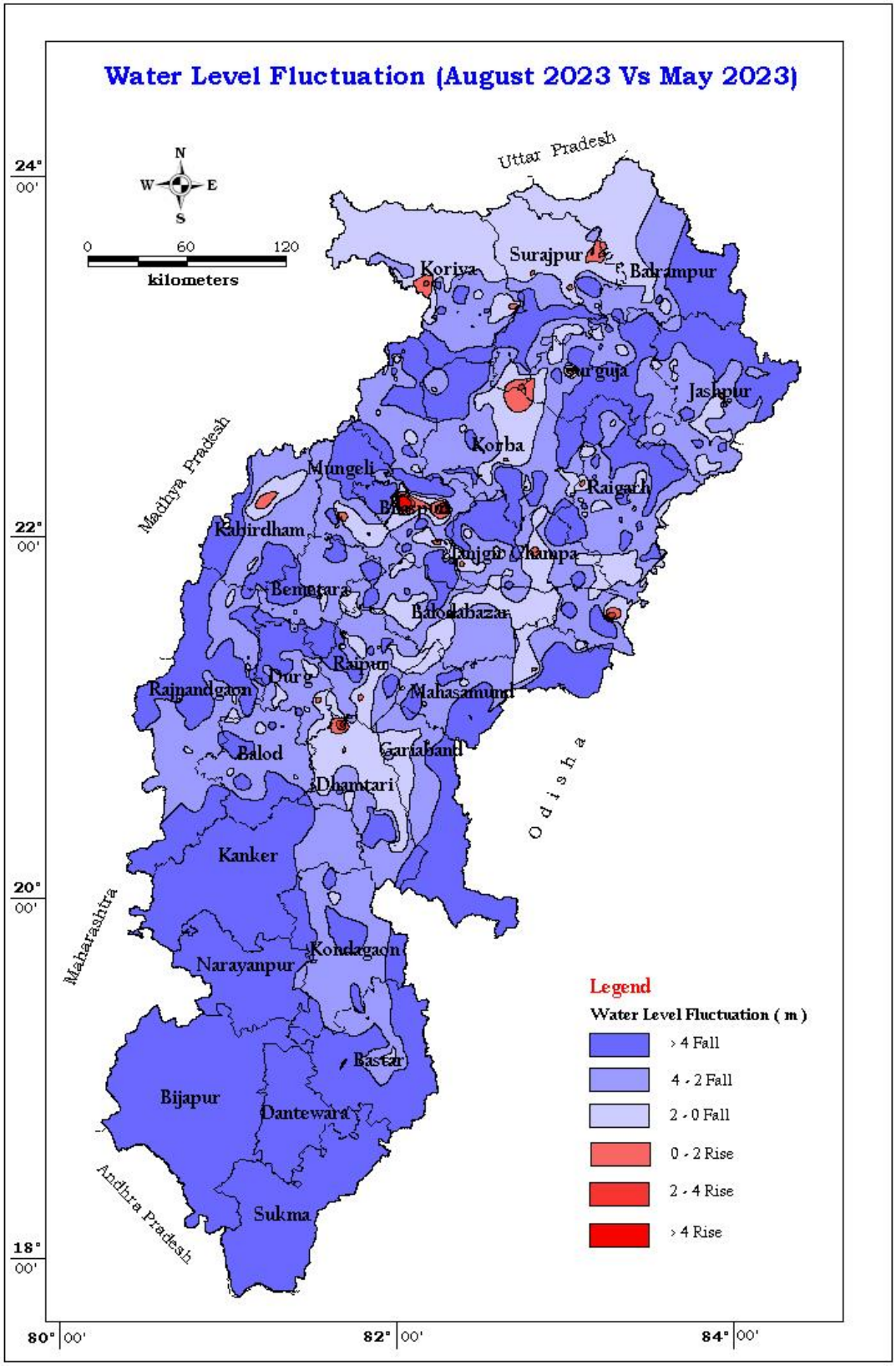


Fig. 7.9: Water Level Fluctuation (May 2023 Vs August 2023)

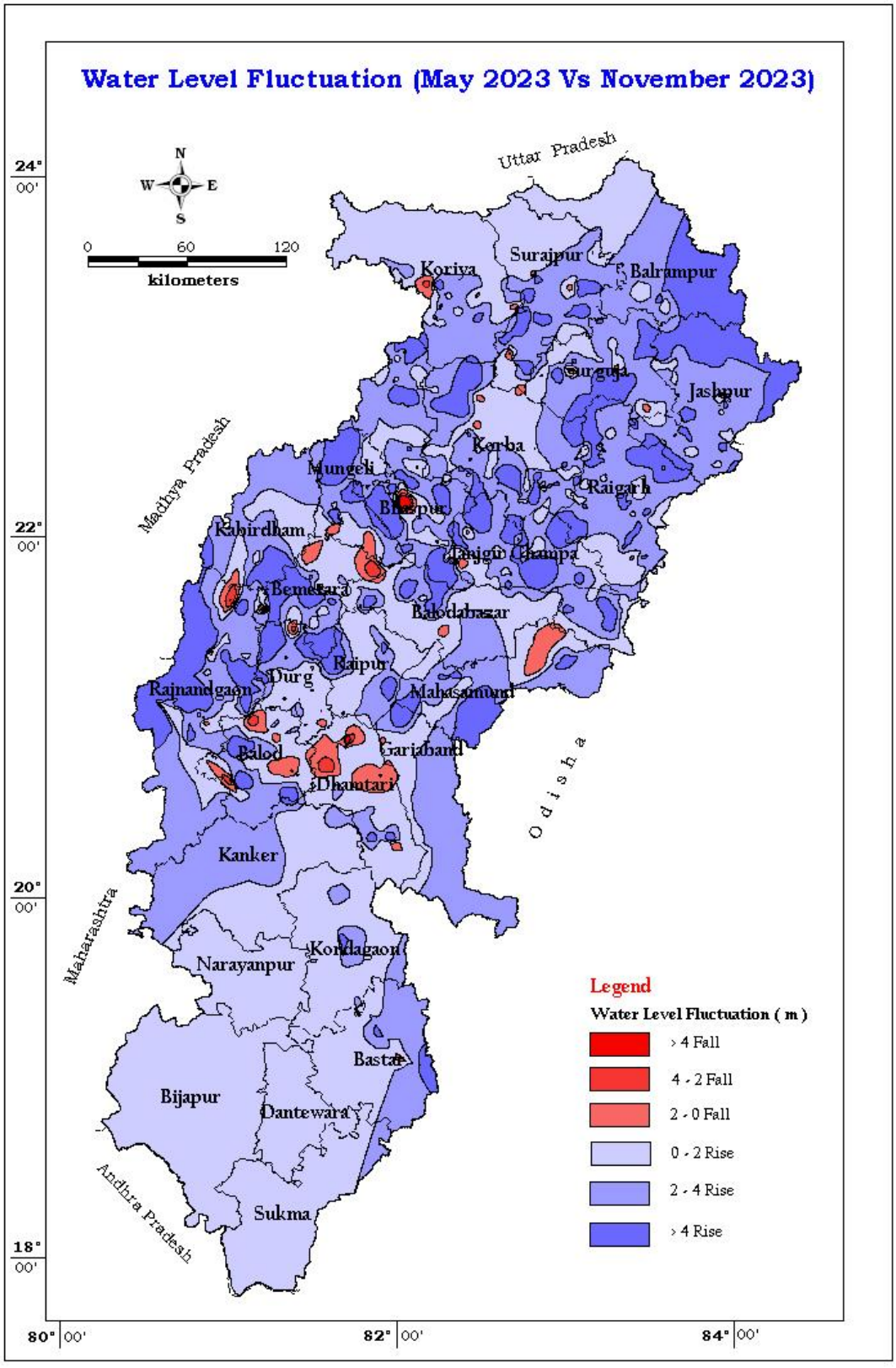


Fig. 7.10: Water Level Fluctuation (May 2023 Vs November 2023)

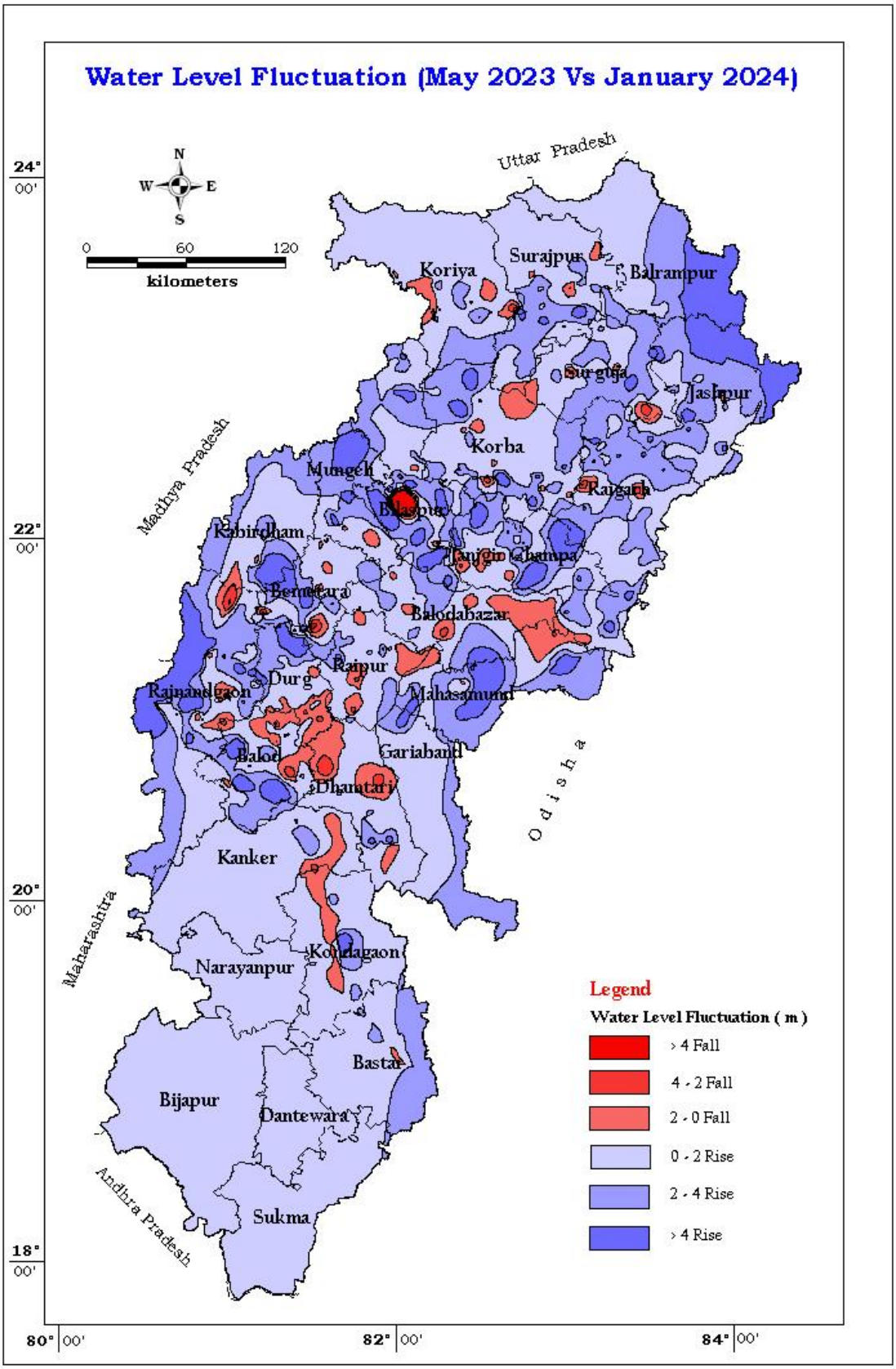


Fig. 7.11: Water Level Fluctuation (May 2023 Vs January 2024)

7.4 Water Level Fluctuation with Reference to Decadal Mean

7.4.1 Mean of May (May 2013 to May 2022) Vs May 2023

When compared to the decadal mean water level (May 2013 to May 2022), 52.54% of observation wells are showing a fall in water level in May 2023. Out of the wells monitored, 72.40% of the wells are showing a fall up to 2 m and 21.412% between 2 to 4 m except in Kanker and Kawardha districts. 6.181% of the monitored wells are showing a fall in water level of more than 4 m. Fall of water level as compared to the decadal mean by more than 4m is observed in all districts except Kanker, Kawardha and Koriya districts. Nearly, 67.35% of monitored wells are showing a rise in the water level, mostly in the range of 0-2 meters (About 23.74% of the monitored wells are showing a rise in the range of 2-4 meter whereas 7.762% of the monitored wells are showing a rise of > 4 m in all districts except in Bastar and Mahasamund districts.

The district wise categorization of decadal change in water level is presented in **Table 7.12**. The decadal range of fluctuation has been shown in the **Fig. 7.12.**

7.4.2 Mean of August (August 2013 to August 2022) vs August 2023

When compared to the decadal mean water level (August 2013 to August 2022), 35.84% of observation wells are showing a rise in water level in August 2023. Out of the wells monitored, 88.85% of the wells are showing a rise up to 2 m, 9.55% of the wells are showing a rise between 2 to 4 meters and 1.59% of the monitored wells are showing a rise in water level of more than 4 meters. Rise of water level as compared to the decadal mean by more than 4m is observed in Durg, Korba and Surguja. Nearly 50.67% of monitored wells are showing a fall in the water level, mostly in the range of 0-2 meter (75.40%). About 18.18% of the monitored wells are showing a fall in the range of 2-4 meters whereas 6.417% of the monitored wells are showing a fall of more than 4 m.

The district wise categorization of decadal change in water level is presented in **Table 7.13**. The decadal range of fluctuation has been shown in the **Fig. 7.13**

7.4.3 Mean of November (November 2013 to November 2022) vs November 2023

When compared to the decadal mean water level (November 2013 to November 2022), 67.35% of monitored wells are showing a rise in the water level, mostly in the range of 0-2. About 23.744% of the monitored wells are showing a rise in the range of 2-4 meters except in Bastar and Kanker districts, whereas 8.9% of the monitored wells are showing a rise of more than 4 m in Bastar, Bilaspur, Dhamtari, Janjgir – Champa, Jashpur, Kanker, Kawardha Koriya, Mahasamund, Raigarh, Raipur and Rajnandgaon districts. Out of 444 wells showing fall in water level nearly 51.62% of observation wells are showing a fall in water level in November 2023. Out of the wells monitored, out of no of wells showing fallin water level 83.11% of the wells are showing a fall up to 2 m. About 12.83% between 2 to 4 meters except in Kawardha districts and 4.054% of the monitored wells are showing a fall in water level of more than 4 m restricted only in Janjgir – champa, Jashpur, Koriya, Rajnandgaon and Raigarh districts.

The district wise categorization of decadal change in water level is presented in **Table 7.14**. The decadal range of fluctuation has been shown in the **Fig. 7.14.**

7.4.4 Mean of January (January 2014 to January 2023) Vs January 2024

When compared to the decadal mean water level (January 2014 to January 2023), 63.03%(578) of monitored wells are showing a rise in the water level, mostly in the range of 0 - 2 meters (81.31%) and mainly in the Bastar (62.96%), Raigarh (61%), Dhamtari (60.61%) and Kanker (57.14%) districts. About 14.7% of the monitored wells are showing a rise in the range of 2 - 4 meters except Bastar, Kanker and Rajnandgaon whereas 3.97% of the monitored wells are showing a rise of more than 4 metres except in Bastar, Janjgir – champa, Jashpur, Kanker, Mahasamund and Raipur districts. Nearly 36.85% of observation wells (338) are showing a fall in water level in January 2024. The 338 wells monitored showing fall in water level, 82.84% of the wells are showing a fall in the water level up to 2 metres and 14.2% between 2 to 4 meters in all districts except in Jaspur, Kawardha and Rajnandgaon district and 2.95% of the monitored wells are showing a fall in water level of more than 4 metres. Fall of water level as compared to the decadal mean by more than 4 metres is observed in Bastar, Janjgir Champa, Jaspur, Dhamtari, Koriya, Mahasamund, Raipur and Rajnandgaon districts.

The district wise categorization of decadal change in water level is presented in **Table 7.15**. The decadal range of fluctuation has been shown in the **Fig. 7.15.**

Table 7.12: District - wise categorization of decadal change in water level (May 2013- 2022) Vs May 2023

District	No. of Wells	Range of Fluctuation				No. of Wells/Percentage Showing Fluctuation						Total No. of Wells	
		Rise (m)		Fall (m)		Rise (m)			Fall (m)			Rise	Fall
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
Bastar	25	0.37	2.07	0.01	7.79	8 32.00%	1 4.00%	0	14 56.00%	1 4.00%	1 4.00%	9	16
Bilaspur	105	.00	7.32	0.03	10.05	40 38.10%	9 8.57%	6 5.71%	35 33.33%	9 8.57%	4 3.81%	55	48
Dhamtari	31	.00	4.50	0.01	5.49	11 35.48%	7 22.58%	1 3.23%	8 25.81%	3 9.68%	1 3.23%	19	12
Durg	114	0.08	5.61	0.04	5.62	41 35.96%	18 15.79%	2 1.75%	36 34.58%	12 10.53%	5 4.39%	61	53
Janjgir - champa	47	0.02	4.62	0.30	7.07	16 34.04%	6 12.77%	3 6.38%	14 29.79%	5 10.64%	3 6.38%	25	22
Jashpur	72	0.05	4.95	0.03	13.36	13 18.06%	1 1.39%	2 2.78%	39 54.17%	15 20.83%	2 2.78%	16	56
Kanker	7	2.77	4.72	0.53	1.27	0	1 14.29%	1 14.29%	5 71.43%	0	0	2	5
Kawardha	11	0.86	4.06	0.56	1.19	4 36.36%	2 18.18%	1 9.09%	4 36.36%	0	0	7	4
Korba	69	0.08	7.75	0.02	4.42	23 33.33%	13 18.84%	2 2.90%	26 37.68%	4 5.80%	1 1.45%	38	31
Koriya	49	0.10	8.45	0.02	2.88	25 51.02%	5 10.20%	5 10.20%	10 20.41%	3 6.12%	0	35	13
Mahasamund	29	0.22	2.85	0.37	5.93	7 24.14%	1 3.45%	0	10 10.34%	8 34.48%	3	8	21
Raigarh	96	0.02	4.48	0.02	6.43	20 20.83%	3 3.13%	2 2.08%	48 50.00%	21 21.88%	2 2.08%	25	71
Raipur	85	0.02	8.80	0.01	4.71	31 36.47%	17 20.00%	6 7.06%	23 27.06%	5 5.88%	3 3.53%	54	31
Rajnandgaon	54	0.06	5.98	0.11	6.10	23 42.59%	7 12.96%	3 5.56%	13 24.07%	6 11.11%	2 3.70%	33	21
Surguja	100	0.20	5.25	0.13	7.19	33 33.00%	13 13.00%	5 5.00%	43 43.00%	5 5.00%	1 1.00%	51	49
Total	894	2.07	2.77	0.01	13.36	295	104	39	328	97	28	438	453

Table 7.13: District wise categorization of decadal change in water level (August 2013- 2022) Vs August 2023

District	No. of Wells	Range of Fluctuation				No. of Wells/Percentage Showing Fluctuation						Total No. of Wells	
		Rise (m)		Fall (m)		Rise (m)			Fall (m)				
		Min	Max	Min	Max	0 to 2	2 to 4	>4		2 to 4	>4	Rise	Fall
Bastar	25	0.06	2.95	0.04	4.32	10 40.00%	1 4.00%	0	13 52.00%	0	1 4.00%	11	14
Bilaspur	94	0.03	3.54	0.08	24.78	35 37.23%	7 6. 38%	0	39 41.49%	9 9.57%	4 4.26%	41	52
Dhamtari	32	0.31	2.88	0.01	6.16	5 15.63%	1 3.13%	0	25 78.13%	0	1 3.13%	6	26
Durg	120	.00	10.97	-	8.87	67 55.83%	7 5.83%	1 0.83%	25 20.83%	13 10.83%	7 5.83%	75	45
Janjgir - champa	44	0.05	1.61	0.05	4.89	11 25.00%	0	0	24 54.55%	8 18.18%	1 2.27%	11	33
Jashpur	74	0.04	1.44	0.04	4.45	12 16.22%	0	0	39 52.70%	22 29.73%	1 1.35%	12	62
Kanker	6	0.66	2.50	-	-	4 66.67%	2 33.33%	0	0	0	0	6	0
Kawardha	13	0.71	3.04	0.06	3.20	5 38.46%	1 7.69%	0	6 46.15%	1 7.69%	0	6	7
Korba	59	0.06	5.95	0.02	7.59	17 28.81%	1 1.69%	2 3.39%	34 57.63%	3 5.08%	2	20	39
Koriya	47	0.18	2.62	0.01	7.51	10 21.28%	1 2.13%	0	29 61.70%	4 8.51%	3 6.38%	11	36
Mahasamund	26	0.13	1.44	0.30	2.43	5 19.23%	0	0	18 69.23%	3 11.54%	0	5	21
Raigarh	97	0.02	3.20	0.03	12.99	27 27.84%	1 1.03%	0	57 58.76%	9 9.28%	3 3.09%	28	69
Raipur	89	0.02	2.18	0.02	3.89	14 15.73%	1 1.12%	0	64 71.91%	10 11.24%	0	15	74
Rajnandgaon	60	.00	3.63	0.13	12.50	34 56.67%	5 8.33%	0	13 21.67%	5 8.33%	3 5.00%	39	21
Surguja	90	0.07	4.55	0.12	7.42	23 25.56%	3 3.33%	2 2.22%	37 41.11%	15 16.67%	10 11..11%	28	62
Total	876	1.44	0.71	0.00	24.78	279	30	5	423	102	36	314	561

Table 7.14: District wise categorization of decadal change in water level (November 2013- 2022) Vs November 2023

District	No. of Wells	Range of Fluctuation				No. of Wells/Percentage Showing Fluctuation						Total No. of Wells	
		Rise (m)		Fall (m)		Rise (m)			Fall (m)			Rise	Fall
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
Bastar	27	0.20	1.51	0.20	4.60	6 22.22%	0	0	12 44.44%	6 22.22%	3 11.11%	6	21
Bilaspur	104	.00	3.16	0.04	24.27	50 48.08%	10 9.62%	0	33 31.73%	9 8.65%	2 1.92%	60	44
Dhamtari	32	0.17	2.17	0.06	8.23	10 31.25%	1 3.13%	0	16 9.38%	2 50.00%	3 6.25%	11	21
Durg	130	.00	14.24	0.01	7.31	51 39.23%	6 4.62%	3 2.31%	55 42.31%	12 9.23%	3 2.31%	60	70
Janjgir - champa	47	0.03	2.33	0.05	3.73	27 57.45%	1 2.13%	0	17 36.17%	2 4.26%	0	28	19
Jashpur	78	0.04	3.48	0.04	2.34	32 41.03%	3 3.85%	0	41 52.56%	2 2.56%	0	35	43
Kanker	6	1.98	1.98	0.05	6.00	1 16.67%	0	0	3 50.00%	1 16.67%	1 16.67%	1	5
Kawardha	15	0.13	2.29	0.06	4.24	6 40.00%	1 6.67%	0	7 46.67%	0	1 6.67%	7	8
Korba	70	0.19	4.38	0.04	4.76	26 37.14%	4 5.71%	1 1.43%	32 45.71%	5 7.14%	1 1.43%	31	38
Koriya	47	0.21	3.22	0.07	3.71	22 46.81%	3 6.38%	0	20 42.55%	2 4.26%	0	25	22
Mahasamund	28	0.04	2.45	0.02	5.19	15 53.57%	1 3.57%	0	7 3.57%	4 25.00%	1 14.29%	16	12
Raigarh	99	.00	3.14	0.02	3.16	54 54.55%	2 2.02%	0	37 37.37%	5 5.05%	0	56	42
Raipur	89	0.01	3.47	-	4.63	45 50.56%	5 5.62%	0	34 2.25%	3 38.20%	2 3.375%	50	39
Rajnandgaon	60	0.01	2.90	0.01	2.65	31 51.67%	7 11.67%	0	21 35.00%	1 1.67%	0	38	22
Surguja	90	0.03	5.74	0.00	6.20	39 43.33%	11 12.22%	2 2.22%	34 37.78%	3 3.33%	1 1.11%	52	38
Total	922	1.51	1.98	0.00	24.27	415	55	6	369	57	18	476	444

Table 7.14: District wise categorization of decadal change in water level (Jan 2014- 2023) Vs Jan 2024													
District	**No. of Wells**	**Range of Fluctuation**				**No. of Wells/Percentage Showing Fluctuation**						**Total No of wells**	
		Rise (m)		**Fall (m)**		**Rise (m)**			**Fall (m)**			**Rise**	**Fall**
		Min	**Max**	**Min**	**Max**	**0 to 2**	**2 to 4**	**>4**	**0 to 2**	**2 to 4**	**>4**		
Bastar	27	0.14	1.47	0.01	3.22	13 48.15%	0	0	9 33.33%	5 18.52%	0	13	14
Bilaspur	103	0.01	5.65	0.03	59.50	55 53.40%	12 11.65%	4 3.88%	22 21.36%	7 6.80%	3 2.91%	71	32
Dhamtari	30	.00	2.78	0.24	3.59	20 66.67%	1 3.33%	0	7 23.33%	2 6.67%	0	21	9
Durg	130	0.02	17.40	0.01	6.08	62 47.69%	16 12.31%	9 6.92%	36 27.69%	5 3.85%	2 1.54%	87	43
Janjgir - champa	49	0.02	3.57	0.04	2.87	26 53.06%	6 12.24%	0	15 30.61%	2 4.08%	0	32	17
Jashpur	77	0.04	3.94	0.01	1.98	32 41.56%	5 6.49%	0	40 51.95%	0	0	37	40
Kanker	7	0.36	1.57	0.02	4.45	4 57.14%	0	0	1 14.29%	1 14.29%	1 14.29%	4	3
Kawardha	15	0.29	11.90	0.24	0.52	9 60.00%	2 13.33%	2 13.33%	2 13.33%	0	0	13	2
Korba	69	0.15	5.75	0.03	6.39	29 42.03%	4 2.90%	2 5.80%	28 40.58%	4 2.90%	2 5.80%	35	34
Koriya	47	0.05	4.78	0.01	3.46	21 44.68%	9 19.15%	1 2.13%	13 27.66%	3 6.38%	0	31	16
Mahasamund	26	0.03	2.71	0.14	3.62	16 61.54%	1 3.85%	0	7 7.69%	2 26.92%	0	17	9
Raigarh	101	0.05	4.40	0.05	3.37	65 64.36%	6 5.94%	1 0.99%	25 24.75%	3 2.97%	0	72	28
Raipur	86	0.02	3.99	0.01	5.14	44 51.16%	6 6.98%	0	27 31.40%	8 9.30%	1 1.16%	50	36
Rajnandgaon	60	0.01	5.25	0.05	1.97	33 55.00%	0	1 1.67%	16 26.67%	0	0	44	16
Surguja	90	0.02	6.24	0.04	7.69	41 45.56%	7 7.78%	3 3.33%	32 35.56%	6 6.67%	1 1.11%	51	39
Total	917	1.47	0.36	0.01	59.50	470	85	23	280	48	10	578	338

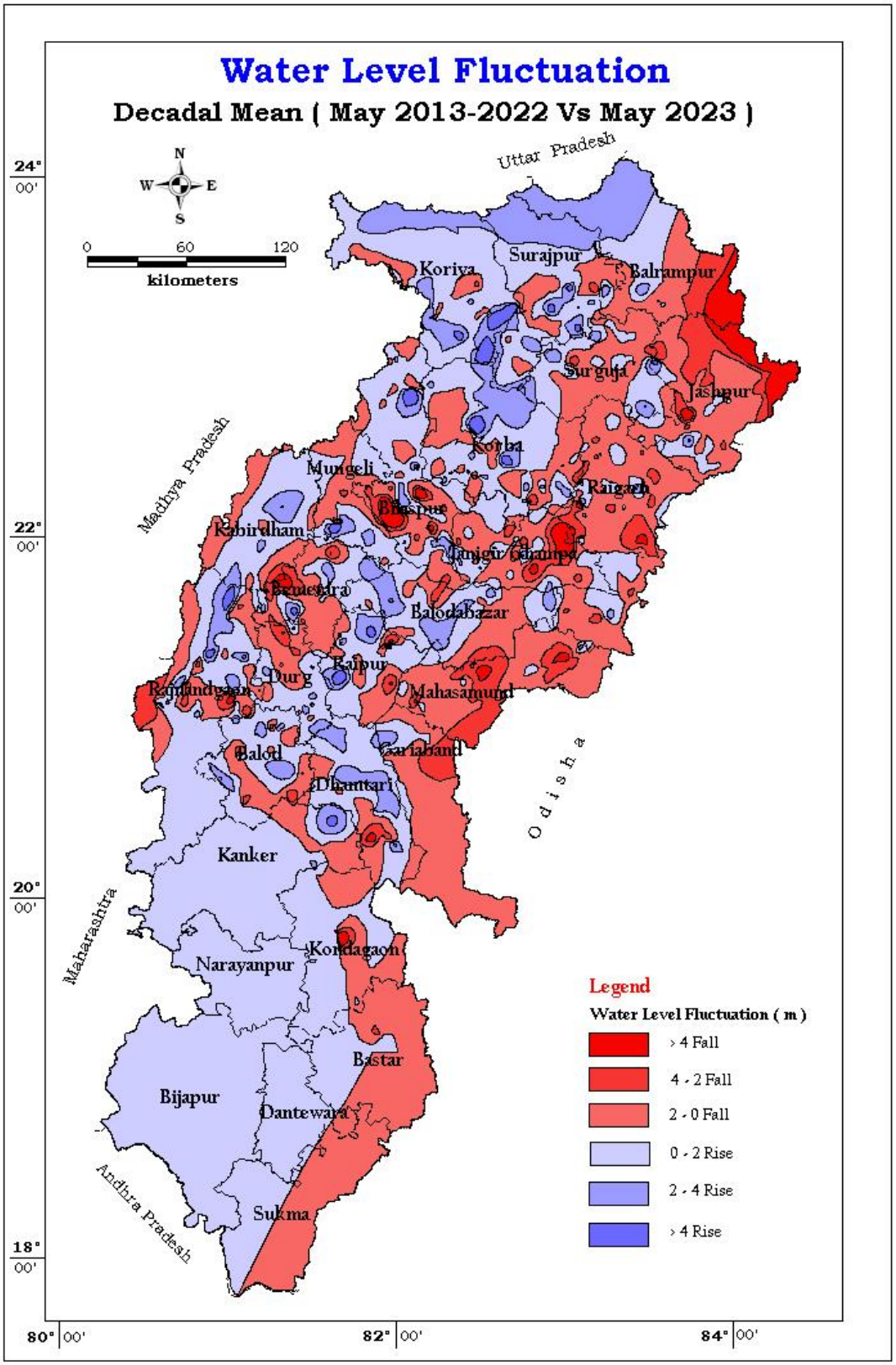


Fig. 7.12: Water Level Fluctuation, Decadal Mean (May 2013-2022) Vs May 2023

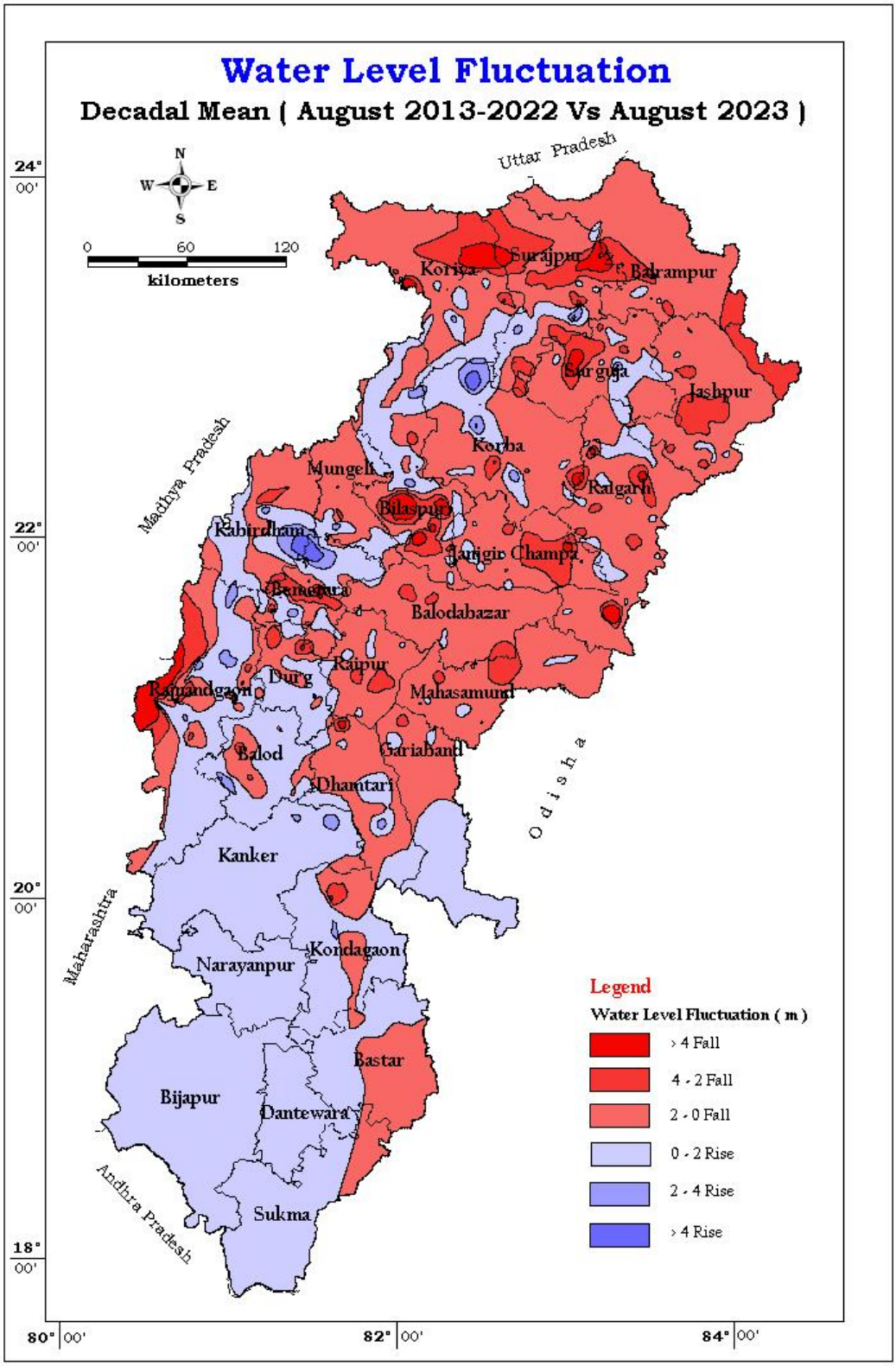


Fig. 7.13: Depth to water level fluctuation (Decadal mean Aug 2013-2022 Vs Aug 2023)

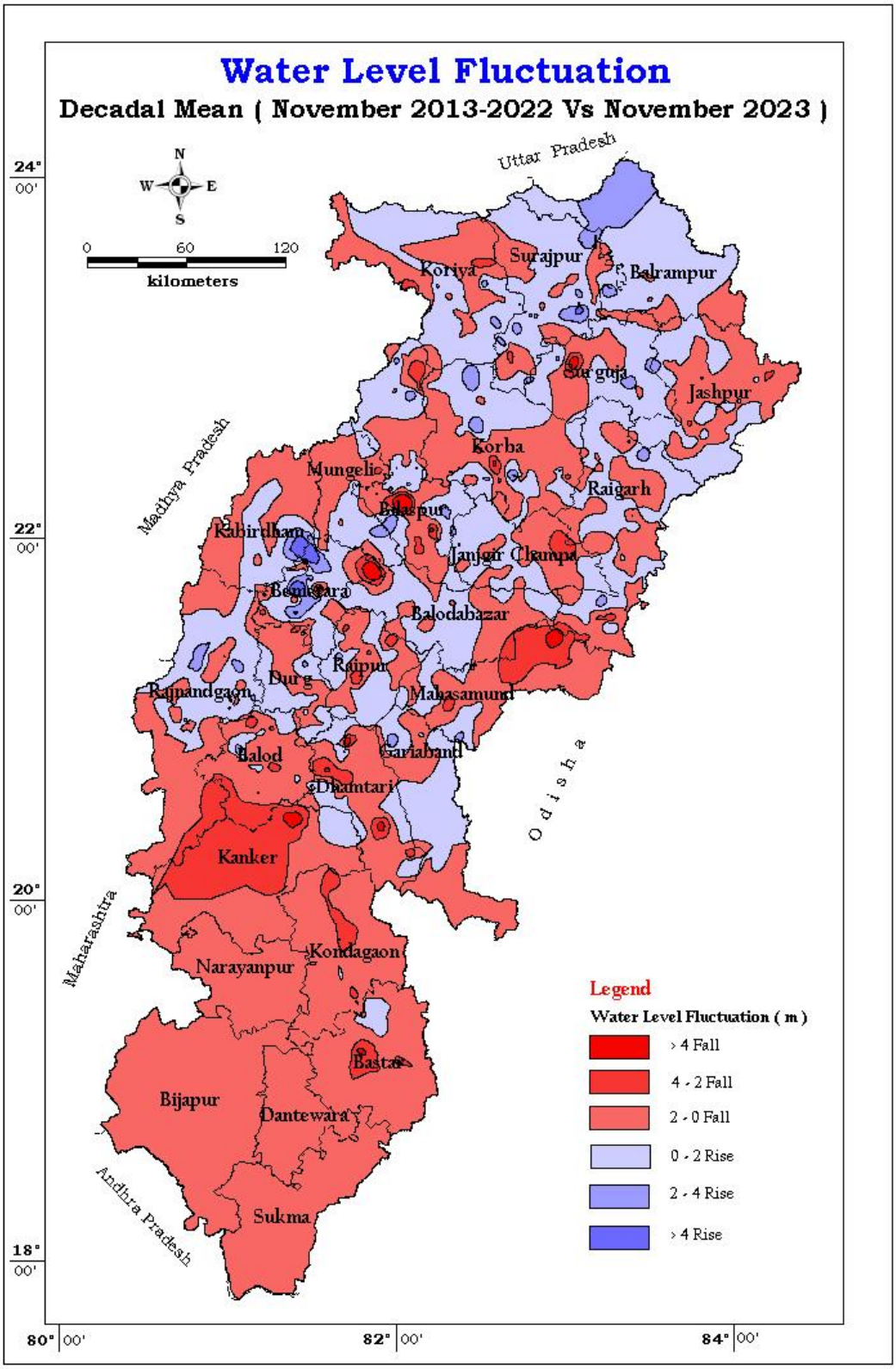


Fig. 7.14: Depth to water level fluctuation (Decadal mean Nov 2013-2022 Vs Nov 2023)

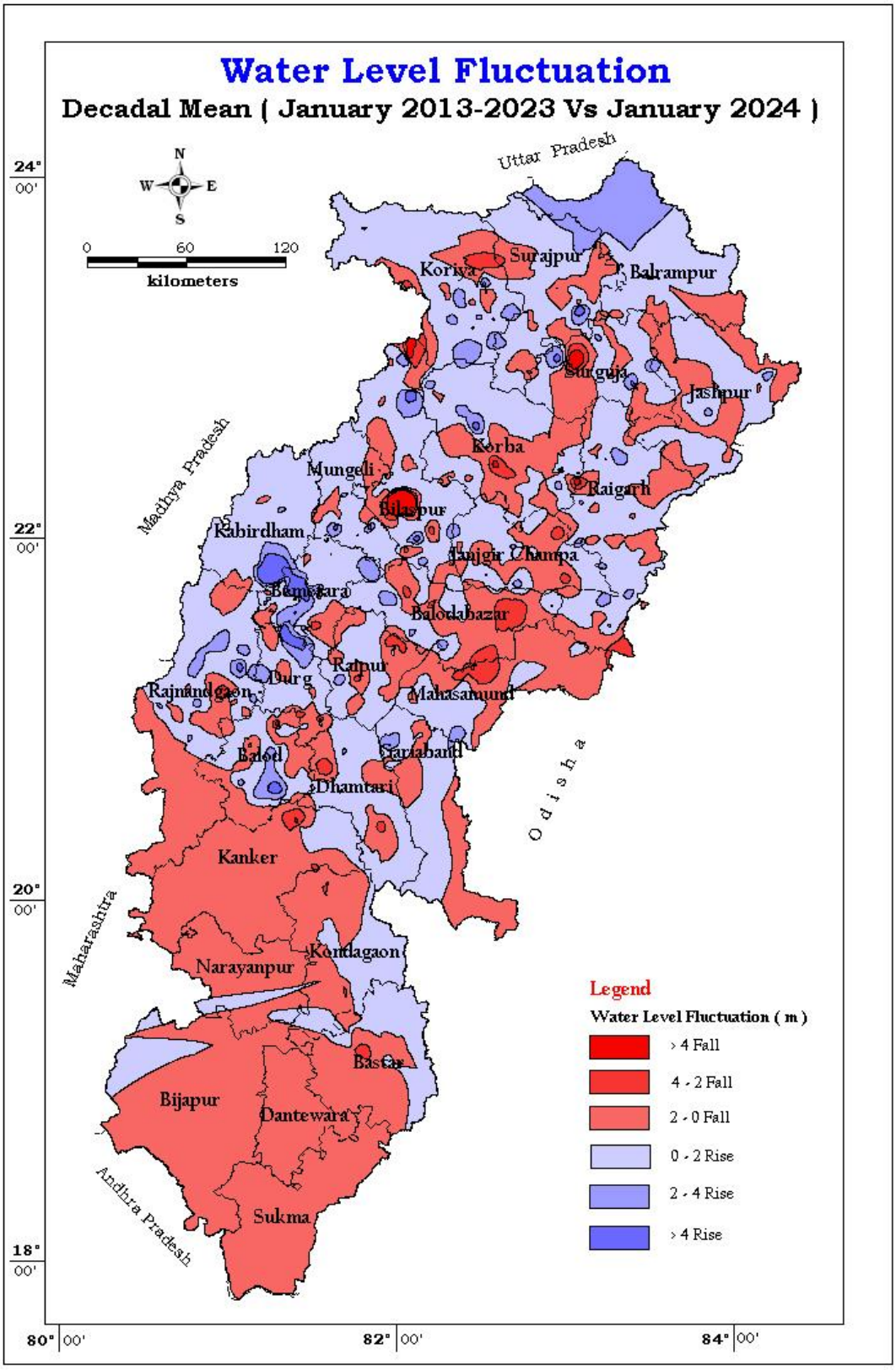


Fig. 7.15: Water Level Fluctuation, Decadal Mean (Jan 2013-2023) Vs Jan 2024

7.5 Deeper Aquifer: Piezometer

Deeper aquifer (Piezometer) May 2023 The depth to water level of 236 wells is used for the analysis. Analysis of depth to water level data of 236 wells shows water levels vary between 1.53m bgl (Raipur) to 58 m bgl (Korba). Water level of less than 2 m bgl is recorded in 1% of wells, between 2 to 5 m bgl in 10% of wells, between 5 to 10 m bgl in 24% of wells, between 10 to 20 m bgl in 40 % ofwells, between 20-40 m bgl in 22% of wells and water level more than 40 mbgl is registered in 3 % of wells.Shallow water level of less than 2 m bgl occurs in isolated patches in parts of Janjgir Champa & Raipur districts. Water level of 2 to 5 m bgl is observed mainly 25 wells distributed in districts of Raipur, Janjgir-Champa, Durg, Bilaspur, Rajnandgaon, Mahasamund and Raigarh districts. Water level of 5 to 10 m bgl is observed in 57 wells throughout the state with in Durg, Korea, Raipur, Korba, Dhamtari, Bilaspur, Sarguja, Jashpur, Kawardha, Dhamtari and Kanker districts. Water level of 10 to 20 m bgl is in 94 wells distributed in the districts of Korba, Raipur, Sarguja, Mahasamund, Dhamtari, Bilaspur, Rajnandgaon, Durg, Raigarh, Mahasamund, Dhamtari, Janjgir-Champa districts. Deeper water levels of more than 20 m occurs in 51 wells in districts of Jashpur, Rajnandgaon, Sarguja, Mahasamund, Bastar, Korea, Durg, Bilaspur, Kawardha, Janjgir-Champa, Korba and Raipur districts. Deepest water levels of more than 40 mbgl occurs in 7 wells in districts of Raipur, Bastar, Durg and Korba districts.

Deeper aquifer (Piezometer) May 2023-2024 Rise in Water Level
Out of 41 wells, water level rise of less than 2 m is recorded in 62.79% (27) wells, 2 to 4 m in 9.3%(4) wells and more than 4 m in 27.90%(12) of the wells. Water level rise of less than 2 m is seen in all the districts, significantly in Rajnandgaon, Jashpur, Korba, Janjgir-Champa, Raigarh, Mahasamund, Raipur, Surajpur and Balarampur districts. Water level rise of 2 to 4 m is observed mainly in districts such as, Mahasamund, Dhamtari, Kabirdham districts. Rise of more than 4 m is significantly observed in Rajnandgaon, Raipur, Mahasamund, Kabirdham, Raigarh districts.

Fall in Water Level
Out of 87 wells that have registered fall in water levels, 59.01% (36) have recorded less than 2 m while 9.8% (6) in the range of 2 to 4 m and remaining 31.14% (19) wells registered water level fall of more than 4 m. Fall of less than 2 m is mainly observed in parts of Baloda Bazar, Raipur, Bemetara, Janjgir-Champa, Dhamtari, Korba districts. Fall of 2 to 4 m is observed mainly in Korba, Balrampur, Manendragarh, Surajpur, Surguja districts. Fall of more than 4 m is significantly observed in Durg, Sarguja, Baloda Bazar, Mahasamund, Korba, Raipur, Sarguja, Dhamtari, Jashpur, Kanker, Gaurela-Pendra districts.

Deeper aquifer (Piezometer) Nov 2023: In general, the depth to water level ranges ranges 0 to 5 m bgl is observed in approximately 32.8 % of the wells, 5 to 10 m bgl is observed in approximately 30.4 % of the wells and depth to water level range up to 10-15 m bgl is observed in 21.09 % of the wells in the state. 15 -20 in 10.1 % wells, 20 -25 in 3.9 % wells and >25 in 1.5 % wells in deeper aquifer. The deepest water level of 50 m bgl was monitored in Mongara PZ location of Surguja district.

The district wise frequency distribution of different ranges of depth to water level is represented on a map and appended as Fig 7.16 (a) & (b) and 7.17 (a) & (b).

Deeper aquifer (Piezometer) November 2022-2023 Rise in Water Level

Out of 41 wells, water level rise of less than 2 m is recorded in 22.6% (29) wells, 2 to 4 m in 7.6% (9) wells and more than 4 m in 2.34 % (3) of the wells. Water level rise of less than 2 m is seen in all the districts, significantly in Raipur, Surguja, Rajnandgaon, Jashpur, Korba, Raigarh, Mahasamund, Raipur, and Balarampur districts. Water level rise of 2 to 4 m is observed mainly in districts such as, Raipur, Durg, Surguja, Raigarh & Kabirdham districts. Rise of more than 4 m is significantly observed in Korba & Surguja districts.

Fall in Water Level

Out of 87 wells that have registered fall in water levels, 42.9% (55) have recorded less than 2 m while 17.1% (22) in the range of 2 to 4 m and remaining 7.8% (10) wells registered water level fall of more than 4 m. Fall of less than 2 m is mainly observed in parts of Baloda Bazar, Raipur, Bemetara, Janjgir-Champa, Dhamtari, Korba districts. Fall of 2 to 4 m is observed mainly in Korba, Balrampur, Manendragarh, Surajpur, Surguja districts. Fall of more than 4 m is significantly observed in Sarguja, Mahasamund, Korba, Raipur, Jashpur, Kanker, Gaurela-Pendra districts.

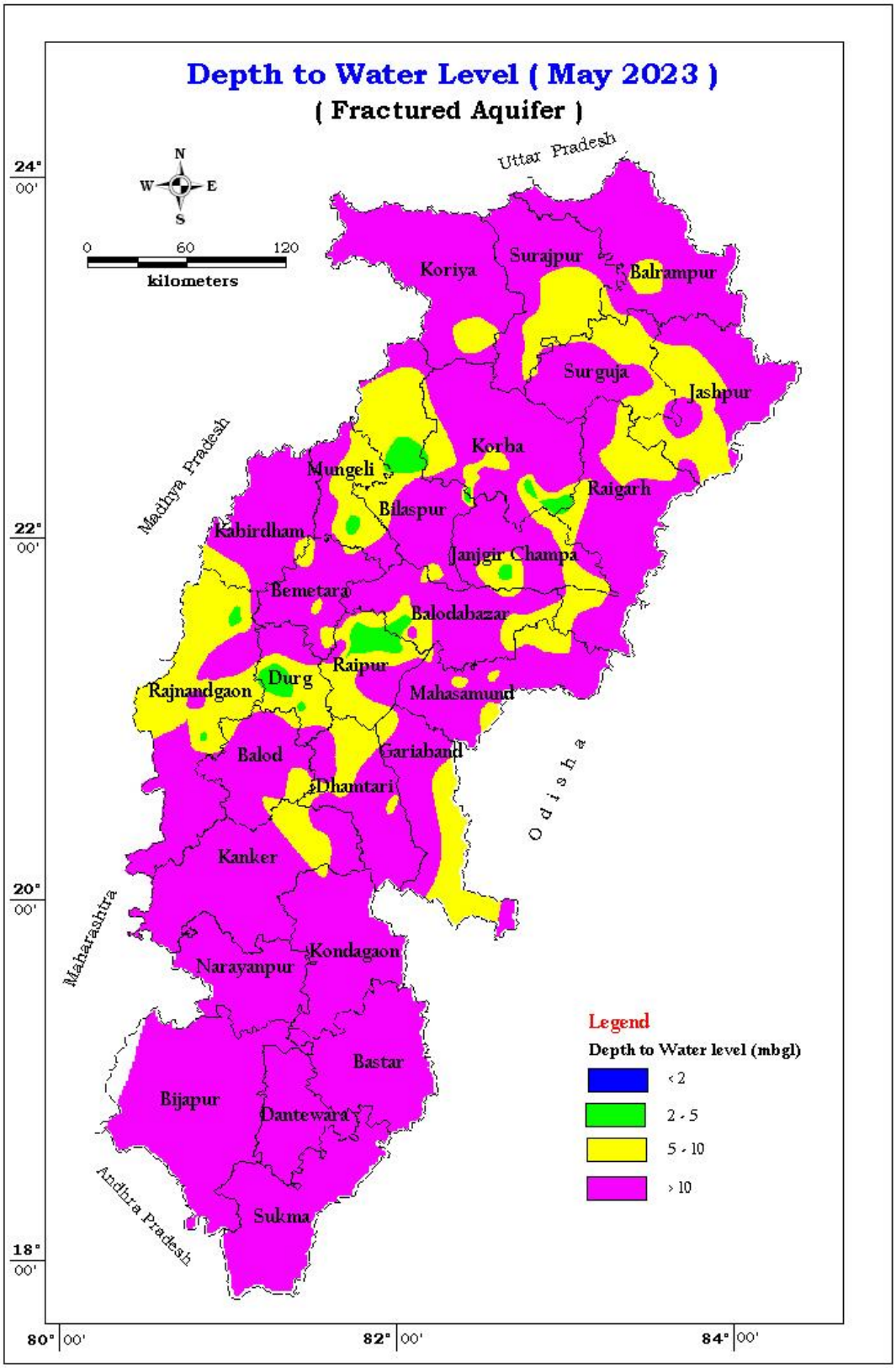


Fig. 7.16 (a): Depth to water level in Piezometer (May, 2023)

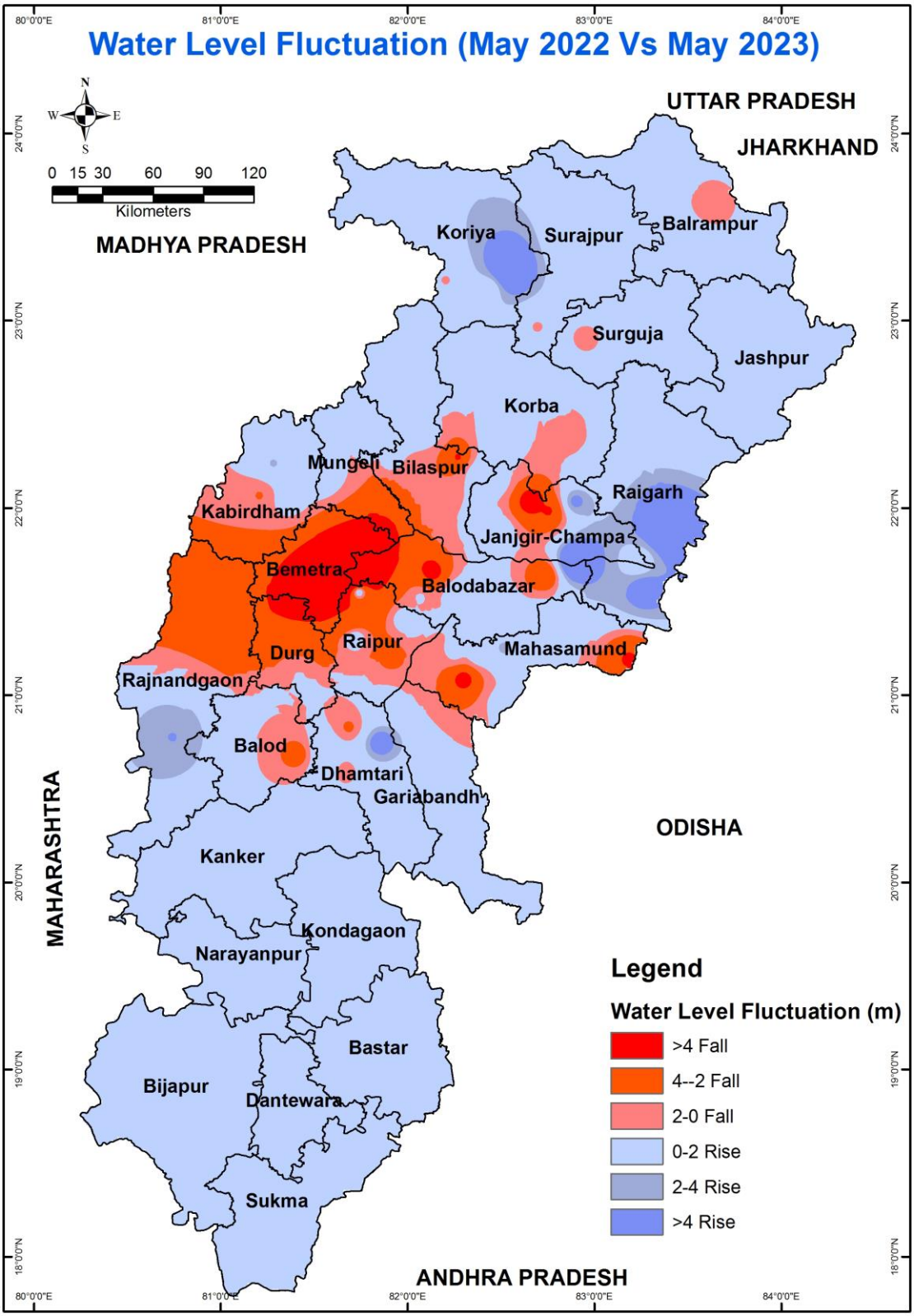


Fig. 7.16 (b): Depth to water level in Piezometer (May, 2022 Vs 2023)

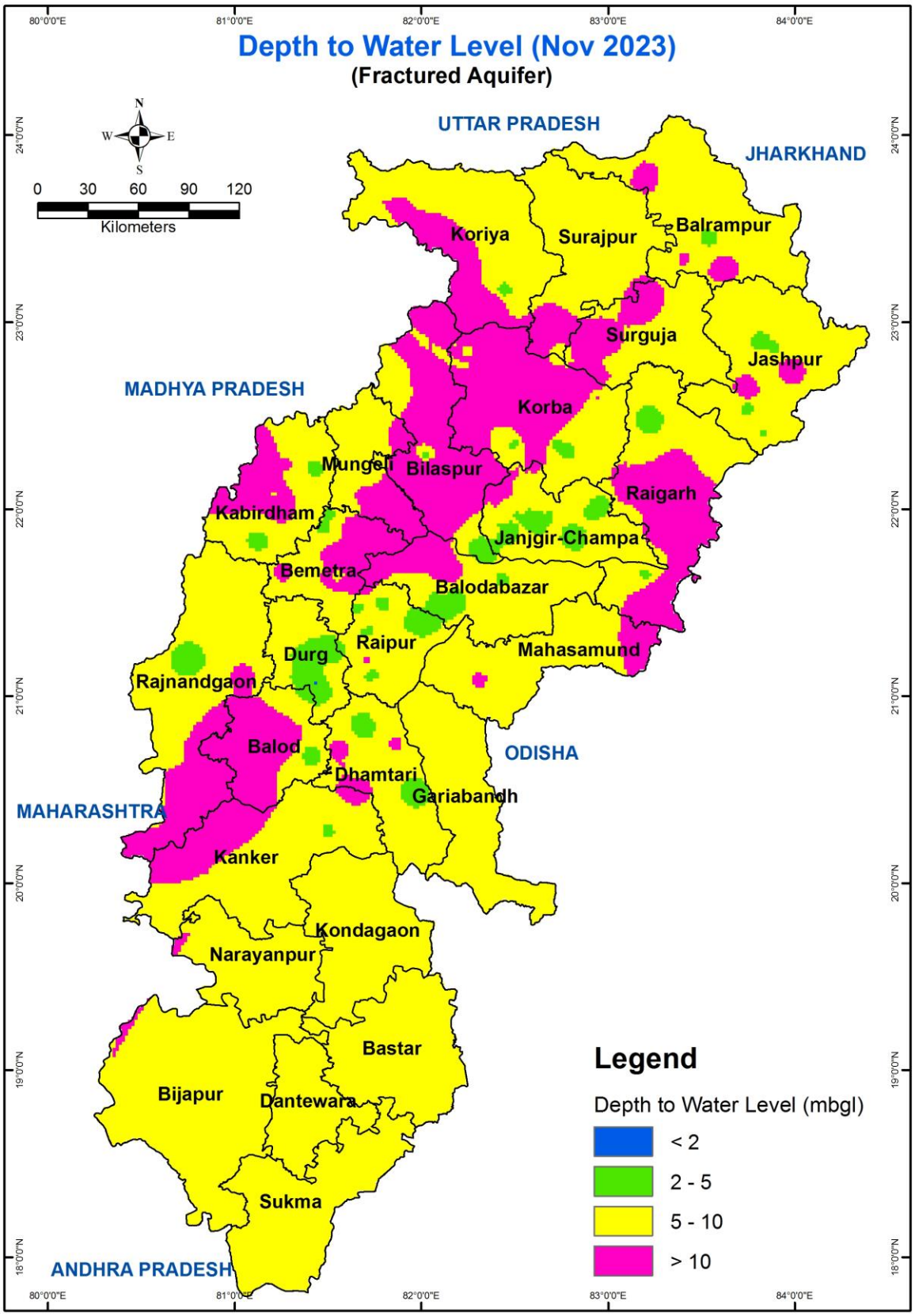


Fig. 7.17 (a): Depth to water level in Piezometer (November, 2023)

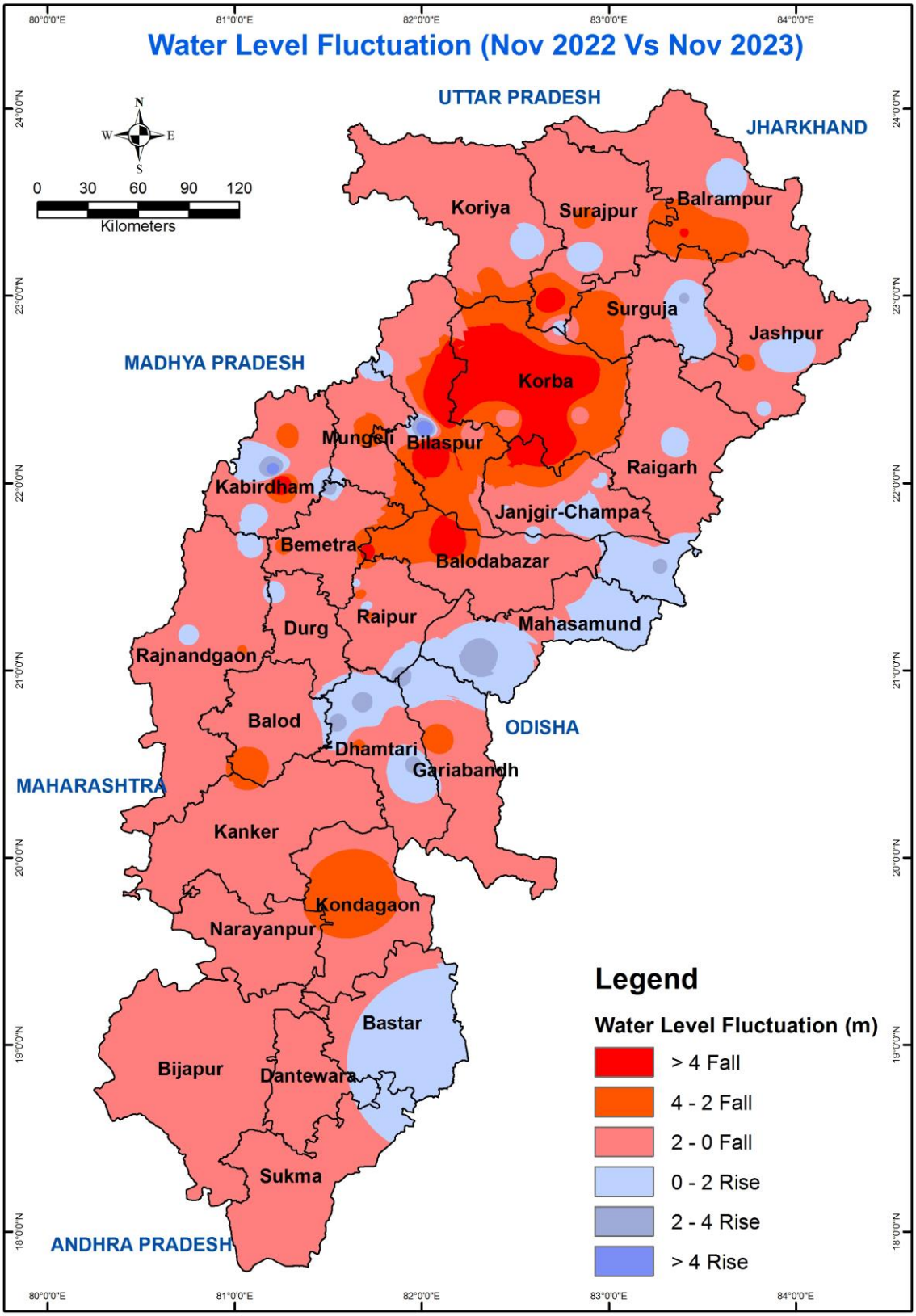


Fig. 7.16 (b): Depth to water level in Piezometer (November, 2022-23)

7.6 Long Term Water Level Trend (1992 - 2023)

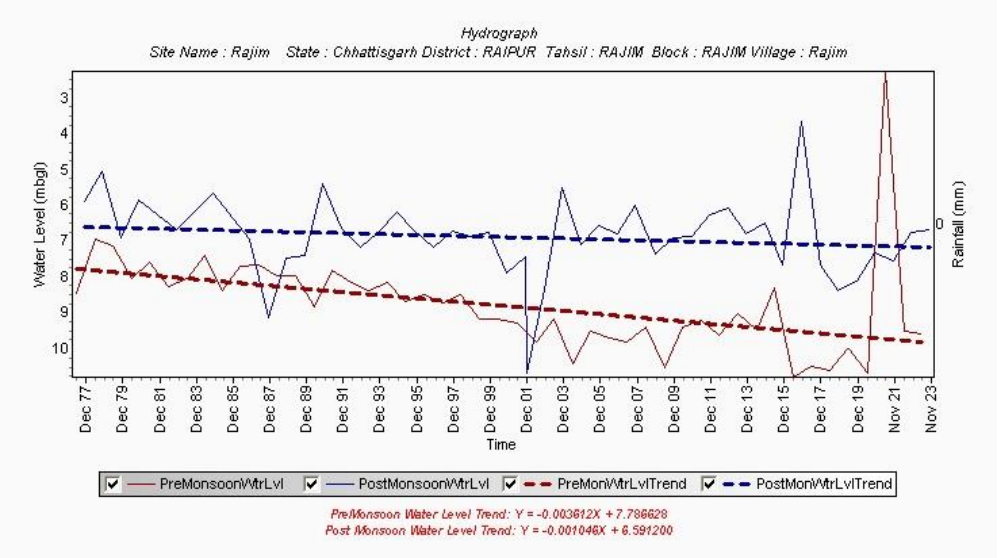
In response to the base flow and draft, if any, the water level after monsoon decline and thus generating the recession limb. The recession curves pattern can be classified into three types, viz. (a) V type curve (b) U type curve and (c) S type curve.

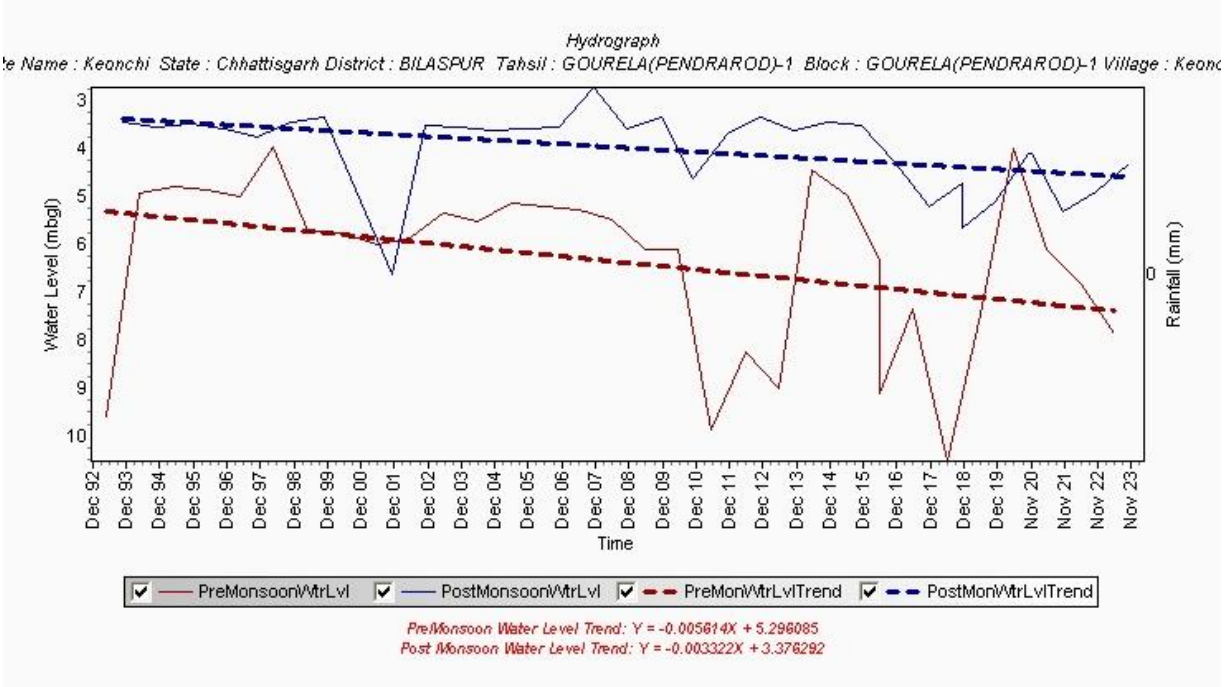
S type Curves are those, which have sharp initial and ultimate slope of recession limb and in between flat or very gentle slope giving rise to two breaks in the actual slope of the recession limb. The S type curves have generally low seasonal fluctuation and are not very common, e.g. Sarangarh.

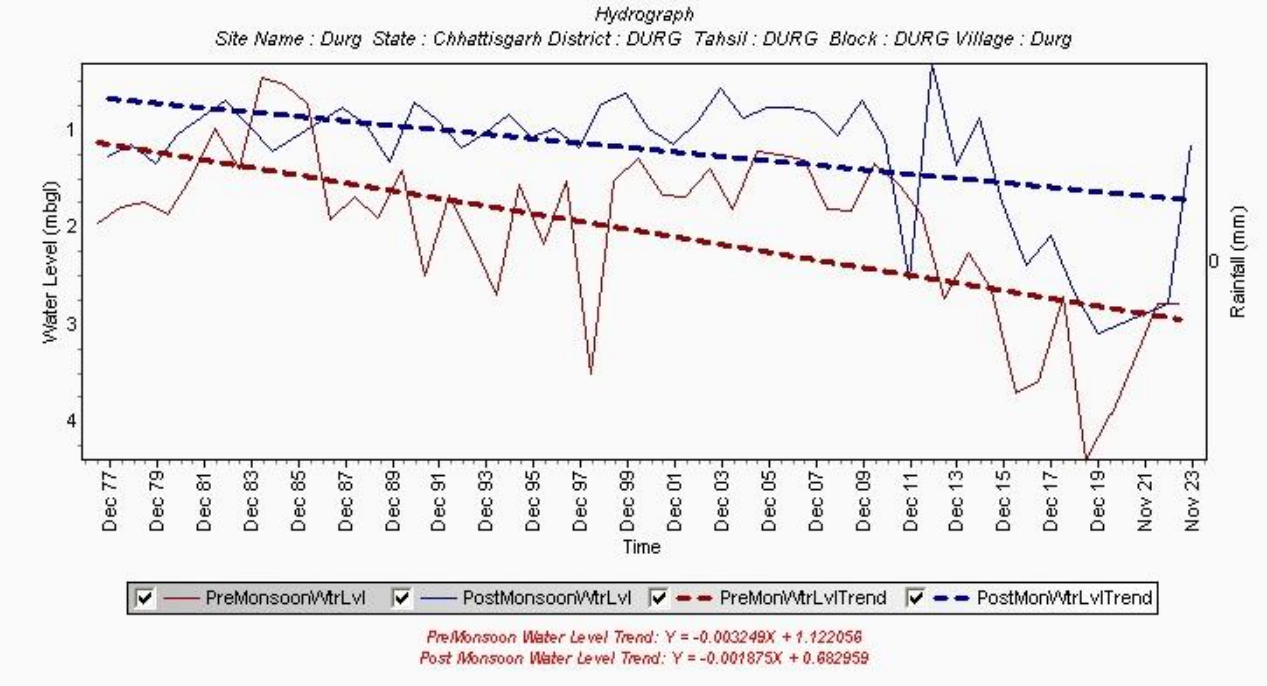
V type Curves are those curves where both rising, and recession limbs have nearly no change in slope angle though the rising limbs are much sharp and recession limbs are comparatively gentle. They generally don't show any break in actual slope trend throughout the limb. Any eventual rise or fall subsequently gets matched with the original trend of slope. The lower part of the trough is sharp (v shaped) and not rounded.

U type Curves are those curves where rising limb has a nearly uniform slope but the recession limb shows definite break in the slope. It is initially sharp and subsequently gentle after some period of discharge event, giving rise to U shaped curve. The lowest part of trough is not very sharp (u shaped) and is nearly flat or with some curvature.

Significance of the hydrograph exists in interpretation of aquifer characteristics and stress. The V type curve indicates quick dissemination, U type indicate initial quick adjustment and than slow dissemination whereas the S type curves are indicative of poor response of aquifer. The background noise (frequency of fluctuation) in the shale (Poor aquifers) is very high compared to other aquifers. The U shape indicates good sustainability, storativity and transmissivity.




Hydrograph
e Name : Keonchi State : Chhattisgarh District : BILASPUR Tahsil : GOURELA(PENDRAROD)-1 Block : GOURELA(PENDRAROD)-1 Village : Keonc
Water Level (mbgl)
Rainfall (mm)
Time
PreMonsoonWtrLvl
PostMonsoonWtrLvl
PreMonWtrLvlTrend
PostMonWtrLvlTrend
PreMonsoon Water Level Trend: Y = -0.005614X + 5.296085
Post Monsoon Water Level Trend: Y = -0.003322X + 3.376292


Hydrograph
Site Name : Durg State : Chhattisgarh District : DURG Tahsil : DURG Block : DURG Village : Durg
Water Level (mbgl)
Rainfall (mm)
Time
PreMonsoonWtrLvl
PostMonsoonWtrLvl
PreMonWtrLvlTrend
PostMonWtrLvlTrend
PreMonsoon Water Level Trend: Y = -0.003249X + 1.122056
Post Monsoon Water Level Trend: Y = -0.001875X + 0.682959

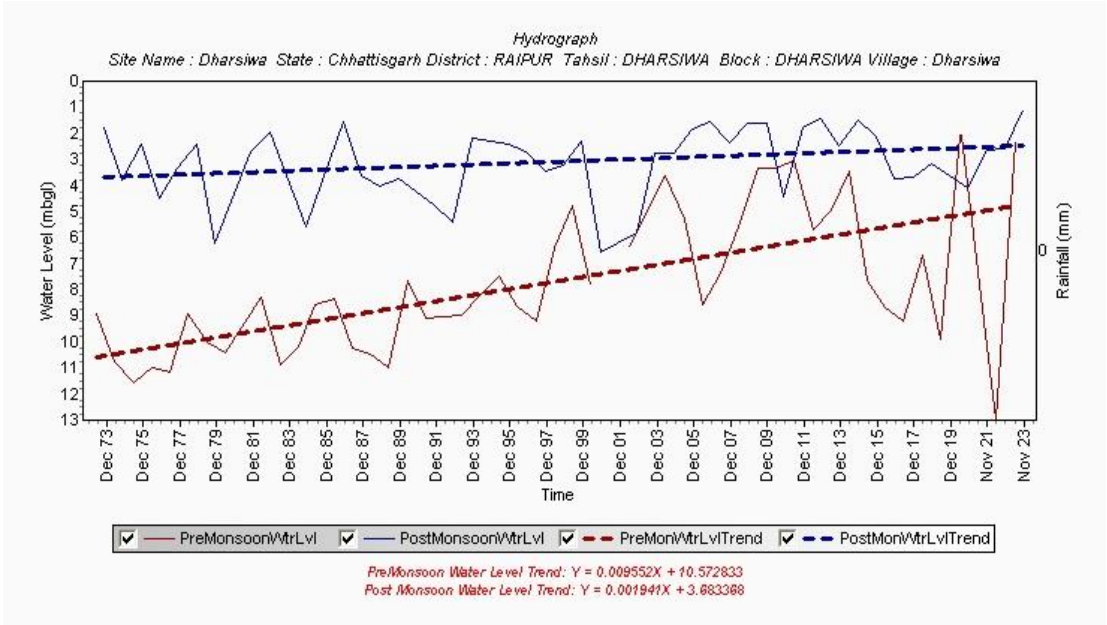


Fig. 7.17 & 7.18: National Hydrograph station of Baitalpur & Bilha village, Bilaspur district, Chhattisgarh state respectively.

The post monsoon decadal water level trend map of the phreatic aquifer presents a more alarming picture **(Fig. 7.17 & 7.18).** It shows large tracts of Bilaspur, Surguja, Koriya, Jashpur, Kawardha, Rajnandgaon, etc. with significant decline in water level of more than 20 cm/yr during the last 10 years. This long-term trend is also depicted from the individual hydrographs of network stations. Some representative hydrographs are given above.

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
1	Arjunda	17.25	Mahanadi	Shale
2	Armarikalan	8.18	Mahanadi	Limestone/Dolomite
3	Baklitola	8	Mahanadi	Quartzite
4	Balod	11.65	Mahanadi	Compact Sandstone
5	Balod Gahan	7.1	Mahanadi	Compact Sandstone
6	Batera	5.43	Mahanadi	Compact Sandstone
7	Bharnabhat	15.22	Mahanadi	Limestone Cavernous
8	Danitola	7.8	Mahanadi	Quartzite
9	Delli Rajhara	3.55	Mahanadi	Conglomerate/Metasedimentary
10	Dondi	13.75	Mahanadi	Gneiss/Amphibolite/Granulite
11	Gunderdehi	10.3	Mahanadi	Shale
12	Gunderdehi1	48.66	Mahanadi	Shale
13	Gurur	12.17	Mahanadi	Compact Sandstone
14	Gurur-s	24.28	Mahanadi	Compact Sandstone
15	Jagtara	12.45	Mahanadi	Compact Sandstone
16	Kodiya	13.3	Mahanadi	Limestone Cavernous
17	Kusumkasa	9.3	Mahanadi	Acidic Rocks
18	Lohara	7.5	Mahanadi	Granite Gneiss
19	Markatola	10.27	Mahanadi	Compact Sandstone
20	Nahalda	7.75	Mahanadi	Shale
21	Paplatola	8.7	Mahanadi	Quartzite
22	Sambalpur	25.5	Mahanadi	Not Available
23	Sambalpur Pz I	151.9	Mahanadi	Maniyari shale
24	Sambalpur Pz Ii	63	Mahanadi	Maniyari shale
25	Sambalpur2	42.49	Mahanadi	Not Available
26	Sikosa	6.14	Mahanadi	Limestone/Dolomite
27	Umradah	12.5	Mahanadi	Shale with Limestone/Sandstone Band/Lens
28	Aouri	9.8	Mahanadi	Compact Sandstone
29	Arjuni	10.8	Mahanadi	Not Available
30	Arjuni S	50	Mahanadi	Shale with Limestone/Sandstone Band/Lens
31	Baloda bazar	15.4	Mahanadi	Shale
32	Baloda bazar1	67.15	Mahanadi	Limestone Cavernous
33	Bhatgaon	9.05	Mahanadi	Not Available
34	Bhattapara-S	28	Mahanadi	Limestone/Dolomite
35	Biladi	18	Mahanadi	Limestone
36	Bilaigarh	5.35	Mahanadi	Limestone/Dolomite
37	Bilaigarh S	50	Mahanadi	Limestone/Dolomite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
38	Chanderi	9.8	Mahanadi	Limestone Cavernous
39	Chandi	7	Mahanadi	Not Available
40	Chicholi	15.5	Mahanadi	Limestone Cavernous
41	Darchura	10.7	Mahanadi	Shell Limestone/Limestone
42	Dhamarkhera	11.36	Mahanadi	Limestone/Dolomite
43	Haswa	14.83	Mahanadi	Limestone/Dolomite
44	Kasdol	9.27	Mahanadi	Limestone/Dolomite
45	Kasdol-d	75	Mahanadi	Limestone/Dolomite
46	Kasdol-s PZ	33.5	Mahanadi	Limestone/Dolomite
47	Khapri	13.5	Mahanadi	Not Available
48	Kharora	12.1	Mahanadi	Limestone/Dolomite
49	Lahaud	10.9	Mahanadi	Shale
50	Lahaud S	50	Mahanadi	Shale with Limestone/Sandstone Band/Lens
51	Lawan	9.69	Mahanadi	Limestone/Dolomite
52	Mahasamund-s PZ	36.5	Mahanadi	Shale
53	Mudhipar	6.9	Mahanadi	Limestone Cavernous
54	Pandan Bhata	10.45	Mahanadi	Limestone
55	Panderbhata S	50	Mahanadi	Shale with Limestone/Sandstone Band/Lens
56	Raita Satna Ni Para	10	Mahanadi	Limestone
57	Risda	12	Mahanadi	Limestone
58	Saragaon	7.2	Mahanadi	Limestone/Dolomite
59	Sarsiwa	10.14	Mahanadi	Granite/Granodiorite
60	Sel	9.3	Mahanadi	Limestone
61	Simga	10.43	Mahanadi	Shale
62	Simga-s	30.93	Mahanadi	Shale
63	Suhela	13.5	Mahanadi	Limestone Cavernous
64	Tarenga	17.11	Mahanadi	Shale
65	Tarpongi	8.25	Mahanadi	Limestone/Dolomite
66	Tatibandh MVM	13.1	Mahanadi	Limestone
67	Tilda	10.9	Mahanadi	Not Available
68	Tilda Purani Basti	15.53	Mahanadi	Limestone
69	Tilda S	50	Mahanadi	Shale with Limestone/Sandstone Band/Lens
70	Tundei	10.45	Mahanadi	Limestone
71	Urela	11.6	Mahanadi	Conglomerate/Metasedimentary
72	Alkadih	3	Mahanadi	Granite Gneiss
73	Amdih	7.8	Mahanadi	Granite Gneiss
74	Aragahi	11.2	Lower Ganges	Granite/Granodiorite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
75	Bachwar	8	Lower Ganges	Gneiss/Amphibolite/Granulite
76	Bagra	8.35	Mahanadi	Sandstone
77	Balrampur	18	Lower Ganges	Granite/Granodiorite
78	Balrampur D	50	Lower Ganges	Granite Gneiss
79	Balrampur S	32.55	Lower Ganges	Granite Gneiss
80	Basin	7.5	Mahanadi	Granite Gneiss
81	Bhadori	6.75	Lower Ganges	Shale With Limestone/Sandstone Band/Lens
82	Bulga	11	Lower Ganges	Compact Sandstone
83	Chandora	7.01	Lower Ganges	Compact Sandstone
84	Dhamni	11.7	Lower Ganges	Gneiss/Amphibolite/Granulite
85	Dhaurpur	9	Lower Ganges	Gneiss/Amphibolite/Granulite
86	Dhaurpur S	50	Lower Ganges	Granite Gneiss
87	Gonda	16.47	Lower Ganges	Compact Sandstone
88	Jagannathpur	8.35	Lower Ganges	Sandstone
89	Karmdiha	10.17	Lower Ganges	Gneiss/Amphibolite/Granulite
90	Kurji	9.15	Mahanadi	Sandstone
91	Lamgaon	6.7	Lower Ganges	Shale With Limestone/Sandstone Band/Lens
92	Lundra	10	Lower Ganges	Gneiss/Amphibolite/Granulite
93	Lundra S	50	Lower Ganges	Granite Gneiss
94	Mahavirganj	8.6	Lower Ganges	Granite/Granodiorite
95	Mahewa	9.85	Lower Ganges	Compact Sandstone
96	Makanpur	12.2	Lower Ganges	Sandstone
97	Nawdih	10.5	Mahanadi	Limestone
98	Pasta	12	Lower Ganges	Granite/Granodiorite
99	Pasta S	50	Lower Ganges	Granite Gneiss
100	Pratappur	12	Lower Ganges	Granite/Granodiorite
101	Pratappur - 1	12	Lower Ganges	Granite/Granodiorite
102	Rajpur	14.56	Lower Ganges	Compact Sandstone
103	Rajpur1	30.9	Lower Ganges	Schist/Talc
104	Ramanujganj	12.8	Lower Ganges	Gneiss/Amphibolite/Granulite
105	Reonti	13.05	Lower Ganges	Sandstone
106	Sargaon	9.4	Mahanadi	Granite Gneiss
107	Shankargarh S	50	Lower Ganges	Granite Gneiss
108	Songara	15	Lower Ganges	Compact Sandstone
109	Songara1	31	Lower Ganges	Compact Sandstone
110	Tattapani	12.9	Lower Ganges	Compact Sandstone
111	Tattapani1	30.52	Lower Ganges	Granite Gneiss

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
112	Veria	11	Mahanadi	Sandstone With Shale/Coal Partings
113	Wadrafnagar	14	Lower Ganges	Compact Sandstone
114	Bare arapur	20	Godavari	Gneiss/Amphibolite/Granulite
115	Bastar	14	Godavari	Limestone/Dolomite
116	Bhanpuri	6.55	Godavari	Limestone/Dolomite
117	Bhanpuri-d	42.53	Godavari	Limestone/Dolomite
118	Bhanpuri-s	30.92	Godavari	Limestone/Dolomite
119	Chhapanbhanpuri	9.4	Godavari	Limestone/Dolomite
120	Chitrakot	9.9	Godavari	Compact Sandstone
121	Jagdalpur	11	Godavari	Limestone/Dolomite
122	Jagdalpur.1	8.17	Godavari	Not Available
123	Jagdalpur-s PZ	28.07	Godavari	Alluvium
124	Karpawand	8.5	Godavari	Limestone/Dolomite
125	Kumharwand	9.5	Godavari	Limestone/Dolomite
126	Markel	9.86	Godavari	Shale
127	Nagarnar1	9.3	Godavari	Shaly Limestone
128	Neganar	12.58	Godavari	Limestone/Dolomite
129	Sonarpal	9.75	Godavari	Compact Sandstone
130	Andhiyarkhor	12.02	Mahanadi	Compact Sandstone
131	Ashoga	10.95	Mahanadi	Limestone/Dolomite
132	Bemetara New	16.78	Mahanadi	Shale
133	Bemetera-s	39.83	Mahanadi	Shale
134	Berla	7.4	Mahanadi	Limestone/Dolomite
135	Bitkuli	8.8	Mahanadi	Shale
136	Dadhi1	12	Mahanadi	Shale
137	Deorbija	9.63	Mahanadi	Limestone/Dolomite
138	Ganiya	5.55	Mahanadi	Shale
139	Gatapar	9.5	Mahanadi	Limestone/Dolomite
140	Jamgaon	9.5	Mahanadi	Limestone/Dolomite
141	Kathiya	16.1	Mahanadi	Shale With Sandstone Partings
142	Kedwa	6.6	Mahanadi	Limestone/Dolomite
143	Khati	8.23	Mahanadi	Shale
144	Khurmuri	14	Mahanadi	Shale
145	Medasar	10.7	Mahanadi	Quartzite
146	Nawagarh1	8.5	Mahanadi	Shale
147	Nawagarh-d	75.62	Mahanadi	Shale
148	Nawagarh-s	30.5	Mahanadi	Shale

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
149	Ninwa	11.32	Mahanadi	Shale
150	Parpoda	14	Mahanadi	Limestone/Dolomite
151	Saja Pz Ii	51.3	Mahanadi	Maniyari shale
152	Saja Pzi	151.9	Mahanadi	Maniyari shale
153	Semariya	151.3	Mahanadi	Maniyari shale
154	bakarkuda	0	Mahanadi	Limestone
155	Bansajhal	8.33	Mahanadi	Compact Sandstone
156	Bansajhal1 PZ	37.22	Mahanadi	Schist/Talc
157	Bartoli	9.45	Mahanadi	Limestone
158	Belgahana	11	Mahanadi	Phyllite
159	Beltara	9.65	Mahanadi	Compact Sandstone
160	Bilaspur	15.5	Mahanadi	Limestone/Dolomite
161	Bilha	13.7	Mahanadi	Limestone/Dolomite
162	Chakrabhata-d PZ	54.8	Mahanadi	Limestone/Dolomite
163	Chandkhuri (d)	74.4	Mahanadi	Not Available
164	Chandkhuri (s)	50	Mahanadi	Not Available
165	Chilhati	10.2	Mahanadi	Limestone/Dolomite
166	chilhati	50	Mahanadi	Limestone
167	Dagauri	11.38	Mahanadi	Not Available
168	Danikundi	20	Lower Ganges	Granite/Granodiorite
169	Dhanpur	10.8	Lower Ganges	Granite/Granodiorite
170	Ganiyari	50	Mahanadi	Not Available
171	Ganiyari.2	11.4	Mahanadi	Shale
172	Gatori	6.45	Mahanadi	Limestone/Dolomite
173	Gaurela	8.79	Lower Ganges	Granite/Granodiorite
174	Hemu Nagar	7.92	Mahanadi	Limestone/Dolomite
175	Hirri	11.15	Mahanadi	Limestone/Dolomite
176	Jhingatpur	9.1	Mahanadi	Phyllite
177	Jogipur	12.1	Mahanadi	Quartzite
178	Kargikhurud	13.1	Mahanadi	Shale With Limestone/Sandstone Band/Lens
179	Kenda	10.9	Mahanadi	Phyllite
180	Keonchi	10.56	Mahanadi	Granite/Granodiorite
181	Keonchi (D)	100	Mahanadi	Not Available
182	Keonchi (s)	50	Mahanadi	Not Available
183	Khamharia1	17	Mahanadi	Shale
184	Khamharia2	10.9	Mahanadi	Quartzite
185	Kota PZ	31.07	Mahanadi	Shale

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
186	Kota(kargi)	19.82	Mahanadi	Limestone/Dolomite
187	Kotmi.1	17.75	Mahanadi	Granite/Granodiorite
188	Madanpur	15.1	Mahanadi	Shale With Limestone/Sandstone Band/Lens
189	Malhar	7.85	Mahanadi	Limestone/Dolomite
190	Marwahi	14.12	Lower Ganges	Compact Sandstone
191	Masturi	12	Mahanadi	Shale
192	Masturi1	10.95	Mahanadi	Shale
193	Neora	12.6	Mahanadi	Limestone Cavernous
194	Nimdha	8.5	Lower Ganges	Granite Gneiss
195	Panchpedi	10.4	Mahanadi	Limestone/Dolomite
196	Patera	6.8	Mahanadi	Granite Gneiss
197	Pendra Road	50	Lower Ganges	Not Available
198	Piparkhuti	7	Mahanadi	Granite/Granodiorite
199	Piperkhutinew	6.8	Mahanadi	Granite Gneiss
200	Ranka Pz I	149.2	Mahanadi	Maniyari shale
201	Ranka Pz Ii	51.6	Mahanadi	Maniyari shale
202	Ratanpur	10.78	Mahanadi	Shale
203	Rupandand	4.8	Mahanadi	Granite Gneiss
204	Saraipalli	11.3	Mahanadi	Granite/Granodiorite
205	Seoni	11.6	Lower Ganges	Granite/Granodiorite
206	Sewra	8.8	Lower Ganges	Granite Gneiss
207	Shivtarai New	10.5	Mahanadi	Granite Gneiss
208	Sipat	50	Mahanadi	Shaly Limestone
209	Takhatpur.1	10	Mahanadi	Sandy Shale
210	Tendumuda	13.2	Lower Ganges	Sandstone
211	Tenduwa	11.1	Mahanadi	Granite/Granodiorite
212	Tikthi	12	Lower Ganges	Compact Sandstone
213	Udaypur	7.8	Mahanadi	Shale With Limestone/Sandstone Band/Lens
214	Arsi-kanhar	12	Mahanadi	Granite/Granodiorite
215	Banraud - I	7	Mahanadi	Compact Sandstone
216	Banraud D	81	Mahanadi	Quartzite
217	Banraud S	50	Mahanadi	Quartzite
218	Banspani	12.54	Mahanadi	Granite/Granodiorite
219	Bhoyana	8.7	Mahanadi	Limestone Cavernous
220	Birgudi	11	Mahanadi	Granite/Granodiorite
221	Budepara	7.6	Mahanadi	Sandstone
222	Chataud S	50	Mahanadi	Compact Sandstone

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
223	Chhati	10.65	Mahanadi	Limestone/Dolomite
224	Chhati S	50	Mahanadi	Limestone Cavernous
225	Dhamtari1 PZ	51.75	Mahanadi	Limestone Cavernous
226	Dorgardula	11.21	Mahanadi	Granite/Granodiorite
227	Dugli	7.8	Mahanadi	Granite/Granodiorite
228	Dugli - I	7.7	Mahanadi	Granite/Granodiorite
229	Gangrel S	50	Mahanadi	Granite Gneiss
230	Gattasilli	9.1	Mahanadi	Not Available
231	Jabarra	6.1	Mahanadi	Not Available
232	Keregaon	8	Mahanadi	Granite/Granodiorite
233	Kondapar	10.6	Mahanadi	Shale
234	Kosmarra	8.2	Mahanadi	Not Available
235	Kurud S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
236	Kurud.1	9.4	Mahanadi	Limestone Cavernous
237	Magarlod	12	Mahanadi	Compact Sandstone
238	Magarlod D	61	Mahanadi	Shaly Limestone
239	Magarlod S	36.66	Mahanadi	Shaly Limestone
240	Marod	10.66	Mahanadi	Laterite
241	Mega	11	Mahanadi	Limestone
242	Murrumsilli S	50	Mahanadi	Granite Gneiss
243	Nagari PZ	36.58	Mahanadi	Granite/Granodiorite
244	Nagri	7.25	Mahanadi	Granite/Granodiorite
245	Nagri-1	10.05	Mahanadi	Granite/Granodiorite
246	Sankra	11.5	Mahanadi	Granite/Granodiorite
247	Seadei	7.6	Mahanadi	Sandstone
248	Sihawa	7.12	Mahanadi	Granite/Granodiorite
249	Singhpur	10.68	Mahanadi	Compact Sandstone
250	Ahiwara	10.55	Mahanadi	Limestone/Dolomite
251	Anda	7.12	Mahanadi	Shale
252	Anda-I	9	Mahanadi	Shale
253	Bhailai	8.2	Mahanadi	Limestone/Dolomite
254	Charoda	7.05	Mahanadi	Limestone/Dolomite
255	Dargaon	8.65	Mahanadi	Limestone/Dolomite
256	Dhamdha-s	30.55	Mahanadi	Limestone Cavernous
257	Durg	10.23	Mahanadi	Limestone/Dolomite
258	Funda	9.44	Mahanadi	Limestone/Dolomite
259	Ganiyari	13.1	Mahanadi	Limestone/Dolomite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
260	Girhola	20.5	Mahanadi	Shale
261	Jeora Sirsa	9.8	Mahanadi	Limestone/Dolomite
262	Kachundur	8.9	Mahanadi	Shale With Limestone/Sandstone Band/Lens
263	Kandraka	8.6	Mahanadi	Limestone
264	Kumhari	30.46	Mahanadi	Limestone/Dolomite
265	Litai	14	Mahanadi	Limestone/Dolomite
266	Marra	11.2	Mahanadi	Limestone/Dolomite
267	Motipur	9.83	Mahanadi	Limestone/Dolomite
268	Paoowara	9.45	Mahanadi	Limestone Cavernous
269	Patan	14.4	Mahanadi	Shale
270	Pawa Pz	149.2	Mahanadi	Maniyari shale
271	Pendri	9.3	Mahanadi	Limestone
272	Powara	7.4	Mahanadi	Limestone Cavernous
273	Ravelidih	9.3	Mahanadi	Limestone/Dolomite
274	Selud1	10	Mahanadi	Limestone/Dolomite
275	Selud2	27.03	Mahanadi	Limestone/Dolomite
276	Tarkori	9.05	Mahanadi	Shale With Limestone/Sandstone Band/Lens
277	Utai-Adarshnagar	6	Mahanadi	Shale With Limestone/Sandstone Band/Lens
278	Bindra nawagarh	8.75	Mahanadi	Granite/Granodiorite
279	Chhura	11.25	Mahanadi	Granite/Granodiorite
280	Gariabandh-s	75.62	Mahanadi	Granite/Granodiorite
281	Gariyaband	10.55	Mahanadi	Granite/Granodiorite
282	Gariyaband -1	10.75	Mahanadi	Granite/Granodiorite
283	Gohrapadar - 1	7.35	Mahanadi	Granite/Granodiorite
284	Indagaon	8.1	Mahanadi	Granite/Granodiorite
285	Jalkhamar	9.35	Mahanadi	Granite/Granodiorite
286	Jhariabara	10.6	Mahanadi	Granite Gneiss
287	Joba	6.52	Mahanadi	Granite/Granodiorite
288	Panduka	10.77	Mahanadi	Compact Sandstone
289	Adbhar	8.3	Mahanadi	Shale
290	Akaltara	13.76	Mahanadi	Limestone/Dolomite
291	Akaltara S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
292	Baloda -r	14.83	Mahanadi	Limestone/Dolomite
293	Baloda S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
294	Bamhani	15.4	Mahanadi	Gneiss/Amphibolite/Granulite
295	Bamnidihi	10	Mahanadi	Shale
296	Baradwar D	100	Mahanadi	Shale With Limestone/Sandstone Band/Lens

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
297	Baradwar S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
298	Budena	13.1	Mahanadi	Granite Gneiss
299	Champa	12.3	Mahanadi	Limestone/Dolomite
300	Champa-d PZ	65.5	Mahanadi	Shaly Limestone
301	Champa-s PZ	41.87	Mahanadi	Shaly Limestone
302	Chandrapur1	23.32	Mahanadi	Alluvium
303	Dabra	9.87	Mahanadi	Compact Sandstone
304	Damau	7.92	Mahanadi	Sandstone
305	Dhardei	11.48	Mahanadi	Shale
306	Dhurkot Nhs	12.8	Mahanadi	Shale With Limestone/Sandstone Band/Lens
307	Dongakahrod	13.9	Mahanadi	Limestone/Dolomite
308	Ghoghari	8.52	Mahanadi	Shale
309	Hasoud	9.54	Mahanadi	Shale
310	Jaijaipur	12.13	Mahanadi	Shale
311	Jaijaipur D	100	Mahanadi	Shale With Limestone/Sandstone Band/Lens
312	Jaijaipur S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
313	Janjgir	19.95	Mahanadi	Shale
314	Janjgir S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
315	Jewara	12.14	Mahanadi	Limestone
316	Jhulan Pakariya	11.8	Mahanadi	Limestone/Dolomite
317	Kera	8.73	Mahanadi	Shale
318	Khartal	10.72	Mahanadi	Limestone/Dolomite
319	Konargarh	6.36	Mahanadi	Shale
320	Latesara	10.52	Mahanadi	Shale
321	Loharsi	10.2	Mahanadi	Granite Gneiss
322	Malkhroda	15.37	Mahanadi	Shale
323	Mulmula	10	Mahanadi	Limestone Cavernous
324	Pamgarh	18.33	Mahanadi	Shale
325	Pamgarh D	100	Mahanadi	Shale With Limestone/Sandstone Band/Lens
326	Pamgarh S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
327	Sakti	20.81	Mahanadi	Shale
328	Sakti S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
329	Saliabhata	13.1	Mahanadi	Granite Gneiss
330	Sapos	10.5	Mahanadi	Granite Gneiss
331	Saragaon2	13.12	Mahanadi	Shale
332	Sasaha	6.9	Mahanadi	Shale
333	Semra	15.4	Mahanadi	Limestone/Dolomite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
334	Seorinarayan	11.4	Mahanadi	Alluvium
335	Seorinarayan1 PZ	30.15	Mahanadi	Alluvium
336	Somthi	10.9	Mahanadi	Shale With Limestone/Sandstone Band/Lens
337	Sukda	7.4	Mahanadi	Compact Sandstone
338	Thathari	11.3	Mahanadi	Shale
339	Amatolli	5.2	Mahanadi	Granite/Granodiorite
340	Bagbahar S	50	Mahanadi	Granite Gneiss
341	Bagicha	6.82	Mahanadi	Gneiss/Amphibolite/Granulite
342	Bagicha PZ	41.63	Mahanadi	Gneiss/Amphibolite/Granulite
343	Balachhappar	12.25	Mahanadi to Ganges Water Resources Region	Granite Gneiss
344	Bandarchuwa	10.75	Mahanadi	Granite/Granodiorite
345	Banderchua S	50	Mahanadi	Granite Gneiss
346	Bangaon	8.24	Mahanadi	Granite/Granodiorite
347	Bangaon B	50	Mahanadi	Granite Gneiss
348	Bataikela	8.87	Mahanadi	Gneiss/Amphibolite/Granulite
349	Bewrapali	8	Mahanadi	Not Available
350	Bildagi	8.5	Mahanadi	Granite Gneiss
351	Binjapur	7.5	Mahanadi	Granite/Granodiorite
352	Bthighara	12.1	Mahanadi	Granite Gneiss
353	Chhapartoli	7.5	Mahanadi	Not Available
354	Dhodidand	6.6	Mahanadi	Granite/Granodiorite
355	Farsabahar	4.65	Mahanadi	Not Available
356	Farsakanhi	8.44	Mahanadi	Granite/Granodiorite
357	Ghatmunda	9.4	Mahanadi	Granite/Granodiorite
358	Jakba	10	Mahanadi to Ganges Water Resources Region	Granite Gneiss
359	Jashpurnagar	10.35	do	Granite/Granodiorite
360	Kachhor	9.8	Mahanadi	Granite Gneiss
361	Kandaibahar	6.1	Mahanadi	Granite Gneiss
362	Kandora	10.5	Mahanadi	Granite Gneiss
363	Kansabel	12.3	Mahanadi	Granite/Granodiorite
364	Kasawel S	50	Mahanadi	Granite Gneiss
365	Kersai	7.98	Mahanadi	Granite/Granodiorite
366	Khutsera	7.45	Mahanadi	Not Available

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
367	Kotba	6.85	Mahanadi	Granite/Granodiorite
368	Kunjara	7.8	Mahanadi	Granite/Granodiorite
369	Kunkuri S	50	Mahanadi	Granite Gneiss
370	Kunkuri1	7.4	Mahanadi	Granite/Granodiorite
371	Lavakera	9.25	Mahanadi	Gneiss/Amphibolite/Granulite
372	Lavakera1	41.5	Mahanadi	Gneiss/Amphibolite/Granulite
373	Ludeg	6.99	Mahanadi	Gneiss/Amphibolite/Granulite
374	Maini	8.5	Mahanadi	Granite/Granodiorite
375	Mauhadih	9.1		Gneiss/Amphibolite/Granulite
376	Muskuti	7.99	Mahanadi	Granite/Granodiorite
377	Narayanbaheli	8.25	Mahanadi	Granite Gneiss
378	Narayanpur S	50	Mahanadi	Granite Gneiss
379	Nawaguda	9.6	Mahanadi	Granite Gneiss
380	Palidih	10.5	Mahanadi	Granite Gneiss
381	Pathalgaon	14.23	Mahanadi	Granite/Granodiorite
382	Pathalgaon S	50	Mahanadi	Granite Gneiss
383	Pathalgaon1 PZ	26.93	Mahanadi	Gneiss/Amphibolite/Granulite
384	Patratoli	7.8	Mahanadi	Granite Gneiss
385	Peta	7.73	Mahanadi	Granite Gneiss
386	Phooldih	6	Lower Ganges	Granite Gneiss
387	Raikera	7	Mahanadi	Granite/Granodiorite
388	Raikera(Kunkuri)	7.75	Lower Ganges	Granite Gneiss
389	Raoni	5.65	Mahanadi	Granite Gneiss
390	Rupsera	7.79	Mahanadi to Ganges Water Resources Region	Granite/Granodiorite
391	Sanna	14.8	Lower Ganges	Granite Gneiss
392	Saraipani	8.3	Mahanadi	Granite/Granodiorite
393	Sarhapani	9.8	Lower Ganges	Gneiss/Amphibolite/Granulite
394	Sarkardih	9.93	Mahanadi to Ganges Water Resources Region	Granite/Granodiorite
395	Sonquari	16	Mahanadi	Granite Gneiss
396	Srishringa	6.9	Mahanadi	Granite/Granodiorite
397	Surangpani New	8.4	Mahanadi	Granite/Granodiorite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
398	Tapkara	11	Mahanadi	Granite/Granodiorite
399	Tapkara S	50	Mahanadi	Granite Gneiss
400	Charama2	8.82	Mahanadi	Granite/Granodiorite
401	Govindpur	7.15	Mahanadi	Gneiss/Amphibolite/Granulite
402	Kanker	14	Mahanadi	Gneiss/Amphibolite/Granulite
403	Kanker1 PZ	30.56	Mahanadi	Granite/Granodiorite
404	Kulgaon	9.9	Mahanadi	Gneiss/Amphibolite/Granulite
405	Bharamdeo D	100	Mahanadi	Shale
406	Bharamdeo S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
407	Bodla	14.5	Mahanadi	Limestone/Dolomite
408	Bodla1 PZ	27.73	Mahanadi	Schist/Talc
409	Chilpi	9.85	Narmada	Schist/Talc
410	Danganiya	10.3	Mahanadi	Limestone/Dolomite
411	Dhandgaon	12.4	Mahanadi	Limestone
412	Kapada	10	Mahanadi	Limestone/Dolomite
413	Kawardha S	50	Mahanadi	Shale
414	Kawardha1	11	Mahanadi	Limestone/Dolomite
415	Khadoula	8.75	Mahanadi	Shale
416	Kharoda Kalan	9.2	Mahanadi	Limestone/Dolomite
417	Kui	9.75	Mahanadi	Granite/Granodiorite
418	Lohara-d PZ	52	Mahanadi	Shale
419	Lohara-s PZ	24.56	Mahanadi	Shale
420	Munmuna	9.8	Mahanadi	Phyllite
421	Rajnanwagaon	5.52	Mahanadi	Schist/Talc
422	Sagona S	27.9	Mahanadi	Granite Gneiss
423	Sahaspur lohara	6.39	Mahanadi	Limestone/Dolomite
424	Sahaspur Lohara.1	11.15	Mahanadi	Not Available
425	Sarai Patera S	16	Mahanadi	Granite Gneiss
426	Saroda Dadar S	50	Mahanadi	Granite Gneiss
427	Singhari D	100	Mahanadi	Shale With Limestone/Sandstone Band/Lens
428	Singhari S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
429	Uria Khurud	9	Mahanadi	Shale With Limestone/Sandstone Band/Lens
430	Batrail	9.07	Godavari	Gneiss/Amphibolite/Granulite
431	Ghodagaon	9.6	Godavari	Compact Sandstone
432	Joba	8	Godavari	Compact Sandstone
433	Keskal	9	Mahanadi	Gneiss/Amphibolite/Granulite
434	Kondagon New	12.1	Godavari	Granite/Granodiorite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
435	Lanjora	11	Godavari	Granite/Granodiorite
436	Murwand1	10	Godavari	Granite Gneiss
437	Pharasgaon	9.9	Godavari	Granite/Granodiorite
438	Pharasgaon1 PZ	27.4	Godavari	Schist/Talc
439	Andhiarkhor Pz I	51.3	Mahanadi	Maniyari shale
440	Banbandha	5.36	Mahanadi	Compact Sandstone
441	Bandhakhar	6.82	Mahanadi	Sandstone
442	Batati Junction	11.27	Mahanadi	Sandstone
443	Bhilai Nagar Pz Ii	92	Mahanadi	Sandstone With Shale/Coal Partings
444	Chaitama	15	Mahanadi	Compact Sandstone
445	Champa Mode	7.5	Mahanadi	Sandstone
446	Charmar	9.4	Mahanadi	Sandstone
447	Churi	12.8	Mahanadi	Granite Gneiss
448	Dhegurdih Manzipara	9.4	Mahanadi	Sandstone
449	Dhourabhata	8.37	Mahanadi	Sandstone
450	Dumardih New	8.86	Mahanadi	Sandstone
451	Gopalpur	12.71	Mahanadi	Granite/Granodiorite
452	Jamchuwa	9.5	Mahanadi	Sandstone
453	Jatgan	11.4	Mahanadi	Granite/Granodiorite
454	Jhabar	8.35	Mahanadi	Sandstone With Shale/Coal Partings
455	Jhingatpur	10.3	Mahanadi	Sandstone
456	Jogipali	10.4	Mahanadi	Sandstone
457	Kartala	10.95	Mahanadi	Compact Sandstone
458	Katghora	11.65	Mahanadi	Compact Sandstone
459	Khodri	4.8	Mahanadi	Granite Gneiss
460	Korba	14.47	Mahanadi	Compact Sandstone
461	Korba Home Gaurd Pz Ii	37.48	Mahanadi	Compact Sandstone
462	Korba-S	193	Mahanadi	Sandstone With Shale/Coal Partings
463	Korkoma Junction	8.15	Mahanadi	Sandstone
464	Kotmer Upper	8.2	Mahanadi	Sandstone
465	Kurtha	8.9	Mahanadi	Shale With Limestone/Sandstone Band/Lens
466	Lenga	9.98	Mahanadi	Granite Gneiss
467	Madai	8.73	Mahanadi	Compact Sandstone
468	Morga	14	Mahanadi	Compact Sandstone
469	Nagai	11.77	Mahanadi	Compact Sandstone
470	Naktikhar	10.27	Mahanadi	Sandstone With Shale/Coal Partings
471	Naraibodh	7.5	Mahanadi	Sandstone

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
472	Nawapara	7.3	Mahanadi	Sandstone
473	Nonbirra	10.5	Mahanadi	Sandstone
474	Nonbirra	8.2	Mahanadi	Sandstone
475	Nonbirra New	13.2	Mahanadi	Granite Gneiss
476	Numera	12.17	Mahanadi	Sandstone With Shale/Coal Partings
477	Nunera Pz I	142.25	Mahanadi	Sandstone With Shale/Coal Partings
478	Nunera Pz II	70.41	Mahanadi	Sandstone With Shale/Coal Partings
479	Pali	10.25	Mahanadi	Compact Sandstone
480	Pasan	13.88	Mahanadi	Granite/Granodiorite
481	Pasarkhet	7.6	Mahanadi	Sandstone
482	Pondi	115	Mahanadi	Sandstone With Shale/Coal Partings
483	Ponri	12.98	Mahanadi	Granite/Granodiorite
484	Rajkamma	72.53	Mahanadi	Sandstone With Shale/Coal Partings
485	Ralia Pz Ii	6.95	Mahanadi	Sandstone
486	Ralia Pz Iii	12.1	Mahanadi	Granite Gneiss
487	Rampur	150	Mahanadi	Sandstone With Shale/Coal Partings
488	Ramtarai Pz I	105	Mahanadi	Sandstone With Shale/Coal Partings
489	Ramtarai Pz Ii	6.98	Mahanadi	Sandstone
490	Ramtarai Pz Iii	78	Mahanadi	Sandstone With Shale/Coal Partings
491	Rewa	150	Mahanadi	Sandstone With Shale/Coal Partings
492	Rishdi	50.82	Mahanadi	Sandstone With Shale/Coal Partings
493	Sakdukala	11.1	Mahanadi	Granite Gneiss
494	Salihabhata	7.29	Mahanadi	Sandstone
495	Sindhiya	8.61	Mahanadi	Sandstone
496	Sirki Pz I	7.7	Mahanadi	Compact Sandstone
497	Sirki Pz Ii	9.32	Mahanadi	Sandstone
498	Sutarra	161	Mahanadi	Sandstone With Shale/Coal Partings
499	Sutera	85	Mahanadi	Sandstone With Shale/Coal Partings
500	Tikeja	11.68	Mahanadi	Sandstone
501	Tiwarta Pz I	9.3	Mahanadi	Sandstone With Shale/Coal Partings
502	Tiwarta Pz Ii	10.6	Mahanadi	Granite Gneiss
503	Tuman	15.55	Mahanadi	Granite/Granodiorite
504	Tuman	11.5	Mahanadi	Granite Gneiss
505	Urga.1	7.05	Mahanadi	Gneiss/Amphibolite/Granulite
506	Baharsi.1	5.52	Lower Ganges	Compact Sandstone
507	Baikunthpur	7	Mahanadi	Compact Sandstone
508	Baikunthpur-s	24.67	Mahanadi	Compact Sandstone

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
509	Banjaridad S	50	Mahanadi	Sandstone
510	Belbehra	7.28	Mahanadi	Compact Sandstone
511	Biharpur	15.3	Mahanadi	Sandstone
512	Bikrampur	6.4	Mahanadi	Sandstone With Shale/Coal Partings
513	Chutki	5.4	Lower Ganges	Compact Sandstone
514	Garundol	11	Mahanadi	Sandstone With Shale/Coal Partings
515	Girjapur	3	Mahanadi	Sandstone
516	Jamgahana	6.5	Mahanadi	Sandstone
517	Janakpur	10	Lower Ganges	Compact Sandstone
518	Kelhari	11.52	Lower Ganges	Compact Sandstone
519	Khadgaon	13.2	Mahanadi	Compact Sandstone
520	Khadgaon - 1	11.6	Mahanadi	Compact Sandstone
521	Khatgori	15.74	Mahanadi	Compact Sandstone
522	Kiwarpur	9.35	Lower Ganges	Shale With Limestone/Sandstone Band/Lens
523	Manendragarh	10.48	Mahanadi	Compact Sandstone
524	Mansukha	12	Mahanadi	Shale
525	Pendri	8.36	Mahanadi	Compact Sandstone
526	Pouri	11.8	Mahanadi	Shale With Limestone/Sandstone Band/Lens
527	Ranai	13.06	Lower Ganges	Compact Sandstone
528	Ranai1	14	Lower Ganges	Compact Sandstone
529	Sarbhoka	8.89	Mahanadi	Compact Sandstone
530	Sonhat	7	Mahanadi	Compact Sandstone
531	Tarabahara	8.83	Lower Ganges	Compact Sandstone
532	Tilokhan	10	Lower Ganges	Compact Sandstone
533	Ujiyarpur1	10.36	Mahanadi	Compact Sandstone
534	Awaradawri S	50	Mahanadi	Granite Gneiss
535	Bag bahera	11.26	Mahanadi	Granite/Granodiorite
536	Bagbahara S	50	Mahanadi	Granite Gneiss
537	Baldidih	9.75	Mahanadi	Granite Gneiss
538	Barbaspur	8.55	Mahanadi	Granite Gneiss
539	Basna	11.65	Mahanadi	Granite Gneiss
540	Basna S	50	Mahanadi	Granite Gneiss
541	Belsunda	14.85	Mahanadi	Shell Limestone/Limestone
542	Jagdishpur	10.76	Mahanadi	Granite/Granodiorite
543	Jhalap	9.35	Mahanadi	Granite/Granodiorite
544	Jhalap S	32.8	Mahanadi	Granite Gneiss
545	Jogideepa D	64.4	Mahanadi	Granite Gneiss

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
546	Jogideepa S	50	Mahanadi	Granite Gneiss
547	Jogidipa	10.65	Mahanadi	Granite Gneiss
548	Keshwa S	50	Mahanadi	Compact Sandstone
549	Khallari	5.35	Mahanadi	Not Available
550	Mahasamund Contractual S	50	Mahanadi	Compact Sandstone
551	Mahasamund.	14.32	Mahanadi	Compact Sandstone
552	Mahasamund.1	14.32	Mahanadi	Compact Sandstone
553	Mandalpur	6.6	Mahanadi	Quartzite
554	Marban	8.4	Mahanadi	Sandstone
555	Palsipani - 1	10.05	Mahanadi	Granite/Granodiorite
556	Patsenduri	9.59	Mahanadi	Compact Sandstone
557	Phusera	12.1	Mahanadi	Limestone/Dolomite
558	Pithora	11.4	Mahanadi	Granite/Granodiorite
559	Pithora - 1	12.85	Mahanadi	Granite/Granodiorite
560	Pithora PZ	27.43	Mahanadi	Granite/Granodiorite
561	Sagrapali	8.5	Mahanadi	Compact Sandstone
562	Sakra S	50	Mahanadi	Granite Gneiss
563	Saraipali	12.48	Mahanadi	Compact Sandstone
564	Saraipalli-S PZ	30.58	Mahanadi	Shale
565	Sirpur	13.15	Mahanadi	Limestone/Dolomite
566	Sirpur1 PZ	60	Mahanadi	Limestone/Dolomite
567	Suarmar	13.95	Mahanadi	Granite/Granodiorite
568	Suarmar1 PZ	42.94	Mahanadi	Granite/Granodiorite
569	Tendukonda	12.98	Mahanadi	Granite/Granodiorite
570	Tumgaon	11.31	Mahanadi	Compact Sandstone
571	Tumgaon S	50	Mahanadi	Granite Gneiss
572	Achanakmar1	10.3	Mahanadi	Phyllite
573	Amadob	9.15	Mahanadi	Sandy Shale
574	Amerikhapa	8.44	Mahanadi	Sandstone With Shale/Coal Partings
575	Attaria	11.5	Mahanadi	Granite Gneiss
576	Baitalpur	14.99	Mahanadi	Limestone/Dolomite
577	Barighat	13.08	Mahanadi	Compact Sandstone
578	Bindabal	13.5	Mahanadi	Granite Gneiss
579	Chattan	9.2	Mahanadi	Granite Gneiss
580	Chhaparwa	16.87	Mahanadi	Granite/Granodiorite
581	Chirhula	16	Mahanadi	Limestone/Dolomite
582	Darhi Pz I	57.5	Mahanadi	Maniyari shale

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
583	Darhi Pz Ii	121.8	Mahanadi	Maniyari shale
584	Deori	9.3	Mahanadi	Limestone/Dolomite
585	Godkhami	9.2	Mahanadi	Shale With Limestone/Sandstone Band/Lens
586	Kanteli.1	11.2	Mahanadi	Shale
587	Karesara Pz I	149.2	Mahanadi	Maniyari shale
588	Karesara Pz Ii	57.7	Mahanadi	Maniyari shale
589	Lamni	16	Mahanadi	Granite/Granodiorite
590	lormi	16.3	Mahanadi	Shale
591	Lormi (d)	70	Mahanadi	Not Available
592	Lormi1	4.95	Mahanadi	Shale
593	Mungeli	13.5	Mahanadi	Limestone/Dolomite
594	Mungeli(d)	100	Mahanadi	Not Available
595	Mungeli(s)	50	Mahanadi	Not Available
596	Pali	9.2	Mahanadi	Shale With Limestone/Sandstone Band/Lens
597	Patharia (chorbhatti)	15.4	Mahanadi	Shale
598	Saragaon1	7	Mahanadi	Shale
599	Setganga	6.2	Mahanadi	Limestone/Dolomite
600	Sitalkunda	9.4	Mahanadi	Limestone/Dolomite
601	Tilaidabra	10.8	Mahanadi	Granite Gneiss
602	Chhal	7.9	Mahanadi	Granite Gneiss
603	Amapali	10.5	Mahanadi	Granite Gneiss
604	Amlipur Amlitikra	5.7	Mahanadi	Sandstone
605	Auranar	13.9	Mahanadi	Sandstone
606	Bakaruma	11.25	Mahanadi	Granite/Granodiorite
607	Bamsjer	7.8	Mahanadi	Sandstone
608	Baramkela	15.5	Mahanadi	Limestone/Dolomite
609	Baramkela S	37	Mahanadi	Shale With Limestone/Sandstone Band/Lens
610	Barpali	11.48	Mahanadi	Compact Sandstone
611	Bartapali	11.4	Mahanadi	Sandstone
612	Bataupali	9	Mahanadi	Compact Sandstone
613	Bayasi	7.5	Mahanadi	Granite Gneiss
614	Behramar	8.6	Mahanadi	Gneiss/Amphibolite/Granulite
615	Bhangari	11.5	Mahanadi	Not Available
616	Bhupdeopur S	50	Mahanadi	Compact Sandstone
617	Bijapara	10.4	Mahanadi	Sandstone
618	Bojia	9.2	Mahanadi	Sandstone
619	Bonda	10	Mahanadi	Limestone/Dolomite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
620	Boro	10.5	Mahanadi	Sandstone
621	Chaple	10.36	Mahanadi	Limestone/Dolomite
622	Chaple S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
623	Charmar	9.8	Mahanadi	Gneiss/Amphibolite/Granulite
624	Chimtapani	14.15	Mahanadi	Compact Sandstone
625	Chunkunidad	11.8	Mahanadi	Sandstone
626	Damdarha	9.85	Mahanadi	Compact Sandstone
627	Deridih	9.5	Mahanadi	Gneiss/Amphibolite/Granulite
628	Derpani	4.8	Mahanadi	Granite Gneiss
629	Dharamjaigarh PZ	29.91	Mahanadi	Compact Sandstone
630	Dharan Pz Ii	56	Mahanadi	Sandstone With Shale/Coal Partings
631	Dharmajaigarh	12.55	Mahanadi	Compact Sandstone
632	Dharmajaigarh	12.55	Mahanadi	Compact Sandstone
633	Dongabhona	7.5	Mahanadi	Gneiss/Amphibolite/Granulite
634	Duliamuda	9.4	Mahanadi	Gneiss/Amphibolite/Granulite
635	Dumarpali	9.3	Mahanadi	Granite Gneiss
636	Durgapur	9.7	Mahanadi	Sandstone
637	Edu	7.56	Mahanadi	Compact Sandstone
638	Farkanara	11.25	Mahanadi	Sandstone
639	Gare Nhs	10	Mahanadi	Sandstone With Shale/Coal Partings
640	Gersa	12.5	Mahanadi	Gneiss/Amphibolite/Granulite
641	Gharghoda	13.38	Mahanadi	Compact Sandstone
642	Golabuda	10.2	Mahanadi	Granite/Granodiorite
643	Hati	9.56	Mahanadi	Compact Sandstone
644	Hirri1	9.72	Mahanadi	Limestone/Dolomite
645	Kanakbira	11	Mahanadi	Granite/Granodiorite
646	Kandadand	10.4	Mahanadi	Sandstone
647	Kapu	9.75	Mahanadi	Granite/Granodiorite
648	Kedar S	50	Mahanadi	Limestone Cavernous
649	Keradih	3.95	Mahanadi	Sandstone
650	Kerajhar	12.36	Mahanadi	Compact Sandstone
651	Kerigarhi	11.5	Mahanadi	Sandstone
652	Khadgaon1	13.5	Mahanadi	Laterite
653	Kharasia S	50	Mahanadi	Compact Sandstone
654	Kharsia	17.63	Mahanadi	Compact Sandstone
655	Kondatalai S	50	Mahanadi	Compact Sandstone
656	Kotra	9.46	Mahanadi	Limestone/Dolomite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
657	Kurekela	14.55	Mahanadi	Compact Sandstone
658	Lailunga1	11.22	Mahanadi	Granite/Granodiorite
659	Lailunga2	46.62	Mahanadi	Granite/Granodiorite
660	Lakha.1	8.55	Mahanadi	Not Available
661	Lakshmipur	4.4	Mahanadi	Sandstone
662	Laripani	10.35	Mahanadi	Compact Sandstone
663	Lendra S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
664	Lipti	7.5	Mahanadi	Granite Gneiss
665	Malda B	9.27	Mahanadi	Granite/Granodiorite
666	Milupara-Sidarpara	13.8	Mahanadi	Gneiss/Amphibolite/Granulite
667	Mumund	6.2	Mahanadi	Granite Gneiss
668	Nawadih	8.2	Mahanadi	Gneiss/Amphibolite/Granulite
669	Nawagaon	6.5	Mahanadi	Gneiss/Amphibolite/Granulite
670	Nawapara Pz	48.79	Mahanadi	Sandstone With Shale/Coal Partings
671	Ongana	8.4	Mahanadi	Gneiss/Amphibolite/Granulite
672	Pakargaon	5.8	Mahanadi	Granite/Granodiorite
673	Pandripani	12.3	Mahanadi	Gneiss/Amphibolite/Granulite
674	Phuthamuda	7.3	Mahanadi	Gneiss/Amphibolite/Granulite
675	Pindri	7.97	Mahanadi	Granite/Granodiorite
676	Porda Pz	30	Mahanadi	Sandstone With Shale/Coal Partings
677	Potiya	9.5	Mahanadi	Gneiss/Amphibolite/Granulite
678	Pusalda	11.8	Mahanadi	Gneiss/Amphibolite/Granulite
679	Raigarh	17.66	Mahanadi	Compact Sandstone
680	Raiharg S	50	Mahanadi	Compact Sandstone
681	Rajpur.1	8.6	Mahanadi	Not Available
682	Rajpur2	8.16	Mahanadi	Gneiss/Amphibolite/Granulite
683	Ramnagar	5.6	Mahanadi	Gneiss/Amphibolite/Granulite
684	Rera	8.5	Mahanadi	Granite Gneiss
685	Salkhiya	7.8	Mahanadi	Granite/Granodiorite
686	Samaruma	6.67	Mahanadi	Sandstone
687	Saraipali	13.2	Mahanadi	Gneiss/Amphibolite/Granulite
688	Sarangarh	12.62	Mahanadi	Compact Sandstone
689	Sarangarh S	50	Mahanadi	Limestone Cavernous
690	Sarangarh1	34.21	Mahanadi	Compact Sandstone
691	Saria1	12	Mahanadi	Limestone/Dolomite
692	Shahpur Colony	12	Mahanadi	Sandstone
693	Sirsinga Temple	8.2	Mahanadi	Granite/Granodiorite

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
694	Sisringa	13.6	Mahanadi	Compact Sandstone
695	Sithra New	11.5	Mahanadi	Sandstone
696	Sukwasuava	8.4	Mahanadi	Granite/Granodiorite
697	Tadola	6.8	Mahanadi	Shale with Limestone/Sandstone Band/Lens
698	Taraimal1.1	8	Mahanadi	Compact Sandstone
699	Taraimar	10.4	Mahanadi	Gneiss/Amphibolite/Granulite
700	Tendumar	6.8	Mahanadi	Gneiss/Amphibolite/Granulite
701	Tetla	13.17	Mahanadi	Compact Sandstone
702	Abhanpur	19.9	Mahanadi	Shale
703	Abhanpur D	100	Mahanadi	Shale with Limestone/Sandstone Band/Lens
704	Abhanpur S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
705	Amapara NHS	8	Mahanadi	Limestone
706	Amera	8	Mahanadi	Shale With Sandstone Partings
707	Amethi	6.4	Mahanadi	Limestone Cavernous
708	Arang	9.15	Mahanadi	Limestone/Dolomite
709	Arang S	50	Mahanadi	Limestone Cavernous
710	Bajrangpur	12.45	Mahanadi	Shale
711	Bohardih Pzi	149.2	Mahanadi	Maniyari shale
712	Bohardih Pzii	51.6	Mahanadi	Maniyari shale
713	Bothi Pzi	100.3	Mahanadi	Maniyari shale
714	Bothi Pzii	39.4	Mahanadi	Maniyari shale
715	Charauda	7.8	Mahanadi	Limestone
716	Devpuri	14.04	Mahanadi	Limestone/Dolomite
717	Devri	11.5	Mahanadi	Limestone Cavernous
718	Dharsiwa	13	Mahanadi	Limestone/Dolomite
719	Dharsiwa S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
720	Dumartarai	11.2	Mahanadi	Limestone
721	Fingeshwar- I	10.5	Mahanadi	Limestone/Dolomite
722	Kanekera	3.9	Mahanadi	Compact Sandstone
723	Kanki	7.25	Mahanadi	Sandy Shale
724	Kanki D	100	Mahanadi	Shale With Limestone/Sandstone Band/Lens
725	Kanki S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
726	Kusrangi	7.85	Mahanadi	Sandy Shale
727	Manabasti	12.2	Mahanadi	Limestone/Dolomite
728	Mandhar	7.2	Mahanadi	Limestone
729	Mandhar D	100	Mahanadi	Shale With Limestone/Sandstone Band/Lens
730	Mandhar S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
731	Mandirhasud	14.5	Mahanadi	Limestone/Dolomite
732	Palari	11.5	Mahanadi	Shale
733	Palari D	100	Mahanadi	Shale With Limestone/Sandstone Band/Lens
734	Palari S	50	Mahanadi	Shale With Limestone/Sandstone Band/Lens
735	Raipur	16.87	Mahanadi	Limestone/Dolomite
736	Raipur (IGKV)-S	122.08	Mahanadi	Limestone/Dolomite
737	Rajim	10.95	Mahanadi	Shale
738	Rajim-s PZ	27.38	Mahanadi	Shale
739	Ranisagar	7.85	Mahanadi	Not Available
740	Rsu Raipur	10.4	Mahanadi	Limestone
741	Sakara	21.55	Mahanadi	Limestone
742	Sandi	10.9	Mahanadi	Shale
743	Sandi1	30.8	Mahanadi	Shale
744	Semariya	11.15	Mahanadi	Limestone
745	Sursabandha	8.16	Mahanadi	Alluvium
746	Umaria station	8.84	Mahanadi	Shale
747	Badaitola	14.3	Mahanadi	Sandstone
748	Baigatola	8.3	Mahanadi	Granite/Granodiorite
749	Birampurkala	7.9	Mahanadi	Limestone
750	Chinohola	11.7	Mahanadi	Granite Gneiss
751	Chirchari	12.02	Mahanadi	Granite/Granodiorite
752	Chuikhadan	12	Mahanadi	Phyllite
753	Dhaba	13	Mahanadi	Limestone Cavernous
754	Dhaneli	9	Mahanadi	Limestone
755	Dhara	9.3	Mahanadi	Granite/Granodiorite
756	Diwanbhedi	9.8	Mahanadi	Granite Gneiss
757	Dongargaon.1	10.52	Mahanadi	Granite/Granodiorite
758	Dongargarh	11.4	Mahanadi	Granite/Granodiorite
759	Dongargarh-d PZ	51.59	Mahanadi	Granite/Granodiorite
760	Dongargarh-sPZ	30.44	Mahanadi	Granite/Granodiorite
761	Gandaipandaria	10.05	Mahanadi	Limestone/Dolomite
762	Govindpur	8	Mahanadi	Granite/Granodiorite
763	Khairagarh	8	Mahanadi	Compact Sandstone
764	Lal bhadurnagar	12.02	Mahanadi	Granite/Granodiorite
765	Madrakuhi	7.2	Mahanadi	Limestone
766	Mohgaon	13	Mahanadi	Compact Sandstone
767	Mutpar	10	Mahanadi	Granite Gneiss

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
768	Narmada	9.65	Mahanadi	Limestone
769	Rajnandgaon	11.8	Mahanadi	Shale
770	Rajnandgaon-S PZ	30.46	Mahanadi	Shale
771	Ramatola	13.5	Mahanadi	Granite/Granodiorite
772	Rampur	7.4	Mahanadi	Shaely Sandstone
773	Rangkathera	10.81	Mahanadi	Shale
774	Ranitarai	10.1	Mahanadi	Shale With Limestone/Sandstone Band/Lens
775	Ravagahan	9.1	Mahanadi	Shale With Limestone/Sandstone Band/Lens
776	Reevagaon	10.75	Mahanadi	Granite/Granodiorite
777	Sahaspur Dalli	16	Mahanadi	Shale With Sandstone Partings
778	Salgapat	10.18	Mahanadi	Rhyolite
779	Salhe Bara	12.45	Mahanadi	Compact Sandstone
780	Saloni	12.25	Mahanadi	Shale
781	Singhola	6.5	Mahanadi	Limestone/Dolomite
782	Somni	13.88	Mahanadi	Shale
783	Talai	15	Mahanadi	Limestone/Dolomite
784	Tappa	12.71	Mahanadi	Gneiss/Amphibolite/Granulite
785	Uraidabritola	12.05	Mahanadi	Shale With Limestone/Sandstone Band/Lens
786	Ajabnagar	6	Lower Ganges	Compact Sandstone
787	Badsara	10.3	Lower Ganges	Sandy Shale
788	Bhaiyathan	31.01	Lower Ganges	Gneiss/Amphibolite/Granulite
789	Deonagar	8.3	Lower Ganges	Compact Sandstone
790	Ganeshpur	14.06	Mahanadi	Compact Sandstone
791	Jaynagar	10.28	Lower Ganges	Compact Sandstone
792	Jhasi	10.2	Lower Ganges	Compact Sandstone
793	Kalyanpur	9.5	Mahanadi	Gneiss/Amphibolite/Granulite
794	Kanakpur	9.7	Mahanadi	Sandstone With Shale/Coal Partings
795	Latori	11.08	Lower Ganges	Compact Sandstone
796	Odigi	8	Lower Ganges	Shale With Limestone/Sandstone Band/Lens
797	Premnagar	13.65	Mahanadi	Compact Sandstone
798	Premnagar D	50	Mahanadi	Granite Gneiss
799	Ramanuj nagar	12.05	Mahanadi	Compact Sandstone
800	Sirsi	8.5	Lower Ganges	Quartzite
801	Surajpur	10	Lower Ganges	Compact Sandstone
802	Tara	15.44	Mahanadi	Compact Sandstone
803	Tara1	37.04	Mahanadi	Compact Sandstone
804	Ambikapur	11.14	Lower Ganges	Compact Sandstone

Details of National Hydrograph Stations **Annexure-I**

SN	Location	Depth of well	Basin	Geology
805	Ambikapur-D	49.1	Lower Ganges	Compact Sandstone
806	Ambikapur-s	30.94	Lower Ganges	Compact Sandstone
807	Baghima	6	Lower Ganges	Compact Sandstone
808	Bandana	9.43	Mahanadi	Granite/Granodiorite
809	Batauli	10	Mahanadi	Granite/Granodiorite
810	Batauli S	50	Mahanadi	Granite Gneiss
811	Chatakpur	5.7	Mahanadi	Sandstone
812	Dandgaon	7.71	Mahanadi	Compact Sandstone
813	Darima	8.35	Lower Ganges	Sandstone with Shale/Coal Partings
814	Ghorghadi	8	Mahanadi	Granite Gneiss
815	Kakalo	9.55	Mahanadi	Sandstone
816	Kamleswarpur	21.27	Mahanadi	Basalt
817	Kunni	9.7	Lower Ganges	Granite/Granodiorite
818	Laxmanpur	14	Lower Ganges	Compact Sandstone
819	Mangari	10.4	Mahanadi	Granite/Granodiorite
820	Nagadand	20	Mahanadi	Granite Gneiss
821	Nawapara	9.1	Lower Ganges	Gneiss/Amphibolite/Granulite
822	Parsa	10	Lower Ganges	Shale with Limestone/Sandstone Band/Lens
823	Pratapgarh	11.3	Mahanadi	Granite/Granodiorite
824	Rajpari	7	Mahanadi	Sandstone
825	Sitapur-s	30.94	Mahanadi	Compact Sandstone
826	Udaipur	14.58	Lower Ganges	Compact Sandstone
827	Udaipur Dhah	10.6	Lower Ganges	Compact Sandstone
828	Udaipur-s	30.99	Lower Ganges	Compact Sandstone

Depth to Water Level of Individual Hydrograph Annexure-II

State	Chhattisgarh	Depth to Water level May-23	Depth to Water level Aug-23	Depth to Water level Nov-23	Depth to Water level Jan-24
District	**BASTAR**				
1	Baniyagaon Khaspara	2.31	5.40		7.80
2	Baniyagaon Khaspara New			10.01	
3	Bastar	3.04	4.60	7.99	6.50
4	Batrail	3.33	5.95	6.89	7.20
5	Bhanpuri	1.43	1.88	3.33	2.80
6	Borgaon	1.83	6.32	6.92	7.32
7	Chapra Bhanpuri	0.52	1.20	2.93	1.40
8	Chitrakot	0.95	4.88	5.25	5.00
9	Dewargaon	1.31	3.56	5.01	4.23
10	Farsaguda	1.42	1.50	3.55	3.00
11	Garaka	9.54	6.33	9.54	6.70
12	Ghodagaon	1.37	6.03	6.65	3.50
13	Jagdalpur	4.26	8.02	7.32	7.80
14	Jaitpuri	5.34	4.90	8.89	5.00
15	Joba	1.40	2.90	6.15	4.70
16	Junawahi	1.98	3.52	5.12	4.26
17	Keskal		8.25		8.50
18	Keskal New	3.40		9.37	
19	Kondagon New	1.09	2.65	3.24	3.80
20	Kudagaon	1.53	3.02	3.38	3.88
21	Kulhadhgaon	2.26	6.23	11.00	3.60
22	Kumharwand	2.87	3.56	4.01	3.00
23	Markel	1.32	3.60	7.90	4.40
24	Massaukokada	1.71	5.46	6.12	6.52
25	Murwand1	1.68	3.21	3.89	4.12
26	Pharasgaon	1.19	5.23	5.98	6.25
27	Sonarpal	1.64	2.30	7.19	3.70
28	Surkupal	1.34	5.03	5.92	3.35
29	Usri Bera	4.05	8.05	8.90	8.65
District	**BILASPUR**				
30	Achanakmar1			5.45	
31	Adbhar	5.50	5.04	11.00	6.50
32	Amadob	1.40	2.97	9.15	7.20
33	Amerikapa Tala	4.07	3.82	6.64	2.80
34	Attaria	1.85	2.39		7.32
35	Baitalpur	0.93	1.82	4.54	1.40
36	bakarkuda			22.00	5.00
37	Bakarkuda new	4.65	3.04	9.63	4.23
38	Banabel	1.65	2.54	6.40	3.00
39	Bansajhal	1.55	1.73	2.10	6.70
40	Barcha	1.00	1.21	2.20	3.50
41	Barighat		7.71	9.15	7.80
42	Bartoli			8.05	5.00

43	Belgahana	3.30	3.89	6.20	4.70
44	Bhadrapara	0.78	1.58	4.26	4.26
45	Bilaspur Lalkhadan	11.55	10.79	13.98	8.50
46	Bilha	2.60	3.18	5.85	
47	Binauri	2.85	1.93	3.20	3.80
48	Bindabal		5.23	7.11	3.88
49	Bitkuli	6.63	4.42	13.20	3.60
50	Bohardi	3.92	4.79	7.80	3.00
51	Bothidih	5.45	6.93	8.63	4.40
52	Chakarbhata	18.00	16.34	18.00	6.52
53	Chalchali	1.30	1.90	3.50	4.12
54	Chandargarhi	1.34	1.07	2.72	6.25
55	Chandli	6.75	5.92	9.20	3.70
56	Chandrakhuri	1.18	2.81	8.25	3.35
57	Chatarkhar	0.20	3.40	1.64	8.65
58	Chattan	3.80	4.95	7.87	5.70
59	Chchgohana	2.33	6.07	8.92	2.70
60	Chhatauna	1.08	4.04	5.50	2.70
61	Chilhati	2.65	3.81	10.20	5.30
62	Dagauri	4.55	4.67	5.25	4.70
63	Dam Dam	3.20	7.13	8.60	7.45
64	Daukapa	4.47	3.40	6.80	4.92
65	Deori	8.55	6.34	6.16	
66	Dhanpur	4.40	4.28	5.84	4.95
67	Dharhar	3.30	5.39	10.64	9.20
68	Dungra	9.50	2.35		1.30
69	Fulwari	6.95	7.35	8.26	7.50
70	Ganiyari new	50.00	50.00	31.20	89.00
71	Ganiyari.2	1.65	1.90	2.34	2.80
72	Gatori	3.90	2.03	3.18	2.35
73	Gaurela	1.65		6.46	4.45
74	Ghansipur-Sainik Camp	0.85	2.70	3.20	2.70
75	Godkhami	5.70	5.30	9.20	6.70
76	Hemu Nagar	6.73	6.81	6.84	
77	Hirri		3.12	4.50	4.35
78	Jaroundha	5.10	7.54	10.41	9.30
79	Jhapal	2.85	2.93	11.00	1.35
80	Jhapal New			4.08	
81	Jhingatpur	1.53	2.53	6.44	3.90
82	Jogipur	1.92	4.74	11.20	5.55
83	Kanchanpur	2.47	3.13	5.20	4.41
84	Kanteli			10.00	
85	Kanteli.1	9.55	5.88	11.20	9.10
86	Kargi Kala		5.37	6.60	6.46
87	Kargikhurud	1.20	2.39	13.10	6.40
88	Kenda	6.80	7.11	8.01	6.80
89	Keonchi	3.63	4.30	7.85	4.16
90	Khaira New	2.05	1.62	3.50	1.73

91	Khamharia1		1.55	17.00	7.80
92	Khumharia	1.28	1.93	6.64	2.80
93	Kohronda	5.15	3.90	4.85	4.50
94	Koni	5.70	4.10	3.40	5.75
95	Kota(kargi)	1.25	1.82	2.20	1.87
96	Kotmi.1	2.15	3.00	8.00	3.30
97	Kudwahi	1.18	2.30	4.06	3.40
98	Kuli	3.40	2.58	7.26	4.14
99	Lamni	7.50	7.95	16.00	8.80
100	Larkeni	2.10	4.23	7.85	4.10
101	Lekhani	1.27	2.45	6.09	4.20
102	Madanpur			15.10	
103	Madhanpur	4.15	9.15		11.90
104	Malhar	2.60	3.10	3.84	2.65
105	Marvahi			15.00	
106	Marwahi	5.80	5.90	14.12	14.12
107	Masturi	0.45	2.10	3.50	3.35
108	Masturi1			4.45	
109	Matiyari	4.30	2.98	3.10	3.22
110	Mendrapara Ratanpur	1.55	3.01	2.65	4.54
111	Mungeli/Surighat	4.70	5.13	6.60	6.80
112	Nawadih	2.95	3.39	6.60	4.80
113	Nawapara	0.89	2.85	4.70	2.70
114	Neora	4.55	5.20	12.60	6.11
115	Nimdha	0.94	1.13	2.64	1.20
116	Pali	5.38	6.81	9.80	5.70
117	Panchpedi	3.70	3.90	10.40	8.20
118	Pandra Patha	4.65	5.83	7.31	6.90
119	Pandri	2.10	0.98	2.10	0.80
120	Patera	0.80	0.79	2.16	1.65
121	Patharia (chorbhatti)	1.75	2.72	1.49	2.87
122	Pendra Road	3.62		6.50	
123	Piparkhuti	1.45	4.67		5.53
124	Rajpur	5.10	3.82	6.48	5.05
125	Ratanpur	1.58	5.44	8.84	5.50
126	Rupandand	2.10	1.83	3.86	2.72
127	Saraipalli	5.12	5.89	9.36	7.50
128	Sardha School Para	1.43	2.64	5.64	3.65
129	Saudhakhurd	1.85	3.21	7.80	
130	Seoni	3.42	5.70	7.78	4.90
131	Setganga	1.30	2.18	3.64	3.26
132	Sewra		5.51		6.87
132	Sewra	4.88	5.13	8.80	
133	Sewra New			17.80	
134	Shekhwa	5.96	6.26	9.00	6.70
135	Shivtarai New	2.55	4.19	6.20	4.90
136	Shripara	2.22	2.81	9.86	5.10
137	Sipat	16.40	2.10	9.55	2.30

138	Sitalkunda	2.30	2.02	9.40	2.95
139	Surada	10.58	9.83	13.50	10.40
140	Takhatpur			13.50	
141	Tendumuda	1.06	3.41	9.06	5.25
142	Tenduwa	2.75	2.82	10.40	5.01
143	Tikari		0.98	5.02	0.65
144	Tikthi	1.98	3.28	12.00	12.00
145	Tilaidabra		1.90	3.15	
146	Udaypur	3.15	2.69	7.80	4.25
District	**DHAMTARI**				
147	Amali	3.17	2.80	4.10	2.91
148	Aouri	1.02		1.32	1.50
149	Arsi-kanhar		9.53		
150	Banraud - I	2.67	4.64	6.10	4.85
151	Banraud D	1.73	5.54	10.61	6.44
152	Banspani		1.80		
153	Baspara Kukrel	1.96	2.30	4.69	2.80
154	Bhatagoan	1.12	10.00	2.00	1.15
155	Bhoyana	2.72	3.35	4.08	3.82
156	Birgudi	3.73	5.50	11.00	6.24
157	Budarao	2.62	3.45	3.56	4.11
158	Chhati	1.39	1.20	1.85	1.30
159	Darba	7.43	1.63	2.31	2.70
160	Dorgardula	1.36	9.85	9.92	9.40
161	Dugli	2.87	2.63	4.50	3.10
162	Gadadih	2.56	1.50	2.24	1.80
163	Gangrel	3.53	1.67	3.18	2.90
164	Gattasilli	3.13	3.03	5.50	3.47
165	Jabarra	1.76	1.20	2.70	1.60
166	Keregaon	2.96	4.40	4.95	4.20
167	Khadadaha	2.34	2.95	3.45	2.90
168	Kondapar	2.23		6.79	4.10
169	Kouhabahara	3.33	5.65	8.05	5.90
170	Kurud.1	2.12	2.45	3.21	2.60
171	Marod	1.45	1.50	2.60	2.40
172	Marradev	2.22	2.85	3.09	2.80
173	Mechka Sondur	2.67	5.60	7.00	
174	Mulgaon	2.34	5.30	3.19	6.10
175	Nagri1	2.80	3.87	10.04	4.95
176	Rudri Chowk	1.45	4.60	4.71	
177	Sankra	3.29	4.55	3.21	4.80
178	Sankra(nagri) EW			26.43	
179	Shankarda	2.98	7.00	3.09	7.00
180	Sihawa	4.01	5.34	6.95	5.50
181	Singhpur	1.98	6.25		6.42
District	**DURG**				
182	Ahiwara	4.61	3.92	6.70	2.00
183	Ameri New	1.07	2.20	4.30	2.53

184	Anda	1.90	2.40	2.98	2.17
185	Andhiyarkhor	5.16	7.34	8.05	8.50
186	Arjunda	0.46	2.35	1.66	2.70
187	Armurkasa	6.33	2.30	16.50	3.30
188	Arsnara	1.07	3.40	6.89	5.00
189	Ashoga	0.87	3.75	3.66	3.78
190	Baba Mohtara	1.44	3.10	4.10	2.90
191	Bahera	3.82	1.70	5.74	3.00
192	Baiji	0.89	2.35	4.65	3.01
193	Baklitola	5.81	4.80	7.30	4.77
194	Balod	1.20	3.25	4.95	3.24
195	Balod Gahan	1.11	2.60	3.98	3.10
196	Barhapur	7.81	6.06	13.16	10.00
197	Batera	1.49	2.50	3.21	2.94
198	Beeja	7.19	9.05	12.47	9.89
199	Bemetara N	4.63	9.15	7.22	10.34
200	Bemetara New	12.68	8.75	12.68	11.45
201	Berla	5.21	5.00	7.25	6.10
202	Bhailai	2.80	4.40	5.50	4.00
203	Bhalukohna	3.11	3.40	6.05	4.57
204	Bhandara	1.74	2.74	4.63	3.43
205	Bharar New	1.12	2.40	4.52	2.59
206	Bharda Kalan	0.91	7.40	3.59	3.80
207	Bharnabhat	2.23	3.85	7.23	
208	Bhurki	3.31	6.45	5.61	5.20
209	Bijabhat	6.92	3.70	8.00	6.00
210	Binayakpur	0.99	3.35	3.20	3.89
211	Bitkuli	3.67	3.90	6.12	5.00
212	Bodal	1.75	3.32	6.67	7.16
213	Bortara	2.24	3.30	5.91	3.87
214	Chichalgondi	2.60	6.36	8.70	6.79
215	Chilphi	5.64	8.60	7.88	6.12
216	Danganiya		1.40	2.40	3.00
217	Darbarmukhli	1.74	4.00	4.65	4.20
218	Dargaon	0.66	5.63	2.28	2.73
219	Darhi Pz I	2.61	3.68		
220	Delli Rajhara	1.06	3.25	3.55	3.55
221	Dewada	1.89	3.30	4.15	3.45
222	Dhaba	0.38	1.95	1.78	2.40
223	Dhamda	2.38		12.43	2.00
224	Dondi	4.14	6.82	10.25	7.89
225	Doundi Lohara	5.68	7.02	10.93	7.79
226	Dumardih New	0.69	1.20	3.87	1.56
227	Dunra	6.15	6.72	13.28	6.18
228	Durg	0.87	1.15	2.79	2.00
229	Farri Nq	7.09	3.30	14.88	12.60
230	Funda	0.73	2.15	3.78	4.08
231	Gadhamor	4.29		9.55	9.00

232	Ganiyari	1.47	3.35	10.14	3.50
233	Garro Dabra Parra	3.41	2.65	7.11	4.75
234	Gatapar	3.46	6.20	9.27	7.26
235	Ghotia	3.47	3.35	5.50	1.86
236	Girhola	8.28	6.57	16.85	
237	Gujara	4.59	4.00	8.00	4.20
238	Gunderdehi	0.91	1.82	2.95	2.74
239	Gurur	2.10	2.00	4.24	3.10
240	Jagtara	1.84	4.40	5.15	4.55
241	Jagtara New		4.60	4.59	4.72
242	Jamgaon	1.03	2.25		2.64
242	Jamgaon			2.17	
243	Janjgiri	0.75	1.73	3.22	2.89
244	Jata	2.44	4.80	9.44	7.69
245	Jatadah	1.98	2.85	5.50	3.95
246	Jeora	6.25	4.30	9.00	4.80
247	Jeora Sirsa	3.62	7.30	8.50	8.10
248	Jeortala	0.93	2.60	2.89	5.30
249	Jewari	5.94	3.90	12.88	5.24
250	Jhafra	1.04	1.85	4.07	2.12
251	Jhal	0.83	2.05	3.84	1.98
252	Kachundur	0.45	1.35	3.60	8.12
253	Kalangpur	0.78	1.60	3.67	1.49
254	Kanharpuri	1.53	2.30	3.17	3.55
255	Kanhera	3.89	5.90	6.22	6.23
256	Karanja Bhilai	2.17	4.60	7.65	5.00
257	Karela	0.45	1.60	2.28	3.98
258	Karhi Bhadar	6.17		10.25	7.69
259	Kharra	1.73	2.65	5.85	
259	Kharra	0.86	2.55	2.10	2.78
260	Khilora	3.81	3.60	7.06	5.80
261	Khurdimudi	3.94	1.95	2.49	2.13
262	Kodiya	2.16	5.15		7.40
263	Kuliya	0.72	2.64	4.05	1.65
264	Kumhli	1.02	2.70	3.44	4.24
265	Kusumkasa		2.40		2.51
266	Litia	3.11	2.85	8.44	5.10
267	Lohara	2.67	1.95	7.50	2.70
268	Machod	0.77	2.05	2.68	2.59
269	Manik Chauri	1.02	2.45	2.92	4.35
270	Markatola	2.43	3.60	10.27	6.50
271	Marra	0.71	1.72	2.27	4.85
272	Mohrenga	1.24	3.35	6.80	5.89
273	Motipur	1.28	3.20	3.44	
274	Mouhabhata	6.79	3.50	8.70	8.70
275	Mudhya	0.50	1.55	2.85	1.99
276	Mudkhusra New	4.87	4.65	9.20	7.67
277	Mummunda	0.94	0.55	2.52	1.00

278	Nagpura	1.50	2.85	4.57	2.00
279	Nahalda	3.02	3.33	5.97	4.54
280	Narratola			15.00	
281	Nawagarh	2.74		8.82	
282	Nawagarh1		5.70		7.37
283	Nikum	0.80	2.57	2.89	2.43
284	Ninwa	8.07	3.60	11.32	4.46
285	Parpoda	2.49	3.15	4.26	3.15
285	Parpoda	1.88	10.80	5.28	10.23
286	Patan	0.47	2.10	2.05	2.16
287	Pendaritarai	7.30	10.00	16.67	10.46
288	Pendri	0.84	2.10	3.52	2.30
289	Piparia	5.33	3.10	9.64	6.47
290	Powara	0.94	2.95	2.74	3.21
291	Rampur Bhand	1.20	3.60	3.54	8.90
292	Ravelidih	1.10	2.50	4.32	3.13
293	Sagona	0.77	0.80	3.44	3.00
294	Sambalpur	13.06	4.40	21.00	5.00
295	Sambalpur2	19.23	15.91	24.98	20.56
296	Sankara	0.98	6.65	3.41	3.89
297	Sankri		6.59	10.00	6.12
298	Saroda	0.55	2.25	2.48	2.40
299	Selud	0.68	2.00	3.20	2.63
300	Selud2	2.05	2.50	5.35	3.28
301	Semariya		6.57		3.10
302	Sikola	0.58	2.30	2.90	4.45
303	Sikosa		2.22	1.01	3.14
304	Sondh	2.73		6.97	4.20
305	Suwartola Nq	5.67	6.65	11.41	8.65
306	Talgaon	5.49		12.60	4.60
307	Tarkori	3.36	4.62	9.40	1.98
308	Tarra	0.46	2.65	2.60	4.83
309	Tarri		7.25	5.10	8.74
310	Teligundra	0.56	1.95	3.45	7.61
311	Temri	2.89	12.00	8.05	4.68
312	Thengabhat	2.10	6.05	6.17	6.00
313	Umaria	1.00	3.75	3.82	2.89
314	Umradah	0.91	5.00	4.17	3.57
315	Utai-Adarshnagar	0.34	1.90	1.67	1.78
316	Zhit	0.88	2.45	2.62	3.00
District	**JANJGIR - CHAMPA**				
317	Adbhar	6.28	5.75	9.80	2.33
318	Afrid	3.10	4.12	5.75	5.48
319	Akaltara	1.40	1.53	0.93	1.50
320	Akaltara S	1.30		1.83	1.39
321	Amora	2.87	3.13	9.00	3.88
322	Baloda	6.80	5.13	11.43	6.07
323	Bamhani	3.45	5.97	13.62	8.50

324	Bamnidihi	4.00	4.18	10.00	5.46
325	Bhaiso	1.55	1.97	8.06	6.35
326	Budena	0.95	1.02	1.84	3.05
327	Budena New			5.14	
328	Champa	3.80	2.50	12.30	8.10
329	Dabra	2.53	2.98	7.77	3.40
330	Damau	5.05	4.88	5.75	5.15
331	Darrabhata	4.52	4.55	4.70	4.50
332	Dhardei	1.98	3.13	5.22	3.30
333	Dhurkot Nhs	2.30	2.52	3.81	2.90
334	Dongakahrod	1.45	1.93	2.47	1.80
335	Ghoghari	4.95	5.77	8.52	8.52
336	Hasoud			5.85	
337	Jaijaipur D		4.37	14.69	8.40
338	Jairamnagar	1.55	3.41	8.83	3.96
339	Janjgir	2.70	3.81	7.03	6.00
340	Jewara	3.22	4.13	2.57	4.93
341	Jhulan Pakariya	2.80	3.20	6.06	6.35
342	Kamrid		2.21	4.30	2.80
343	Kera	3.02	4.43	6.70	2.80
344	Khartal	2.78	2.30	4.17	5.80
345	Khutighat	3.95	1.55	5.83	1.94
346	Konargarh	1.22	1.41	2.06	1.96
347	Kosa	1.78	1.09	1.26	1.20
348	Kutighat Hanuman Dhara	4.15	4.10	4.16	4.25
349	Loharsi	1.90	1.35	3.36	2.70
350	Mehandi	1.68	1.91	2.33	3.20
351	Meubhata	1.35	2.81	5.20	6.10
352	Mudpar	1.10	1.12	5.96	4.62
353	Mulmula	2.25	2.91	3.60	4.60
354	Nariyara	1.85	2.49	7.15	5.15
355	Negurdih	3.66	4.10	5.44	5.43
356	Pamgarh	1.65	1.90	2.66	2.33
357	Sakti	1.80	3.95	12.40	5.65
358	Saliabhata	5.25	5.09	6.41	5.90
359	Saragaon2	4.18	1.89	7.16	2.95
360	Sasaha	3.25	3.15	6.80	5.20
361	Semra	4.07	4.27	7.87	6.80
362	Seorinarayan	8.55	7.80	9.00	7.40
363	Shukli	1.10	1.64	5.03	2.10
364	Somthi	3.08	3.18	7.20	4.53
365	Sukda	0.75	0.98	2.01	0.70
366	Thathari	3.75	1.97	3.00	2.30
367	Vyasnagar	0.40	2.01	3.05	2.76
District	**JASHPUR**				
368	Amatolli	1.32	2.85	3.35	2.30
369	Amdiha	1.85	1.88	4.44	3.30
370	Bagbahar S	4.00	3.78	7.98	5.50

371	Bagicha	2.90	3.25	4.33	3.30
372	Balachhappar	3.85	7.00	10.95	7.10
373	Bandarchuwa	6.45	4.95	7.85	4.80
374	Banderchua S	6.65	4.99	8.43	5.75
375	Bangaon	6.45	5.30	8.35	6.80
375	Bangaon	4.35	2.80	8.24	5.80
376	Bangaon B	4.45	4.05		4.90
377	Bataikela	6.25	6.40	8.87	6.30
378	Bewartoli	6.37	5.85	9.35	7.00
379	Binjapur	2.00	3.30	6.90	4.80
380	Budadand	1.10	1.10	1.35	1.40
381	Chariadand	4.30	4.80	8.76	5.70
382	Chhapartoli	3.00	3.20	6.16	1.60
383	Chhapartoli New		1.85		2.80
384	Dandajor	7.20	5.60	8.12	5.30
385	Dhodidand	5.00	4.04	8.60	4.80
386	Dokra	3.60	4.28	6.40	4.90
387	Durgapara	2.35	2.90	10.00	4.50
388	Farsabahar	0.75	0.65	2.70	1.70
389	Farsakanhi	7.85	6.82	8.44	7.30
390	Fathepur	5.15	5.25	7.96	6.00
391	Garibandh	4.30	3.06	5.45	3.60
392	Ghatmunda	6.70	6.20	4.50	6.80
393	Jakba	7.70	8.10	11.50	3.40
394	Jashpurnagar	3.80	3.80	7.80	4.50
395	Jharmunda	1.25	2.16	4.50	3.10
396	Jhikki	0.87	0.95	2.60	1.10
397	Kachhor	3.70	2.90	6.90	4.10
398	Kandaibahar	3.10	3.10	4.48	3.50
399	Kandora	4.20	3.50	5.00	4.90
400	Kanpoda	3.25	3.32	7.00	4.00
401	Kansabel	8.60	7.66	10.46	8.10
402	Kersai	3.45	3.32	5.70	3.80
403	Kesra	1.35	2.90	5.62	2.70
404	Khutera	4.85	3.60	15.00	3.90
405	Khutsera	4.62	2.00	4.87	3.80
406	Kondapara	3.10	2.70	8.00	3.50
407	Kotba	2.80	2.75	5.65	3.00
408	Kunjara	5.15	5.10	7.95	6.70
409	Kunkuri	3.35	4.15		
410	Kunkuri S	14.24	14.10	19.57	15.70
411	Kunkuri1			6.40	4.00
412	Lamdund	4.30	3.96	6.74	5.40
413	Lavakera	4.93	4.50	8.70	5.80
414	Loro Bagicha	2.90	3.70	6.43	4.70
415	Ludeg	1.67	2.20	5.28	2.30
416	Mahuadih	3.85	5.70	8.00	5.40
417	Maini	0.85	0.90	2.20	1.50

418	Matasi	3.30	3.75	7.32	3.60
419	Muskuti	3.20	3.65	6.75	4.80
420	Narayanbaheli	5.00	4.00	6.48	4.70
421	Narayanpur	4.85	5.65	8.00	6.50
422	Nawaguda	1.50	3.58	7.30	5.30
423	Palidih	5.90	4.05	9.40	4.60
424	Pandripani	6.40	5.18	8.65	6.00
425	Pathalgaon	6.60	6.55	9.75	7.20
426	Patratoli	2.65	3.60	7.00	4.40
427	Peta	5.50	6.05	7.80	7.10
428	Phooldih	1.80	1.70	4.34	2.40
429	Raikera	4.32	4.65	7.00	7.00
430	Raikera(Kunkuri)	2.90	4.10	6.74	5.50
431	Rambandh	0.95	2.00	4.93	2.70
432	Raoni	2.90	2.70	5.80	4.60
433	Rupsera	6.20	5.30	20.00	5.40
434	Sahidaur (Jam Dhora)	0.85	0.96	3.50	2.20
435	Sanna	8.80	9.20	15.00	8.80
436	Saraipani	5.50	6.05	8.00	6.70
437	Saraitola	4.50	4.95	6.75	
438	Sarkardih	3.80	4.75	7.47	4.30
439	Shabdmunda	6.60	4.20	7.90	5.80
440	Singibahar New	1.00	1.10	1.72	1.30
441	Sonquari	4.50	4.30	9.30	4.80
442	Srishringa	1.70	4.10	6.60	3.50
443	Surangpani New	2.30	2.20	8.40	4.80
444	Tangargaon	6.80	5.30	9.08	4.70
445	Tapkara	4.52	4.80	11.00	5.80
446	Tapkara S	4.70	5.02	9.00	7.50
District	**KANKER**				
447	Dudhawa	1.24	3.65	4.05	3.85
448	Govindpur			7.15	3.40
449	Ichchhapur		18.68		
450	Jhipatota	1.47	9.23	9.60	9.85
451	Kulgaon	1.23	3.23	3.92	7.00
452	Lakhanpuri	1.07	4.52	5.50	2.60
453	Murpar	1.13	3.26	3.89	4.25
454	Narharpur	1.87	1.70	4.06	4.52
District	**KAWARDHA**				
455	Banjari	3.90	4.00	4.62	4.46
456	Bija Bairangi	3.47	5.10	7.33	6.20
457	Biroda	2.89	4.30	10.00	7.89
458	Bodla	0.80			9.00
459	Bodla New			6.58	
460	Chhuiha New		1.50	16.00	4.10
461	Chilpi	2.30	5.20	8.58	5.89
462	Danganiya	1.60	2.30	5.29	3.91
463	Kawardha1	1.20	1.90	4.07	2.25

464	Kawardha2		13.50		
465	Kharoda Kalan	2.18	4.40	5.74	4.50
466	Lohara-d PZ	5.28	2.89	7.33	4.62
467	Ragra	3.16	3.40	16.70	6.70
468	Rajnanwagaon	6.90	4.07	5.21	4.56
469	Rengakharkhurd	6.05	5.50	9.60	5.95
470	Sahaspur Lohara.1	4.61	3.85	6.00	3.98
471	Uria Khurud	5.25	6.60	7.00	7.87
District	**KORBA**				
472	Baira	1.57	1.76	2.70	1.93
473	Baksahi	3.13	4.19	5.15	5.40
474	Banbandha	3.15	1.53	5.25	2.10
475	Bandhakhar	2.45	3.09	4.65	3.50
476	Barpali	2.40	3.19	4.63	4.55
477	Barpali Junadhi	2.26	4.47	6.16	6.89
478	Basin	2.90	4.12	6.19	4.40
479	Batati Junction	5.77	6.61	9.36	
480	Bhaisma	3.70	3.19	3.42	
481	Bhatora	3.43	5.17	18.99	6.10
482	Chachiya	5.10	6.02	6.03	4.90
483	Chaitama	3.14	3.61	5.56	4.40
484	Champa Mode	1.65	1.93	4.35	2.40
485	Charmar	2.85	3.10	4.13	4.80
486	Chindpur	2.95	4.01	5.89	3.80
487	Dhegurdih Manzipara	2.90	4.11	9.25	4.65
488	Dhourabhata	2.88	3.55	8.37	4.33
489	Dumardih New		3.11	5.22	4.03
490	Dumarkachhar	3.05	3.81	5.75	4.25
491	Gopalpur	3.05		2.60	
492	Gurasiya	1.50	4.20	3.55	4.70
493	Hardibajar	4.92	3.12	6.31	
494	Jamchuwa		9.50	9.50	9.50
495	Jatgan	4.12	3.85	10.64	4.15
496	Jhabar			7.25	6.05
497	Jilga New		4.88	6.45	5.90
498	Jogipali	4.05	5.15	8.24	5.95
499	Karimati	5.00	1.50		1.30
500	Kartala		4.03	8.20	5.70
501	Kasania	3.20	3.66	6.03	5.25
502	Katghora	2.10	2.55	4.40	2.70
503	Kerwa	4.07	5.14	6.47	6.21
504	Khodri	1.28	1.43	2.50	3.10
505	Kolga	1.72	3.14	8.20	3.40
506	Korba	6.95	7.71	14.47	14.47
507	Korba New	5.10	8.00		8.00
508	Korbi	2.25	3.80	10.10	4.90
509	Kudmura	12.75	7.51	14.76	13.40
510	Kurtha New			5.00	

511	Lakhanpur	2.90	3.73	6.80	5.60
512	Lamna	1.10	1.20	2.20	1.59
513	Lenga	3.17	5.21	9.98	6.46
514	Madai	3.10	4.00	5.80	4.50
515	Madanpur	7.20	6.00	6.80	4.80
516	Makhanpur	2.88	3.38	12.00	4.61
517	Morga			9.45	
518	Mungadih	2.75	3.10	4.82	4.70
519	Nagai	6.20	6.54	10.64	7.40
520	Naktikhar	3.98	4.13	5.80	5.40
521	Naraibodh		1.98	3.78	7.50
522	Nawapara	1.80	3.37	2.25	2.40
523	Nonbirra	4.13	4.76	10.50	5.10
523	Nonbirra		5.43	4.13	6.23
524	Nonbirra New			7.11	
525	Numera	2.92	3.78	8.44	6.39
526	Pali		1.82	2.56	2.30
527	Pasan	5.85	6.30	8.67	5.65
528	Pasarkhet	2.85	3.12	4.93	4.70
529	Podi-Uproda	3.00	3.65	5.34	4.50
530	Ponri	2.65	4.10	6.65	3.98
531	Rahadih	2.55	4.11	8.55	6.90
532	Rajkamma	1.88		4.28	
533	Ramtarai Pz Ii	6.36	3.93	6.10	6.18
534	Rewa	2.88	3.47	8.54	5.40
535	Rishdi	4.55	5.41	7.29	5.30
536	Sakdukala	5.07	4.35	8.61	6.30
537	Salihabhata	2.58	1.85	7.70	4.60
538	Salora	2.48	3.04	5.18	3.45
539	Sargundia	2.35	4.31	8.78	5.45
540	Sendripali	3.88	4.95	6.96	5.40
541	Shuklakhar	8.90	9.35	10.60	11.10
542	Sindhiya	3.35	5.91	7.46	7.02
543	Sutarra	3.25	3.98	7.34	5.50
544	Tikeja	1.80	2.92	5.84	4.40
545	Tuman	3.40	5.18	9.66	6.20
545	Tuman	4.24	5.29	11.50	5.18
546	Umedibhathan	1.02	4.08	6.40	4.20
547	Urga.1	0.95	2.59	6.86	4.00
District	**KORIYA**				
548	Akhradand	2.30	2.75	4.40	2.90
549	Ara			8.70	
550	Baharsi.1	3.17	3.36	4.65	
551	Baikunth Pur New	2.65	2.75	3.10	3.20
552	Baikunthpur	2.58	3.15	7.00	4.70
553	Banjaridad S		3.78		3.80
554	Banjaridand	2.20		4.15	3.40
555	Belbehra	4.11	3.03	7.27	5.75

556	Bhainswar	3.40	2.55	4.22	2.50
557	Biharpur	6.85	6.20	12.30	9.60
558	Bikrampur	3.05	4.10	5.97	5.30
559	Chainpur	3.20	2.90	9.30	3.10
560	Chharchha Basti	1.35	2.38	3.90	3.00
561	Chirmiri	3.10	4.20	6.80	4.90
562	Chutki	4.05	4.05	5.50	4.40
563	Dondki	4.30	4.65	7.64	5.80
564	Dumaria	0.95	1.60	8.50	2.10
565	Garundol	8.15	5.70	9.15	7.80
566	Ghugra	2.90	2.80		3.75
567	Girjapur	1.55	1.75	2.05	1.90
568	Jamgahana	2.10	2.10	3.55	2.30
569	Janakpur	3.00	3.47	3.85	3.20
570	Jilda			5.50	
571	Kailashpur	2.72	3.91	3.67	3.20
572	Kelhari	10.75	9.80	11.35	11.30
573	Khadgaon			5.30	
574	Khadgawan	1.90	2.60		3.50
575	Khatgori	1.33	2.90	3.79	5.50
576	Khodri	4.65	5.40	8.40	6.50
577	Kiwarpur			8.20	
578	Lalpur	6.00	6.50	6.80	9.50
579	Manendragarh	1.40	1.20	1.20	1.20
580	Mansukha	6.38	5.95	10.40	6.30
581	Mendrakala	9.90	9.67	10.57	10.15
582	Mohra	6.77	2.90		3.65
583	Nagar Station	1.80	4.25	7.60	4.60
584	Nagar Tilwander New	2.95	5.85	6.00	6.20
585	Nagpur	2.80	4.10	6.38	4.85
586	Patna	5.85	4.90	7.35	
587	Patrapali	1.20	1.30	2.50	2.20
588	Pendri	1.50	2.60	4.70	3.55
589	Piparia	2.00	3.67	7.85	5.75
590	Podidih	1.20	1.55	5.00	1.90
591	Pouri			2.50	
592	Ranai	5.00	4.85	3.20	7.50
593	Rojhi	3.10	4.12	7.25	5.50
594	Sarbhoka	2.60	3.50	4.50	3.10
595	Seri	3.20	3.69	4.20	3.75
596	Shripur	1.30	2.88	2.80	2.40
597	Sonhat	2.45	3.00	3.45	3.15
598	Tarabahara	3.60	3.90	1.05	3.00
599	Tengri	1.75	2.85	7.00	3.75
600	Tilokhan	7.10	6.80	7.40	8.30
601	Ujiyarpur1	2.70	3.75	6.75	4.35
District	**MAHASAMUND**				
602	Amlor	2.10	2.59	3.04	4.20

603	Badesara	2.20	2.65	3.06	2.62
604	Bag bahera	2.35	3.70	10.68	5.80
605	Baldidih	7.22	7.58	9.75	
606	Barbaspur	2.15		8.55	
607	Basna	3.02	3.80	2.75	2.60
608	Belsunda	2.67	1.80	4.31	3.10
609	Boriya Jhar	2.68	2.30	2.71	2.74
610	Deori		8.50		5.30
611	Deori(bhagat)			10.69	
612	Hadabandh	2.64	2.70	5.91	
613	Jamli Nawadih	2.14	2.10	4.61	3.30
614	Jhalap	4.50	4.80	9.35	7.30
615	Jhalkhamhariya	3.34	7.60	10.32	8.40
616	Jogidipa	6.11	6.20	10.30	7.40
617	Khallari	2.22	5.35	5.31	
618	Kowajhar	2.61	2.80	4.70	3.79
619	Lakhanpur	4.14	4.80	4.81	5.35
620	Lavarakhurud	3.81	4.00	12.11	5.00
621	Mahasamund.1	4.28	7.20	14.00	8.10
622	Mandalpur New	2.24	6.20	5.20	7.34
623	Marban			6.00	
624	Marod	3.00	2.50	6.00	3.68
625	Moulimuda	3.01	2.40	7.00	2.95
626	Nawagaon		2.40	5.73	3.50
627	Palsipani		1.80		2.60
628	Pithora PZ			20.44	13.41
629	Samhar	2.53	2.35	8.95	3.70
630	Saraipali	1.16	4.50	9.46	3.60
631	Saraipalli-S PZ			18.52	
632	Suarmar	6.76	5.80	11.07	7.90
633	Tendukonda	3.38	4.30	9.68	4.10
634	Tumgaon	2.91	3.80	6.90	4.11
District	**RAIGARH**				
635	Chhal	3.47	2.35	4.75	2.30
636	Amapali	4.12	4.62	7.45	5.35
637	Amgaon		5.00		6.45
638	Amlidih	4.17	5.25	8.27	6.50
639	Araimuda	2.02	1.96	6.45	3.88
640	Auranar	8.35	7.40	9.60	7.96
641	Aurda	1.95	2.70	3.20	2.70
642	Bakaruma	6.35	6.00	9.50	6.90
643	Bamsjer	0.60	0.90	5.25	2.33
644	BangrusianNew	6.35			
645	Bangursian		5.06	8.48	6.10
646	Baramkela	1.30	1.52	7.14	1.56
647	Baramkela S	30.73	20.50	27.12	
648	Barkaspali	3.80	2.95	5.50	4.15
649	Barpali	5.12	6.35	9.27	6.70

650	Barpali I	1.70	1.96	2.70	2.05
651	Bartapali	3.56	4.12	7.76	8.67
652	Bataupali	2.25	2.75	5.65	2.70
653	Bayasi	2.60	2.92	7.50	3.28
654	Bhalumar	2.47	2.60	6.00	3.58
655	Bojia	2.20	3.00	5.72	3.53
656	Boro	4.97	6.15	12.00	7.96
657	Chaple S	4.75	3.26	8.30	4.82
658	Charkhapara	1.15	5.64	8.05	5.50
659	Chhind	1.22	1.95	7.10	2.75
660	Chimtapani	4.85	5.85	6.17	9.83
661	Chiraipani	4.80	5.25	9.65	
662	Chiraipani I	1.82	2.60	6.85	2.73
663	Choranga	3.20	3.05	9.74	5.60
664	Chukimar			12.00	
665	Damdarha	9.85		9.85	9.00
666	Derpani	1.95		3.54	1.90
667	Devgarh	4.90	5.60	7.10	5.70
668	Dharamjaigarh PZ	2.16	3.07	4.97	3.61
669	Dharamjaygarh	3.60	4.45	8.80	5.07
670	Duliamuda	6.30	4.77	9.40	6.25
671	Dumarpali	3.22	3.05	5.80	4.10
672	Durgapur	9.70	5.35	9.70	7.20
673	Edu	4.52	3.60	7.62	5.25
674	Farkanara	6.20	4.20	11.25	6.57
675	Futhamura	1.00	2.72	4.12	3.18
676	Gare Nhs	2.80	3.17	7.90	4.73
677	Gersa	3.15	4.30	6.26	4.75
678	Gerwani	6.48	6.05	9.50	7.40
679	Gharghoda	4.85	4.15	8.65	5.40
680	Gidha	1.65	1.90		1.80
681	Godam	0.62	0.20	1.05	0.40
682	Gohri	2.10	2.64	7.70	3.83
683	Golabuda	4.70	4.32	9.70	6.89
684	Gosaidih	2.15	2.94	8.05	4.40
685	Hati	5.90	4.50	4.50	8.87
686	Hati New			9.50	
687	Jabga	8.90	7.20	11.00	8.63
688	Jamga Railway Station	1.95	1.80	3.75	2.44
689	Jamgaon Basti	1.35	3.45	7.30	5.10
690	Jegarpur	4.50	4.78	9.55	6.40
691	Jhikipali	5.20	7.30	8.95	7.80
692	Jorapali1	1.97	2.55	2.80	2.75
693	Kanakbira	4.10	8.55	10.00	12.20
694	Kandadand	2.32	2.30	10.40	5.56
695	Kapu	2.35	4.22	7.48	5.42
696	Kargipali Kargidipa	6.28	7.96	8.90	8.05
697	Katangdih	5.80	4.90	7.80	5.43

698	Kedar	2.00	4.15	5.15	4.20
699	Kerajhar	1.45	3.00	4.60	4.35
700	Khadgaon1	11.45	10.75	14.00	11.78
701	Khamhar	5.00	6.05	7.58	5.64
702	Kharasia S	3.40		9.38	4.97
703	Kharsia	1.65	1.80	3.02	
704	Kharsiya PZ		6.24		
705	Koknara	1.84	2.35	5.60	3.40
706	Koshmanda	2.00	2.45	2.50	2.08
707	Kotarliya	1.37	1.85	6.25	3.25
708	Kotra	1.15	1.60	1.86	1.45
709	Kotrimal	3.20	3.76	5.58	4.24
710	Kurekela	4.08	4.95	5.10	4.63
711	Kurmibhuna	3.50	5.00	7.82	6.64
712	Kushal Nagar	1.45	4.20	4.95	3.80
713	Lailunga1	3.90	5.18	9.05	7.10
714	Lakshmipur	2.80	3.44	4.30	4.28
715	Laripani	7.58	6.37	8.30	6.47
716	Libra	1.12	2.00	3.43	3.10
717	Lipti	2.35	2.92	6.50	4.23
718	Malda-B	3.05	7.35	10.00	10.00
719	Milupara	5.80	7.70	10.45	8.90
720	Mumund	2.70	2.80	5.78	3.95
721	Navrangpur	1.05	1.56	2.40	1.40
722	Ongana New	2.10	2.70	6.00	5.32
723	Padigaon	2.17	2.60	3.30	3.00
724	Pindri	1.10		2.80	2.22
725	Pordahi	1.15	1.15	3.30	1.10
726	Raigarh	3.00	3.30	3.10	2.99
727	Rajpur New	1.30		6.20	
728	Rajpur.1	1.35		6.20	
729	Rera	1.45	1.90	4.65	2.20
730	Rumkera	2.92	3.35	7.56	5.10
731	Salkhiya	2.70	2.70	7.80	4.50
732	Sambalpuri New	1.80	2.10	4.10	2.35
733	Sariya	1.35	2.35	2.90	
734	Shahpur Colony	6.78	4.76	10.20	6.90
735	Sirsinga Temple		3.30		
736	Sisringa	2.30	3.35	7.00	2.90
737	Surajgarh	5.70	5.50	9.00	4.40
738	Tamnar	6.62	6.62	10.30	6.90
739	Tehlirampur		6.00		
740	Tendumar New	4.16	2.52	6.70	4.50
741	Teram Dw	1.85	3.00	8.00	4.10
742	Terekela	3.00	4.10	9.40	4.60
743	Tetla	1.30	1.75	3.20	1.45
744	Ududa	0.65	0.85	0.75	0.60
745	Ulda	1.20		13.60	

District	RAIPUR				
746	Abhanpur	3.14	4.15	4.89	5.53
747	Amera	2.02	1.70	3.38	2.10
748	Amethi	1.86	2.00		2.45
749	Amethi New			4.71	
750	Aouri	1.26	1.98	2.74	1.20
751	Arang	4.43	3.70	9.15	5.40
752	Arjuni	3.98	1.88	8.43	7.60
753	Baihar		3.45		4.60
754	Bajrangpur	2.19	1.40	2.33	1.85
755	Baloda bazar	4.74			
756	Baronda	2.12	6.90	7.95	5.60
757	Bhaisa New	1.23		4.70	5.20
758	Bhangaon	3.85	2.20	9.15	5.50
759	Bhatgaon	2.80	2.00	4.09	4.50
760	Bhatia	1.69	1.60	2.60	1.10
760	Bhatia	3.10	6.42	7.26	7.10
761	Biladi	2.80		4.20	
762	Bilaigarh	1.97	2.80	3.98	4.70
763	Birgaon		3.58	12.65	
764	Bitkuli	3.65	1.88	7.30	4.15
765	Chandi	1.87	2.60	3.21	3.60
766	Charauda	2.31		2.50	1.80
767	Charched	2.27	3.53	3.61	5.50
768	Chicholi	0.75	1.70	3.87	2.61
769	Darchura	1.76	1.00	3.12	2.65
770	Deopuri		4.50	5.70	
771	Devpuri	2.78	4.89	5.70	5.25
772	Devri	6.34	1.40	3.53	2.71
772	Devri	1.87	1.60	2.05	1.84
773	Devsundari	1.86	1.90	3.08	2.40
774	Dhabadih	2.89	3.50	4.39	4.10
775	Dhamarkhera	2.11	2.40	4.01	3.20
776	Dharsiwa	2.52	1.10	2.29	2.90
777	Dharsiwa S	2.67	10.22	15.95	9.10
778	Dhawalpur		3.37		
779	Dumartarai	1.56	3.80	3.97	3.25
780	Fingeshwar	5.42	3.85	8.90	4.42
781	Gariaband	3.54	4.67	9.53	
782	Gatapaar	2.25	1.20	3.70	2.15
783	Ghivera	1.81	1.30	3.31	2.15
784	Godhi	3.15		12.70	9.84
785	Gotiadih	2.06	2.00	4.09	2.90
786	Hadabandh	1.78	4.30	6.37	15.00
787	Haswa	2.14	2.53	3.87	3.80
788	Hathband	1.76	2.00	9.00	
789	Indagaon		3.63		
790	Kanki	2.12	3.40	3.59	3.50

791	Kanki New	3.01	3.00	3.50	3.85
792	Kasarangi New	1.61	2.00	3.48	3.10
793	Kasdol	2.24	1.83	2.69	3.10
794	Kashi Bahara	2.18	2.00	3.98	2.46
795	Kedar	2.09	2.45	3.84	4.10
796	Kendri		3.70		
797	Khapri	3.41	3.75	5.01	2.20
798	Kharora	3.32	3.40	12.00	7.20
799	Kirwai-Fokatpara Fingeshwar	3.75	4.40	7.60	
800	Kodwa	1.98	2.25	4.07	1.20
801	Kurra	3.24	1.00	2.89	
802	Kurru	3.01	4.30	4.60	3.60
803	Lahaud	1.58	2.43	6.89	3.10
804	Lawan	1.32	1.96	2.34	1.30
805	Mainpur		3.70		
806	Malgaon	2.98	2.70	3.10	
807	Manabasti	2.56	3.40	5.01	4.30
808	Mandhar	1.40	2.50	4.82	3.61
809	Mandirhasud	6.11	10.00	12.00	14.50
810	Marban Gatadih New	2.07	2.28	2.99	4.30
811	Math	2.89	2.30	4.34	2.90
812	Mudagaon	1.25	2.00	3.99	2.60
813	Mudhipar	1.10	2.50	1.64	4.70
814	Narra	3.90		4.50	
815	Navagaon	2.56	3.40	4.81	4.20
816	Nawagaon			5.00	
817	Palari	2.58	3.30	4.86	2.91
818	Pandan Bhata	1.18	1.30	8.87	6.00
819	Panderbhata S	2.74	2.35	8.32	
820	Panduka	2.90	3.89	5.72	4.10
821	Parsakhurd	2.81	4.10		4.74
822	Piperhatta	3.76	4.40	4.97	5.62
823	Pond	2.32	3.35	2.65	2.20
824	Raita Satna Ni Para	3.21		5.00	2.65
825	Rajim	6.52	6.68	9.59	7.65
826	Ranisagar	1.82	3.30	3.31	4.24
827	Rawan	3.28	1.80	4.21	2.15
828	Risda	2.19	1.48	4.60	4.45
829	Sakara	3.89	2.80	11.46	6.80
830	Sandi	2.32		6.49	4.35
831	Saragaon	2.32	2.40	2.76	2.30
832	Sarkada	2.80	4.25	4.68	4.60
833	Sarsiwa	3.92	3.89	4.05	4.62
834	Sel	2.01	2.70	3.80	3.46
835	Simga	2.23	2.30	3.42	2.71
836	Sorid	4.87	6.70	8.60	7.20
837	Suhela		2.20		2.60
838	Sursabandha	2.17	3.27	3.00	

839	Tarpongi	2.28	4.70	5.70	3.91
840	Tatibandh MVM	3.42		8.13	5.34
841	Temri	2.18	2.88	5.64	3.70
842	Tilda S	3.80	5.50	7.00	7.74
843	Tundri	2.67	2.80	4.27	5.60
844	Udela	2.23	2.22	4.01	2.71
845	Umaria station	4.12		5.50	4.81
District	**RAJNANDGAON**				
846	Anjora	0.80	1.20	4.75	1.71
847	Badaitola	0.85	5.75	11.20	7.00
848	Baghera	3.08	2.40	7.61	3.89
849	Bagtarai	1.40	2.42	4.56	4.99
850	Bandha Bazar	1.21	2.03	3.07	2.20
851	Bargahi Two	1.68	0.80	5.61	3.00
852	Bhaistara Bhatapara	1.60	3.90	7.47	
853	Bharritola			6.07	6.18
853	Bharritola	1.95	5.12		
854	Bhatgaon New	1.61	0.90	9.30	3.65
855	Bhorampur	3.78	4.80	8.10	5.88
856	Bija Bhata		8.70	10.10	11.53
857	Borgahi One	1.13		3.34	
858	Bori	0.82	1.60	2.80	2.39
859	Burhanpur	3.29	3.00	8.76	6.85
860	Chichola	3.52	4.70	9.72	6.95
861	Chinohola	4.80		7.65	
862	Chirchari	1.70	2.70	3.95	2.78
863	Chitratola	0.42	3.70	4.13	4.25
864	Chuikhadan	3.25		6.49	
865	Devkatta	2.33	4.00	7.10	4.17
866	Dewada	4.05	3.90	7.92	4.27
867	Dhaneli	2.57	4.91	6.92	4.51
868	Dhara	3.05	5.00	6.77	5.60
869	Dharampur	2.82	1.65	6.07	3.47
870	Dongargaon.1	0.76	4.00	3.35	3.95
871	Dongargarh	6.20	5.10	11.40	7.12
872	Gathula	0.55	1.90	2.79	2.20
873	Ghortalab	9.47	3.80	15.00	6.00
874	Gidhwah	7.63	4.28	8.50	4.60
875	Govindpur	7.07	3.10	7.52	4.40
876	Jalbanda	1.87	2.15	4.27	3.12
877	Jangalpur	0.41	6.00	1.90	6.12
878	Jantar	3.21	5.40	9.40	7.10
879	Joratarai	1.10	2.50	5.04	3.16
880	Kalkosa	3.63	2.38	8.46	5.15
881	Khairagarh		5.75	7.02	3.46
882	Khursipar	8.35	2.61	14.05	6.09
883	Kokpur-I	0.86	2.10	4.68	2.15
884	Konhari	2.09	3.10	7.22	5.00

885	Kumarda.1	3.87	1.60	6.78	1.30
886	Lal bhadurnagar	2.18	3.10	6.80	4.30
887	Maladabri	0.79	2.12	4.78	2.87
888	Mohar	2.61	4.10	6.75	6.27
889	Mudmar	2.98		7.41	2.75
890	Murhipar	5.10	5.50	8.47	8.69
891	Narmada	3.62	2.00	7.54	4.97
892	Nawagaon	2.19	1.62	6.41	4.10
893	Paneka	0.69	2.02	3.17	2.46
894	Patewa	0.88	1.70	2.90	2.77
895	Pathratola	15.00		15.00	
896	Rajnandgaon	1.02	2.40	2.67	2.66
897	Rampur	1.63	1.20	3.95	2.50
898	Rangkathera		1.95	4.50	2.43
899	Ranitalab1	4.62	5.00	8.00	7.00
900	Ranitarai	0.78	1.72	2.20	1.81
901	Reevagahan	0.76	1.25	3.93	2.00
902	Sahaspur Dalli	1.04	4.00	3.34	4.21
903	Singhola	0.66	1.85	2.08	1.82
904	Somni		1.90	5.60	2.79
905	Sundara	1.40	1.95	8.12	3.89
906	Surgi	1.50	2.32	6.81	3.59
907	Talagaon	0.70	2.42	12.10	4.60
908	Talai	1.15	2.00	5.57	5.80
909	Tappa	4.02	2.40	9.40	3.95
910	Uraidabritola	3.80	3.48	12.05	4.57
District	**SURGUJA**				
911	Abhaypur	4.75	3.20	7.10	3.50
912	Alkadih	0.75	1.90	2.85	2.75
913	Ambikapur	3.90		4.50	3.20
914	Amdih	4.20	4.35	7.30	5.20
915	Amgaon1	3.90	4.60	7.25	6.10
916	Bachwar	5.60	5.40	6.20	6.00
917	Badsara	3.60	3.85	8.65	5.65
918	Baghima	1.40	2.76	5.80	3.35
919	Bandana	3.80	3.75	7.00	4.00
919	Bandana	2.50	2.65	7.40	1.80
920	Banshipur	7.15	5.60	10.20	8.95
921	Bario	1.30	2.75	6.80	3.55
922	Batauli Kunkurikala	1.30	2.00	5.70	2.35
923	Batauli S	6.25	5.57	9.53	6.94
924	Belkota	7.00	5.36	8.00	6.60
925	Bhadar	6.15	4.60	6.75	5.25
926	Bhediya	8.80	6.50	6.40	7.50
927	Biharpur			4.10	
928	Bishrampur	3.60	4.00	5.55	5.70
929	Bulga	1.30	2.35	5.45	4.10
930	Chaimpur	3.45	3.57	6.00	4.70

931	Chanchi-Dand	2.00	2.00	2.70	2.20
932	Chandora	6.25	4.75	7.00	5.95
933	Chatakpur	1.80	2.50	4.30	3.27
934	Chendra	2.70	3.70	5.05	4.35
935	Chilamkala-Rajpur Block	3.20			
936	Chilma Kala		4.25	6.60	6.00
937	Dalbahara	1.40	1.25	3.73	1.95
938	Dandgaon	2.75	3.90	3.65	3.50
939	Darhora	5.65	3.66	8.90	5.20
940	Darima	4.20	5.50	7.90	4.90
941	Dawankera	4.20	3.70	7.00	4.90
942	Deonagar	2.50	2.97	6.80	4.60
943	Dharampur	5.10	6.85	11.40	10.50
944	Dhaurpur	2.20	4.00	8.30	5.88
945	Dhondha	9.75	7.85	8.00	9.10
946	Durti	4.30	4.55	3.50	5.65
947	Dwarikanagar	2.65	3.30	5.25	3.50
948	Fulkona	0.90	5.10	2.75	2.20
949	Ganeshpur	1.35	1.75	6.20	3.00
950	Gangapur	1.85	1.50	8.90	2.10
951	Ghorghadi	2.40	2.79	8.00	
952	Gonda	4.65	5.20	6.65	6.55
953	Hanumangarh	1.00	1.80	5.25	4.00
954	Jagannathpur	1.25	3.70	8.34	6.15
955	Jagatpur Podipara	3.00	5.50	10.30	6.80
956	Jajga			8.45	
957	Jaynagar			10.10	9.60
958	Kakalo	5.05	5.75	9.20	5.60
959	Kalyanpur	4.20	4.80	7.60	5.80
960	Kamleswarpur			17.70	
961	Kanaknagar			7.80	
962	Kanakpur	3.80	3.75		5.00
963	Karajwar	8.40	5.30	9.00	5.95
964	Karji	1.85	2.05	4.00	2.25
965	Karji-Rajpur Block	1.25	1.40	5.00	
966	Katarouli Harrapara	6.00	6.15	7.00	6.85
967	Khandapara	3.05	2.85	4.25	3.41
968	Krishnapur Kalwa	2.75	2.65	7.10	4.70
969	Kunni			7.80	
970	Lakhanpur	7.35	9.20	13.70	11.50
971	Lundra		3.70	6.80	5.05
972	Lundraa	4.00			
973	Madanpur	4.35	4.07	5.55	5.60
974	Majeera	6.40	6.00	8.10	6.95
975	Makanpur			12.00	
976	Mudgaon	4.90	4.00	9.00	6.25
977	Nagadand	2.80	8.00	15.35	12.40
978	Narayanpur			6.50	

979	Narsinghpur	3.20	3.75	8.00	5.90
980	Nawapara	3.65	4.54	8.25	6.20
981	Newara	1.65	3.30	5.47	3.60
982	Odigi	5.83	5.95	4.90	6.30
983	Pachira	2.40	3.50	7.30	4.70
984	Parasrampur			6.03	
985	Parsa	4.50	4.30	8.20	5.90
986	Parsagudi	5.30	3.80	7.70	5.60
987	Pasta	7.50	4.80	8.70	6.25
988	Pasta S	4.78	3.70	6.70	4.50
989	Podi	3.00	2.90	7.40	4.15
990	Pratapgarh		5.00	4.20	7.70
991	Pratappur	8.25			
992	Premnagar			13.00	
993	Premnagar D	13.35	13.00	17.97	15.30
994	Rajakatel	9.00	8.50	6.80	9.40
995	Rajpurikhurd	0.90	2.70	5.50	3.80
996	Ramanuj nagar	2.20	3.45	8.00	5.85
997	Reonti	4.00	3.90	7.45	5.60
998	Samouli	4.90	4.35	7.70	5.65
999	Sargaon	1.85	2.60	8.00	4.70
1,000	Sargawan	5.18	3.67	6.70	4.40
1,001	Sedam	1.70	7.00	6.30	7.45
1,002	Shankargarh S			14.26	12.23
1,003	Shivnagar	6.55	3.80	6.40	
1,004	Silsila			10.00	
1,005	Singhitana	3.70	3.95	4.80	4.10
1,006	Sirsi	5.55	4.80	8.50	6.10
1,007	Sitapur New	4.75	5.59	9.00	6.90
1,008	Sitapur-d	4.66	5.59	8.90	6.74
1,009	Songara	10.20	7.80	10.00	9.45
1,010	Sontarai			5.40	
1,011	Sotipara Bhaingamunda	3.00	3.85	6.50	4.70
1,012	Sumerpur			6.00	
1,013	Surajpur	4.30	3.80	9.00	4.00
1,014	Tara	11.80	9.75	9.40	11.30
1,015	Tara New			7.00	
1,016	Udaipur	3.70		8.75	10.02
1,017	Udaipur Dhah		4.75	5.00	
1,018	Udaipur-d	11.48	11.62	18.42	13.06
1,019	Udaipur-s	9.80	9.27	15.02	9.95

भारत सरकार
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