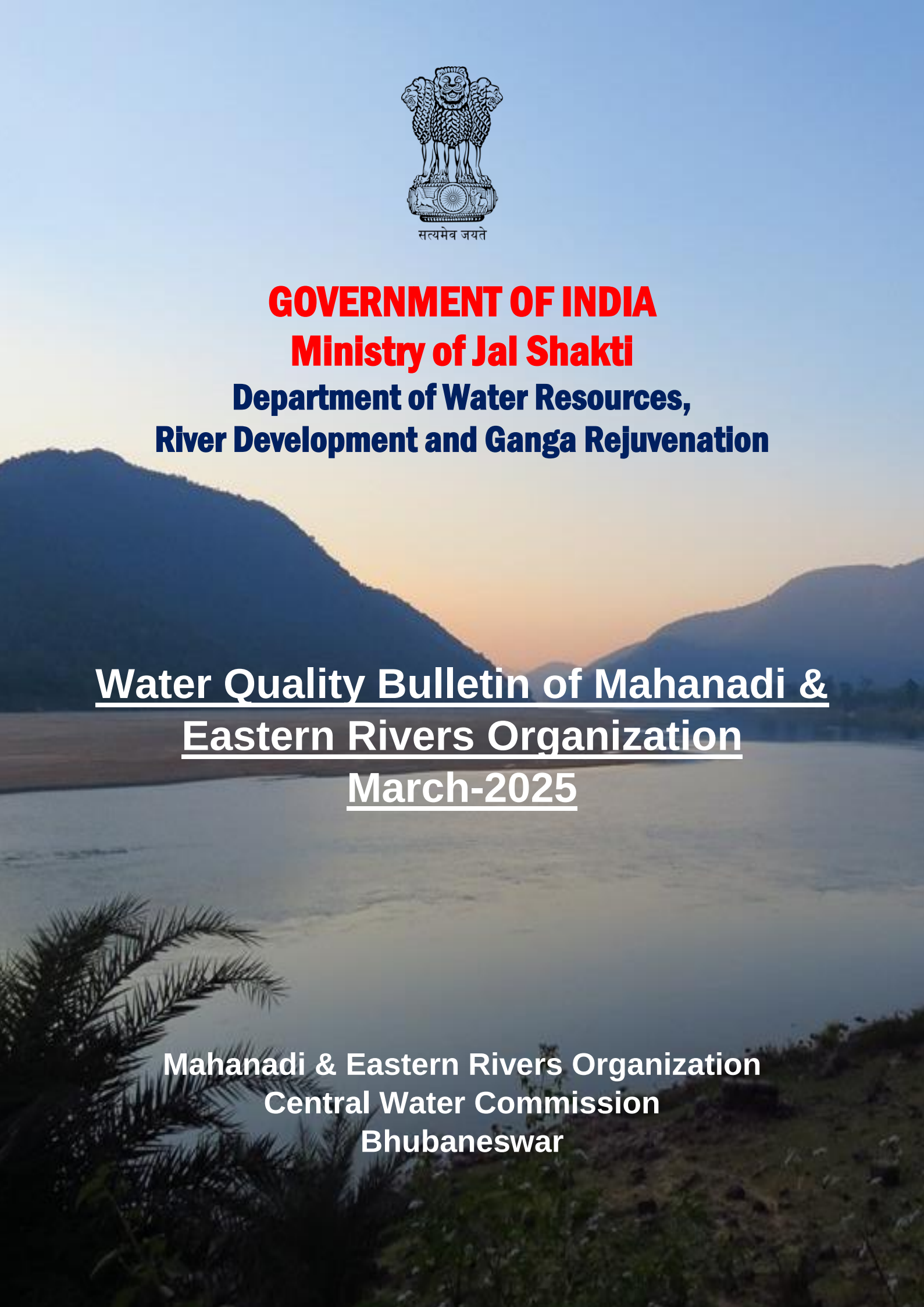


GOVERNMENT OF INDIA
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation

Water Quality Bulletin of Mahanadi & Eastern Rivers Organization March-2025

Mahanadi & Eastern Rivers Organization
Central Water Commission
Bhubaneswar

Table of Contents

Abstract

Deterioration of water quality became challenging task before the scientific community. The only reliable way to counteract with this dreadful problem of water pollution is periodical monitoring of aquatic resources by means of evaluating its physical and chemical properties. Water quality analysis is one of the most important aspects in surface water studies. Assessment of water quality is a critical factor for assessing the pollution level. Study of river water quality plays an important role in evaluating and determining the pollution status and health of the water.

1. Introduction

1.1 Overview of Water Quality and the Importance of Monitoring River Water Quality:

River water quality is crucial due to its significance in supporting various ecosystems, human health, and socioeconomic activities. Monitoring river water quality is essential for protecting human health, supporting ecosystems, sustaining economic activities and ensuring the long-term sustainability of water resources. It enables informed decision making, proactive management, and timely responses to environmental threats, contributing to the overall well-being of society and the environment.

1.2 Purpose of Water Quality Bulletin:

The purpose of a water quality bulletin is to promote transparency, accountability, and effective management of water resources by providing regular updates on water quality conditions, trends and relevant information to stakeholders and the public.

Water is the source of life on earth and human civilizations blossomed where there was reliable and clean freshwater. Water which is free from biological, chemical and physical sources of contamination can be used by human beings for drinking, washing and recreation requirements. Surface water resources have a significant role in the existence of human beings, flora and fauna in any region, especially in India; considering the main uses of surface water include utilization as drinking water, for irrigation, in industries, for cattle, for various indoor and outdoor activities etc.

Hence, it is important to assess and monitor the quality of surface water, mainly rivers, as they are the major source of surface water in our country. Water quality is as important as water quantity for satisfying basic human and environmental needs, yet it has received far less investment, scientific support and public attention in recent decades than water quantity, even though the two issues are closely linked.

The number of parameters monitored in river water quality assessments varies depending on the specific objectives, regulatory requirements and environmental conditions of the river system. However, typically, multiple parameters are measured to comprehensively evaluate water quality. These parameters can be broadly categorized into physical, chemical, and biological indicators.

Central Water Commission (CWC) is playing an important role in the field of water quality monitoring of river water and is observing water quality at several locations throughout India. At present, CWC follows a three-tier laboratory system which consists of Level I, Level II and Level III types of laboratories for providing analytical facilities for the analysis of river water samples collected from water quality monitoring stations covering all the important river basins of India.

The three-tier laboratory system consists of:

1. **Level-I Laboratories:** Level-I laboratories are located at field water quality monitoring stations on various rivers of India for monitoring of 6 in-situ parameters: Colour, Odour, Temperature pH, Electrical Conductivity and Dissolved Oxygen.
2. **Level-II Laboratories:** 18 Level-II laboratories are located at division offices to analyse 25 physico-chemical and bacteriological parameters of river water.
3. **Level-III Laboratories:** 5 regional Level-III labs are located at New Delhi, Varanasi, Hyderabad, Coimbatore and Guwahati for analysis of 41 parameters including trace & toxic metals and pesticides.

Level – II Water Quality Laboratory at CWC, Bhubaneswar

The list of water Quality Parameter under these three types of laboratories:

S. No	Level-1	Level-II	Level-III
1	Temperature	Temperature	Temperature
2	Color	pH	pH
3	Odour	Electrical Conductivity	Electrical Conductivity
4	pH	Dissolved Oxygen (DO)	Dissolved Oxygen (DO)
5	Electrical Conductivity	Turbidity	Turbidity
6	Dissolved Oxygen (DO)	Biochemical Oxygen Demand (BOD)	Biochemical Oxygen Demand (BOD)
7		Chemical Oxygen Demand (COD)	Chemical Oxygen Demand (COD)
8		Total Dissolved Solids (TDS)	Total Dissolved Solids (TDS)
9		Sodium	Sodium
10		Calcium	Calcium
11		Magnesium	Magnesium
12		Potassium	Potassium
13		Carbonate	Carbonate
14		Bicarbonate	Bicarbonate
15		Chloride	Chloride
16		Sulphate	Sulphate
17		Fluoride	Fluoride
18		Boron	Boron
19		Ammonia (Nitrogen)	Ammonia (Nitrogen)
20		Nitrate	Nitrate
21		Nitrite	Nitrite
22		Phosphate	Phosphate
23		Silicate	Silicate
24		Total Coliform	Total Coliform
25		Fecal Coliform	F. Coliform
26			Arsenic
27			Cadmium
28			Chromium
29			Copper
30			Iron
31			Lead
32			Nickel
33			Mercury
34			Zinc
35			Alpha Benzenehexachloride(BHC), Beta BHC, Gama BHC (Lindane)
36			OP-Dichlorodiphenyltrichloroethane (OP DDT), PP-DDT
37			Alpha Endosulphan, Beta Endosulphan
38			Aldrin, Dieldrin
39			Carbaryl (Carbamate)
40			Malathion, Methyl Parathion
41			Anilophos, Chloropyriphos

1.3 Background information on the significance of rivers within the jurisdiction of the organization:

Mahanadi & Eastern Rivers Organisation monitors water quality of rivers like Mahanadi, Brahmani, Subarnarekha, Baitarani, Burhabalanga, Rushikulya, Vamsadhara, Nagabali and Sarada flowing mostly through the state of Andhra Pradesh,Chhattisgarh and Odisha.

River Mahanadi is one of the major inter-state east flowing rivers in the peninsular India. During the course of its traverse, it drains fairly large areas of Chattisgarh and Odisha and comparatively very small areas in the state of Jharkhand, Maharashtra and Madhya Pradesh. The basin encompasses the area within geographical co-ordinates of 80°30′ to 86°50′ East longitudes and 19°20′ to 23°35′ of North latitudes. The total catchment area of the basin is 1,41,600 sq. km. The basin is physically bounded in the north by Central India hills, in the south and east by the Eastern Ghats and in the west by Maikala hill range. The Chiroli Hills form the watershed dividing the Wainganga valley from the Mahanadi Basin, the upper portion of which is designated as the Chattisgarh Basin. The river Mahanadi is the largest river & lifeline of the State of Chhattisgarh and Odisha and flows through atleast 20 of Odisha's 30 districts. The Hirakud Dam on River Mahanadi is one of the world's largest earthen dams supporting agriculture across thousands of square kilometres in the state. The dam creates the Hirakud Reservoir, which plays a crucial role in flood control, irrigation, and power generation.

The Subarnarekha River, also known as the Swarnarekha River, flows through the Indian states of Jharkhand, West Bengal, and Odisha. Its journey through diverse terrains, ecological significance, and cultural resonance makes it a symbol of the region's heritage connecting Odisha to the essence of eastern India.

The Brahmani River, formed by the confluence of the Sankh and South Koel rivers, flows through several districts in Odisha. Its significance lies in providing water for irrigation, hydropower generation, and industrial use.

Similarly, other rivers like Baitarani, Rushikulya, Vansadhara, Nagabali, Burhabalanga and Sarada have great socio-economic and cultural impact on the people of eastern India. The people are dependent on the river directly and indirectly.

2. Organization set-up

2.1 Breakdown of administrative units, including circle, divisions, sub-divisions and relevant laboratories:

The organizational structure of the Mahanadi & Eastern Rivers Organisation (M&ERO), Bhubaneswar, Odisha presents a comprehensive framework aimed at efficient management and development of water resources across the region. At the helm of this structure are the Chief Engineer is the Head of the organization, Superintending Engineer is the head of the circle who oversees two field Divisions one is Eastern Rivers Division situated at Bhubaneswar and other is Mahanadi Division situated at Burla in the state of Odisha.

Each division has four subdivisions to perform different hydrological and water quality monitoring at 119 Hydrological Observation Stations. At these stations, hydrological observations and collection and compilation of data regarding Gauge (G)/ Discharge (D)/ Sediment (S)/ Water Quality (Q) are being carried out. Flood Forecasting Activities are also carried out in the all 8 subdivisions of M&ERO. There are two Level-II Water Quality Laboratories operational at Bhubaneswar, Odisha and Raipur, Chhattisgarh. .

The laboratory's role in offering one-stop solutions for water quality is essential, implying that Eastern Rivers Water Quality Laboratory, Bhubaneswar and Mahanadi Basin Rivers Water Quality Laboratory, Raipur provides a broad spectrum of services that encompass the entire process of assessing and managing water quality. Both laboratories are NABL accredited in the 14 Chemical disciplines as per ISO/IEC 17025:2017.

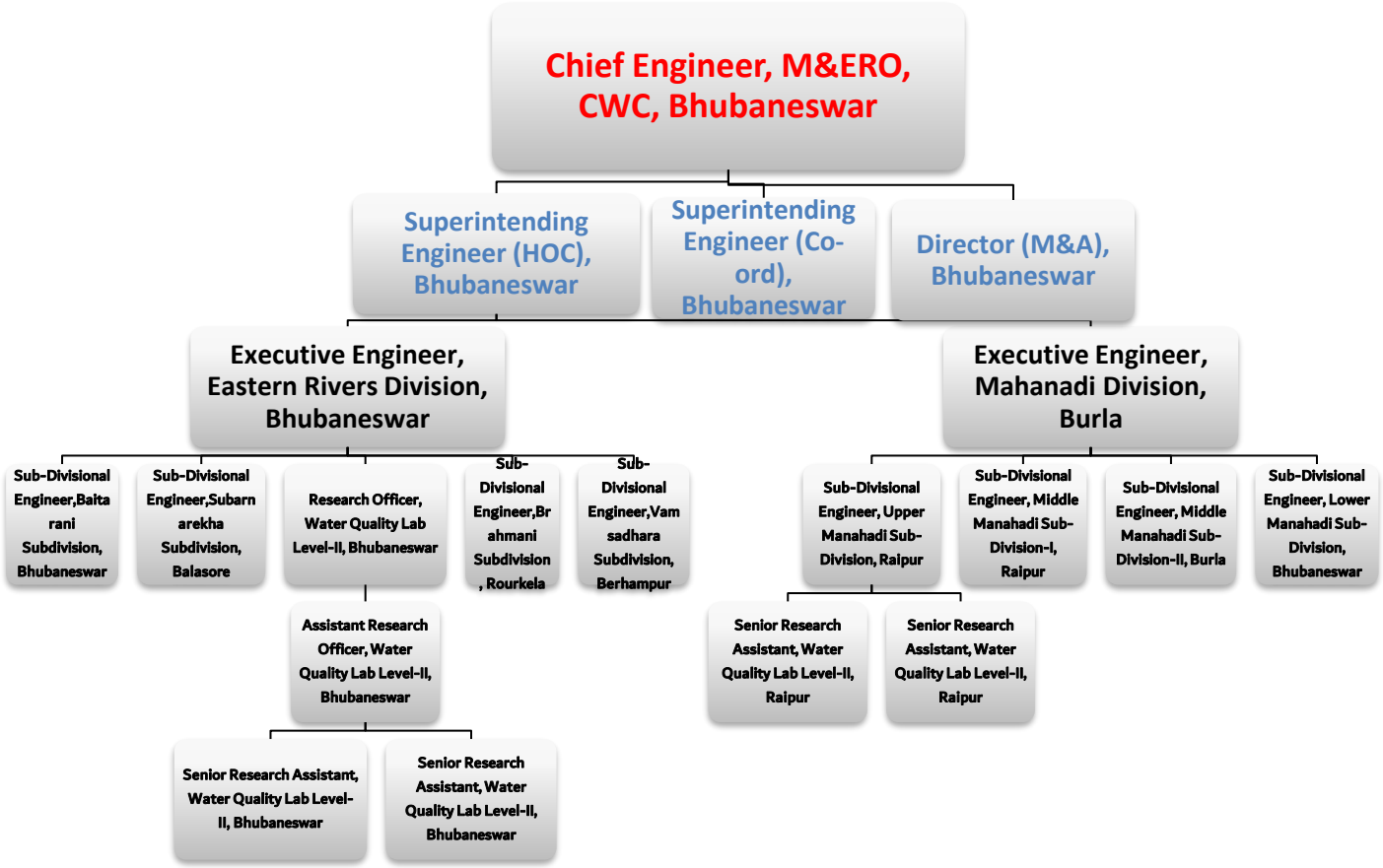


Fig 1.0 – (Organisational Structure of Mahanadi & Eastern Rivers Organisation)

2.2 Facilities of laboratory and the accreditation and roles in river water quality monitoring:

Sl. No.	Instrument Name	Used for
1	Digital Analytical Balance	Weighing chemicals
2	Digital Burette	Titration
3	Dispenser	Dispensing liquids
4	Micro-pipette	Pipetting samples, solutions etc
5	Pipette controller	To control for pipetting samples, solutions etc
6	Water Purification Unit	Preparation of purified water
7	pH meter	Analysis of pH
8	EC meter	Analysis of conductivity
9	Flame photometer	Analysis of Na, K
10	Nephelo Turbidity meter	Analysis of Turbidity, SO_4^{2-}
11	Ion Meter	Analysis of NO_3^-, F^-, NH_3
12	Spectrophotometer	Analysis of NO_2^-, SiO_4^{4-}, B, PO_4^{3-}
13	COD digester and colorimeter	Analysis of COD
14	Water Bath	Evaporation of solvent
15	BOD incubator	Incubating samples for analysis of BOD
16	Cold cabinet	Storage of samples
17	Hot Air Oven	Drying chemicals
18	Desiccator	Desiccating chemicals
19	Magnetic stirrer	Stirring solutions
20	Digital Thermo-hygrometer	Ambient temperature and humidity recording

Accreditation Status of laboratory:

Both laboratories are accredited by NABL as per the standard ISO/IEC 17025:2017.

2.2 List of water quality stations under M&ERO, CWC, Bhubaneswar & GIS Map:

The details of water quality stations monitored by M&ERO under various river basins under are as follows:

a. List of water quality stations under Mahanadi Division, CWC, Burla

Sl. No	Sampling Station	River	Latitude (Decimal)	Longitude (Decimal)	Level – 1 lab	Site Type		Sampling frequency per month	District	State
1	Andhiyarkhore	Hamp	21.83389	81.59750	Yes	GDSQ	Trend	3 times	Bemetara	Chhattisgarh
2	Bamnidih	Hasdeo	21.90861	82.71361	Yes	GDSQ	Trend	3 times	Janjgir-Champa	Chhattisgarh
3	Baronda	Pairi	20.91000	81.88806	Yes	GDSQ	Trend	3 times	Gariaband	Chhattisgarh
4	Basantpur	Mahanadi	21.72750	82.78806	Yes	GDSQ	Trend	3 times	Janjgir-Champa	Chhattisgarh
5	Boudh	Mahanadi	20.86556	84.31333	Yes	GDSQ	Trend	3 times	Boudh	Odisha
6	Gatora	Arpa	22.04861	82.22194	Yes	GDSQ	Trend	3 times	Bilaspur	Chhattisgarh

Sl. No	Sampling Station	River	Latitude (Decimal)	Longitude (Decimal)	Level – 1 lab	Site Type		Sampling frequency per month	District	State
7	Gunderdehi	Tandula	20.95389	81.29361	Yes	GDSQ	Trend	3 times	Balod	Chhattisgarh
8	Jondhra	Seonath	21.71694	82.33833	Yes	GDSQ	Trend	3 times	Bilaspur	Chhattisgarh
9	Kalma	Mahanadi	21.69472	83.27778	Yes	GDSQ	Trend	3 times	Janjgir-Champa	Chhattisgarh
10	Kantamal	Tel	20.65833	83.73194	Yes	GDSQ	Trend	3 times	Boudh	Odisha
11	Kesinga	Tel	20.19750	83.22500	Yes	GDSQ	Trend	3 times	Kalahandi	Odisha
12	Kotni	Seonath	21.23778	81.25028	Yes	GDSQ	Trend	3 times	Durg	Chhattisgarh
13	Kurubhata	Mand	21.98139	83.21056	Yes	GDSQ	Trend	3 times	Raigarh	Chhattisgarh
14	Manendragarh	Hasdeo	23.20139	82.21444	Yes	GDSQ	Baseline	3 times	Koriya	Chhattisgarh
15	Padampur	Ong	21.01583	83.10306	Yes	GDSQ	Trend	3 times	Bargarh	Odisha
16	Patharidih	Kharun	21.34111	81.59389	Yes	GDQ	Trend	3 times	Raipur	Chhattisgarh
17	Rajim	Mahanadi	20.97500	81.88111	Yes	GDSQ	Trend	3 times	Gariyaband	Chhattisgarh
18	Rampur	Jonk	21.64722	82.51611	Yes	GDSQ	Trend	3 times	Baloda Bazar	Chhattisgarh
19	Salebhata	Ong	20.98306	83.53944	Yes	GDSQ	Trend	3 times	Balangir	Odisha
20	Seorinarayan	Mahanadi	21.71833	82.59750	Yes	GDSQ	Trend	3 times	Janjgir-Champa	Chhattisgarh
21	Simga	Seonath	21.63306	81.68500	Yes	GDSQ	Trend	3 times	Baloda Bazar	Chhattisgarh
22	Sundargarh	Ib	22.11528	84.01111	Yes	GDSQ	Trend	3 times	Sundergarh	Odisha
23	Belodi	Seonath	21.23333	81.27000	No	WQSS	Trend	3 times	Durg	Chhattisgarh
24	Champa Road Bridge (CRB)	Hasdeo	22.02444	82.64194	No	WQSS	Flux	3 times	Janjgir-Champa	Chhattisgarh
25	Gatora-1	Arpa	22.09028	82.15000	No	WQSS	Trend	3 times	Bilaspur	Chhattisgarh
26	Gatora-2	Arpa	22.07139	82.18861	No	WQSS	Trend	3 times	Bilaspur	Chhattisgarh
27	Kanker	Dhudh	20.28194	81.51583	No	WQSS	Trend	3 times	Kanker	Chhattisgarh
28	Kelo	Kelo	21.88278	83.40333	No	WQSS	Trend	3 times	Raigarh	Chhattisgarh
29	Khairmal	Mahanadi	20.83056	84.00000	No	WQSS	Trend	3 times	Boudh	Odisha
30	Korba	Hasdeo	22.39361	82.70333	No	WQSS	Trend	3 times	Korba	Chhattisgarh
31	Korba-1	Hasdeo	22.34167	82.68861	No	WQSS	Trend	3 times	Korba	Chhattisgarh
32	Madhya Bharat Paper Ltd (MBPL)	Hasdeo	22.01306	82.64778	No	WQSS	Flux	3 times	Janjgir-Champa	Chhattisgarh
33	Nawapara	Mahanadi	20.96694	81.87111	No	WQSS	Trend	3 times	Gariaband	Chhattisgarh
34	Parmanpur	Bheden	21.77278	84.08167	No	WQSS	Trend	3 times	Jharsuguda	Odisha
35	Prakash Industries Ltd (PIL)	Hasdeo	21.98806	82.67028	No	WQSS	Flux	3 times	Janjgir-Champa	Chhattisgarh
36	Sarangpal	Mahanadi	20.31278	81.53222	No	WQSS	Trend	3 times	Kanker	Chhattisgarh
37	Sundergarh (Town)	Ib	22.12972	84.02361	No	WQSS	Trend	3 times	Sundergarh	Odisha
38	Swami Vivekanand Sarovar (Budha Talab)	Pond	21.2317	81.6344	No	Pond	Pond	3 times	Raipur	Chhattisgarh
39	Bandhwa talab	Pond	22.06208	82.1832	No	Pond	Pond	3 times	Bilaspur	Chhattisgarh
40	Bandha Talab	Pond	21.18606	81.26754	No	Pond	Pond	3 times	Durg	Chhattisgarh
41	Sadeipali Pond	Pond	21.49707	83.86937	No	Pond	Pond	3 times	Sambalpur	Odisha

b. List of water quality stations under ERD, CWC, Bhubaneswar

Sl. No	Sampling Station	River	Latitude (Decimal)	Longitude (Decimal)	Level – 1 lab	Site Type		Sampling frequency per month	District	State
1	Tilga	Sankh	22.62394	84.417516	Yes	GDSQ	Base	3 times	Simdega	Jharkhand
2	Jaraikela	Koel	22.32680	85.080207	Yes	GDSQ	Base	3 times	Sundergarh	Odisha
3	Panposh	Brahmani	22.23694	84.797379	Yes	GDSQ	Base	3 times	Sundergarh	Odisha
4	Panposh-I	Sankh	22.24797	84.78739	No	WQSS	Trend	3 times	Sundergarh	Odisha
5	Panposh-II	Koel	22.24949	84.797348	No	WQSS	Trend	3 times	Sundergarh	Odisha
6	R.S.P	Brahmani	22.20744	84.830233	No	WQSS	Flux	3 times	Sundergarh	Odisha
7	R.S.P-I	Brahmani	22.203966	84.827982	No	WQSS	Flux	3 times	Sundergarh	Odisha
8	R.S.P-II	Brahmani	22.203895	84.827934	No	WQSS	Flux	3 times	Sundergarh	Odisha
9	Gomlai	Brahmani	21.834171	84.912648	Yes	GDSQ	Trend	3 times	Sundergarh	Odisha
10	Talcher	Brahmani	20.918693	85.236334	Yes	GQ	Trend	3 times	Angual	Odisha
11	Nandira	Brahmani	20.889906	85.259164	No	WQSS	Flux	3 times	Angual	Odisha
12	Kamalanga	Brahmani	20.917093	85.264324	No	WQSS	Flux	3 times	Angual	Odisha
13	Bido	Brahmani	20.809571	85.345385	No	WQSS	Trend	3 times	Dhenkanal	Odisha
14	Jenapur	Brahmani	20.887745	86.011232	Yes	GDSQ	Trend	3 times	Jajpur	Odisha
15	Altuma	Raimal	20.93083	85.51914	Yes	GDSQ	Trend	3 times	Dhenkanal	Odisha
16	Bonaigarh	Brahmani	21.8069444	84.96722222	Yes	GDSQ	Base	3 times	Sundergarh	Odisha
17	Purunagarh	Brahmani	21.5263889	84.7125	Yes	GDSQ	Base	3 times	Deogarh	Odisha
18	Bolani	Brahmani	22.10531	84.8506	Yes	GDSQ	Base	3 times	Sundargarh	Odisha
19	Kulpatanga	Kharkai	22.76584	86.15912	No	WQSS	Flux	3 times	Purba Singhbhum	Jharkhand
20	Adityapur	Kharkai	22.7913889	86.17361111	Yes	GDQ	Trend	3 times	Purba Singhbhum	Jharkhand
21	Muri	Subarnarekha	22.8166667	86.21305556	Yes	GDSQ	Trend	3 times	Ranchi	Jharkhand
22	Jamshedpur	Subarnarekha	22.8155556	86.21611111	Yes	GDSQ	Trend	3 times	Purba Singhbhum	Jharkhand
23	Baridhi	Subarnarekha	22.8041722	86.26033056	No	WQSS	Flux	3 times	Paschim Singhbhum	Jharkhand
24	Lupungdhi	Subarnarekha	22..788066	86.302245	No	WQSS	Flux	3 times	Saraikela kharsawan	Jharkhand
25	Domuhani	Subarnarekha	22.83560	86.16110	No	WQSS	Flux	3 times	Purba Singhbhum	Jharkhand
26	GH.Rd.Bridge	Subarnarekha	22.59447	86.4478	No	WQSS	Flux	3 times	Purba Singhbhum	Jharkhand
27	Ghatshila	Subarnarekha	22.5805556	86.46833333	Yes	GDSQ	Trend	3 times	Purba Singhbhum	Jharkhand
28	Jamsolaghat	Subarnarekha	22.2197222	86.71666667	Yes	GDSQ	Trend	3 times	Mayurbhanj	Odisha
29	Rajghat	Subarnarekha	21.76355	87.16341	Yes	GDS	Trend	3 times	Mayurbhanj	Odisha
30	Gopiballavpur	Subarnarekha	22.2197222	86.90472222	Yes	GDSQ	Trend	3 times	Paschim Midnapur	West Bengal
31	Baripada	Burhabalanga	21.9239403	86.7175099	No	WQSS	Trend	3 times	Mayurbhanj	Odisha
32	Balighat	Burhabalanga	21.49370	86.95190	No	WQSS	Flux	3 times	Balasore	Odisha
33	Govindpur(NH-5)	Burhabalanga	21.5477778	86.91805556	Yes	GDSQ	Base	3 times	Balasore	Odisha
34	Anandapur	Baitarani	21.2111111	86.12055556	Yes	GDSQ	Trend	3 times	Keonjhar	Odisha
35	Mushal	Baitarani	21.3258	86.0401	No	WQSS	Trend	3 times	Keonjhar	Odisha
36	Kusei	Baitarani	21.35011	86.05472	No	WQSS	Trend	3 times	Keonjhar	Odisha
37	Champua	Baitarani	22.0658333	85.67333333	Yes	GDSQ	Base	3 times	Keonjhar	Odisha
38	Swampatana	Baitarani	21.6319	85.8908	No	WQSS	Trend	3 times	Keonjhar	Odisha
39	Kenduapada	Baitarani	21.6679944	85.83873056	No	WQSS	Trend	3 times	Keonjhar	Odisha

Sl. No	Sampling Station	River	Latitude (Decimal)	Longitude (Decimal)	Level – 1 lab	Site Type		Sampling frequency per month	District	State
40	Aradei	Baitarani	20.859161	86.40213889	No	WQSS	Trend	3 times	Keonjhar	Odisha
41	Keonjhar	Baitarani	21.62893	85.58169	No	WQSS	Trend	3 times	Keonjhar	Odisha
42	Indupur	Brahmani	20.60582	86.39860	No	WQSS	Trend	3 times	Kendrapara	Odisha
43	Gunupur	Vamsadhara	19.0833333	83.80555556	Yes	GDSQ	Base	3 times	Odisha	Gunupur
44	Kashinagar	Vamsadhara	18.8483333	83.87305556	Yes	GDSQ	Base	3 times	Gajapati	Odisha
45	Gudari	Vamsadhara	19.346962	83.781548	No	WQSS	Base	3 times	Rayagada	Odisha
46	Srikakulam	Nagavalli	18.3133333	83.88416667	Yes	GDSQ	Base	3 times	Srikakulam	Andhra Pradesh
47	Meliaputty	Mahendratanaya	18.77519	84.17058	No	WQSS	Trend	3 times	Srikakulam	Odisha
48	Purashottampur	Rushikulya	19.5166667	84.88333333	Yes	GDSQ	Base	3 times	Ganjam	Odisha
49	Sorada	Rushikulya	19.7594556	84.45034722	No	WQSS	Base	3 times	Ganjam	Odisha
50	Madhabarida	Rushikulya	19.85306	84.62639	No	WQSS	Base	3 times	Ganjam	Odisha
51	Anakapali	Sorada	17.68886	82.99631	No	WQSS	Base	3 times	Visakhapatnam	Andra Pradesh

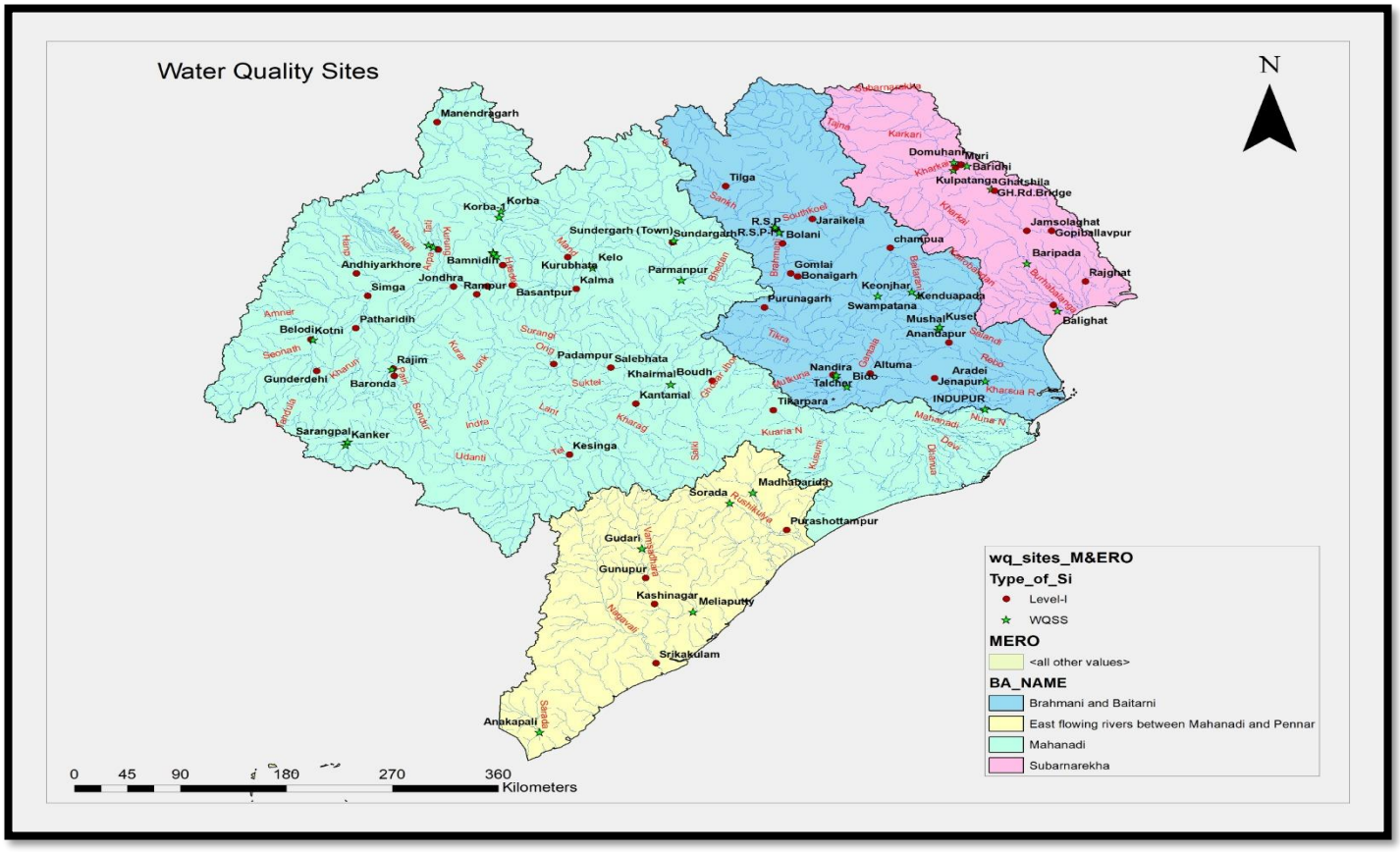


Fig- 2.0 (Basin Map of Mahanadi & Eastern Rivers Division)

3.0 Rivers and their tributaries

3.1 Highlighting key characteristics of rivers and tributaries:

3.1.1 Mahanadi River:

River Mahanadi originates at an elevation of about 442 meter above mean sea level near Pharsiya village near Nagri town in Kanker district of Chattisgarh. The hills in this region are an extension of the Eastern Ghats and serve as the source for several other streams that eventually join the Mahanadi. For the initial 100 kilometers (approx) of its upper course, the river flows northward, draining the Raipur district and touching the eastern portions of Raipur city. During this stretch, the Mahanadi is relatively narrow, with a valley width not exceeding 500–600 meters. After being joined by the Seonath River, the Mahanadi changes its course to flow eastward. It continues its journey through the remaining part of its course, eventually reaching the Bay of Bengal. The river passes through cities such as Rajim, Sambalpur, Cuttack, Sonepur, Kantilo, Boudh, Banki, and Paradeep. Total length of the river from its origin to outfall into the Bay of Bengal is about 851 km out of which 357 km is in Chhattisgarh and the balance 494 km in Odisha. During its traverse, a number of tributaries join the river on both the banks. Hirakud Dam is situated on river Mahanadi. Hirakud Dam was India's first major multipurpose river valley project after gaining independence in 1947. It is the longest earthen dam in the world. The catchment of river Mahanadi upstream of Hirakud reservoir has an area of 83,400 km². The major tributaries in this reach are Seonath, Ib, Pairi, Jonk, Hasdeo and Mand. The catchment downstream of Hirakud reservoir has an area of 58,200 km². The major tributaries in this reach are Tel and Ong. Though, the catchment area of downstream portion is less than that of the catchment upstream of Hirakud reservoir, it has been seen that the contribution of downstream area to the total flood in Mahanadi is equally significant.

- The three major tributaries, namely Seonath and Ib on the Left Bank and Tel on the Right Bank, together constitute nearly 46.63 % of the total catchment area of the river Mahanadi.
- Seonath, which is the largest tributary of Mahanadi, rises from an elevation of 533 meter in village Kotgai, District Durg (Chattisgarh), and drains three districts of Chattisgarh, namely, Durg, Rajnandgaon and Bilaspur.
- Tel, which is the second largest tributary of Mahanadi, rises from an elevation of 700 m in village Jorigram of Nabarangpur district of Odisha and drains five districts of Odisha, namely Nabarangpur, Kalahandi, Bolangir, Boudh and Kandhamal.
- Ib, which is the third largest tributary of Mahanadi, rises from an elevation of 762 m in village Pandrapat, District Raigarh (Chattisgarh). It drains Raigarh and Jashpur districts of Chhattisgarh, along with three districts of Odisha, namely Sundargarh, Jharsuguda and Sambalpur.

- The table below shows the details of the catchment area, length and elevation at source of the important tributaries.

Sl. No.	Name of the Important Tributary/ Sub-basin on Mahanadi	Bank	Elevation at source above msl	Length (km)	Catchment Area (sq.km)	% of Total Area
1	Mahanadi		442	851	48,230	34.1
2	Pairi	Right	488	113	3,503	2.5
3	Seonath	Left	533	383	30,761	21.7

4	Jonk	Right	762	196	3,673	2.6
5	Hasdeo	Left	915	333	9,803	6.9
6	Mand	Left	686	242	5,237	3.7
7	Ib	Left	762	251	12,447	8.8
8	Ong	Right	457	204	5.128	3.6
9	Tel	Right	700	296	22,818	16.1
			Total		**1,41,600**	**100.0**

The flow line diagram of Mahanadi River is depicted as follows:

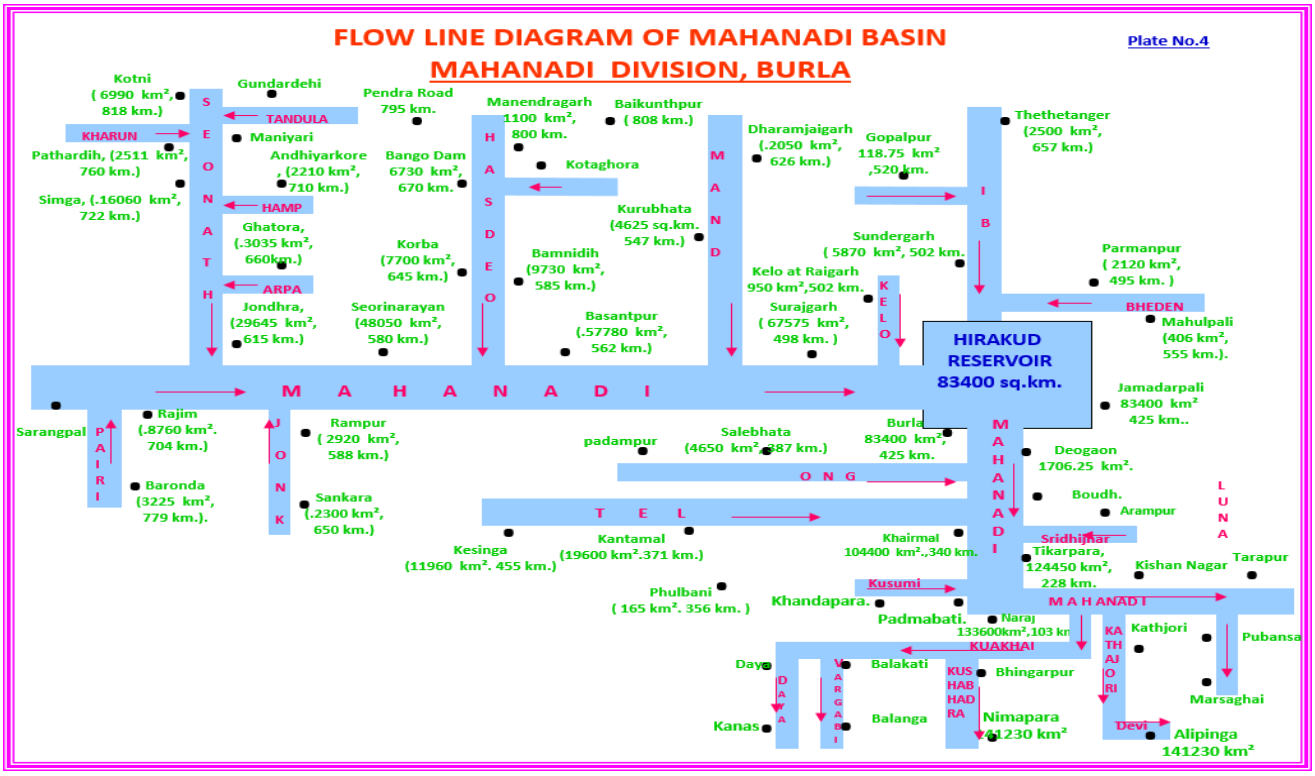


Fig- 3.0 (The flow line diagram of Mahanadi River)

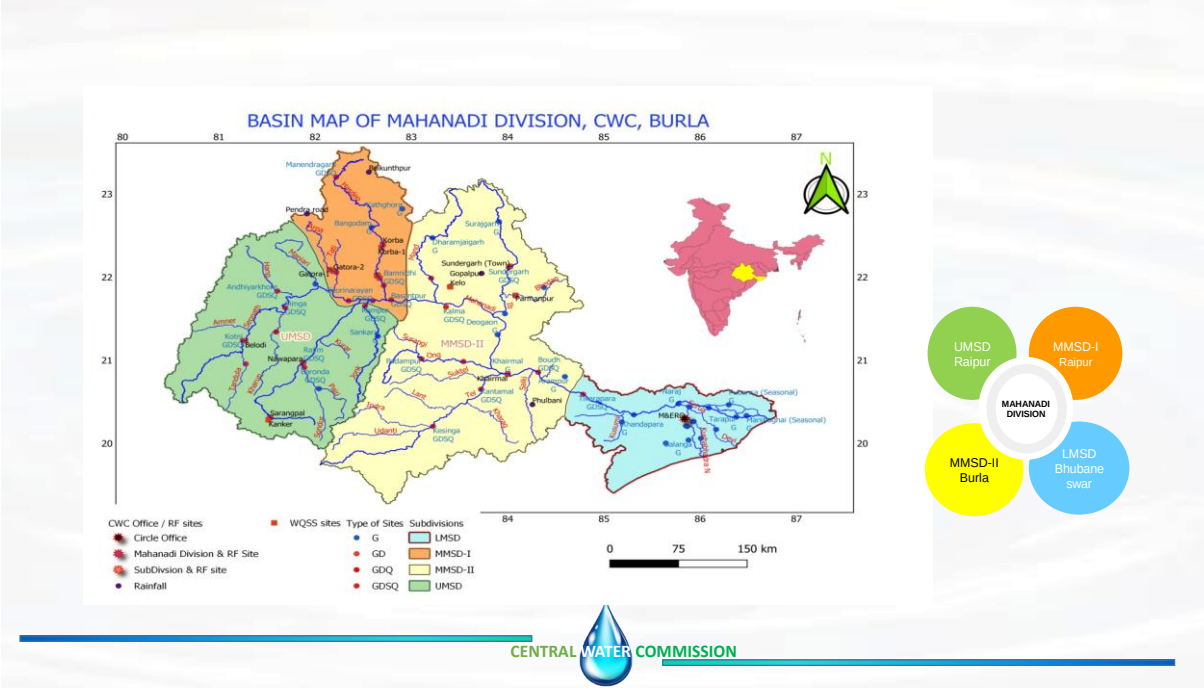


Fig- 4.0 (The basin map of Mahanadi Basin)

3.1.2 Subarnarekha River:

The Subarnarekha River, also known as the Swarnarekha River, flows through the Indian states of Jharkhand, West Bengal, and Odisha. Its name translates to "streak of gold," rooted in the legend that traces of gold were found in its riverbed. Originating near Nagri village in Jharkhand, it carves through rugged terrain, forming landmarks like the Hundru Falls. The river's basin covers 18,951 square kilometers, and its tributaries include Kharkai, Kanchi, and Dulunga.

The flow line diagram of Subarnarekha River is depicted as follows:

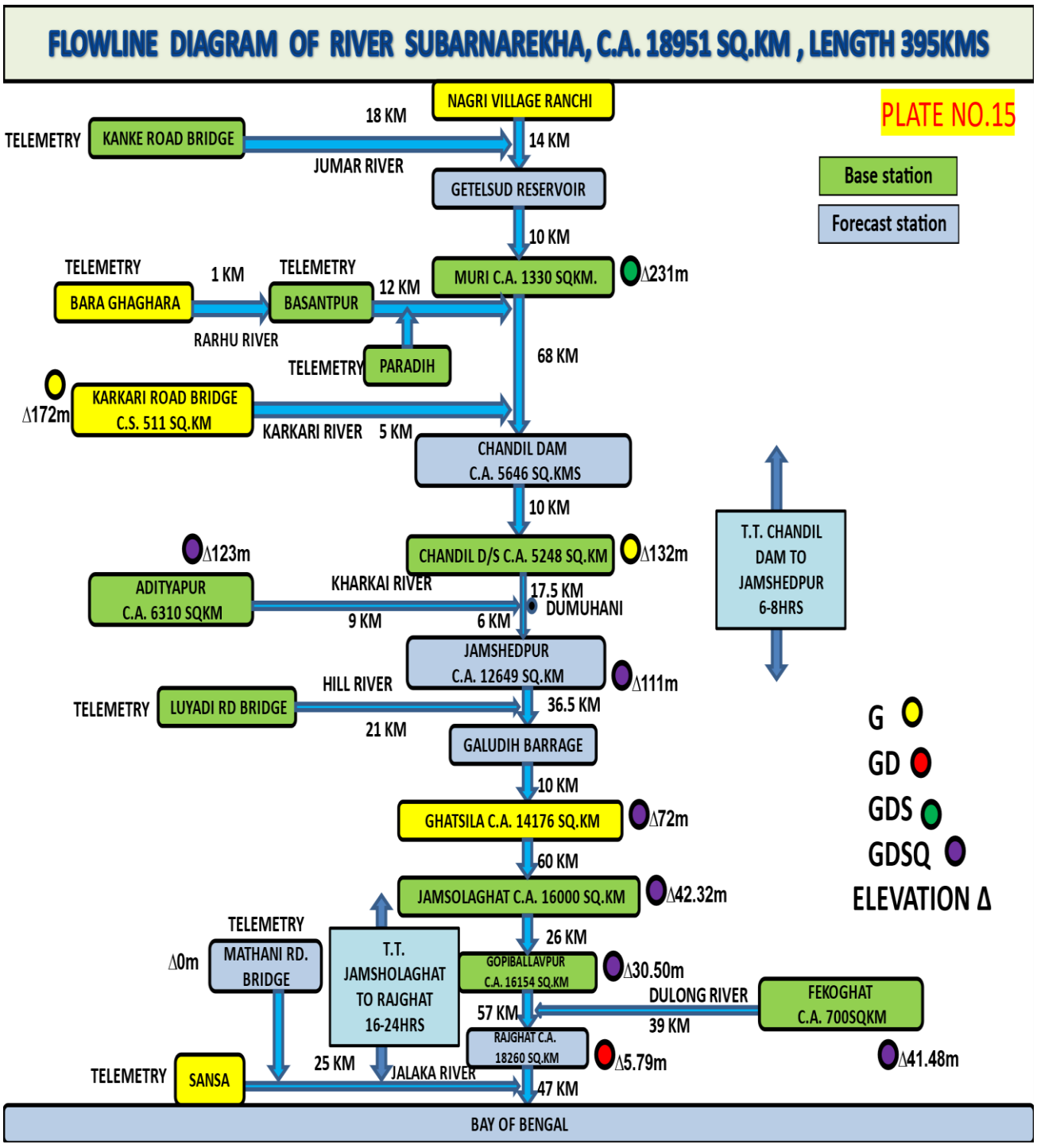


Fig- 5.0 (The flow line diagram of Subarnarekha River)

3.1.3 Brahmani River:

The Brahmani River, a major seasonal river in Odisha, India, is formed by the confluence of the Sankh and South Koel rivers. It flows through districts like Sundargarh, Deogarh, Angul, Dhenkanal, Cuttack, Jajapur, and Kendrapara.The Brahmani, along with the Baitarani River, forms a large delta before emptying into the Bay of Bengal at Dhamra.Its origins near Rourkela hold mythological significance, associated with Sage Parashara and the fisherman's daughter, Satyavati.The Brahmani River plays a vital role in Odisha's landscape, supporting agriculture, industry, and local communities.

The flow line diagram of Brahmani River is depicted as follows:

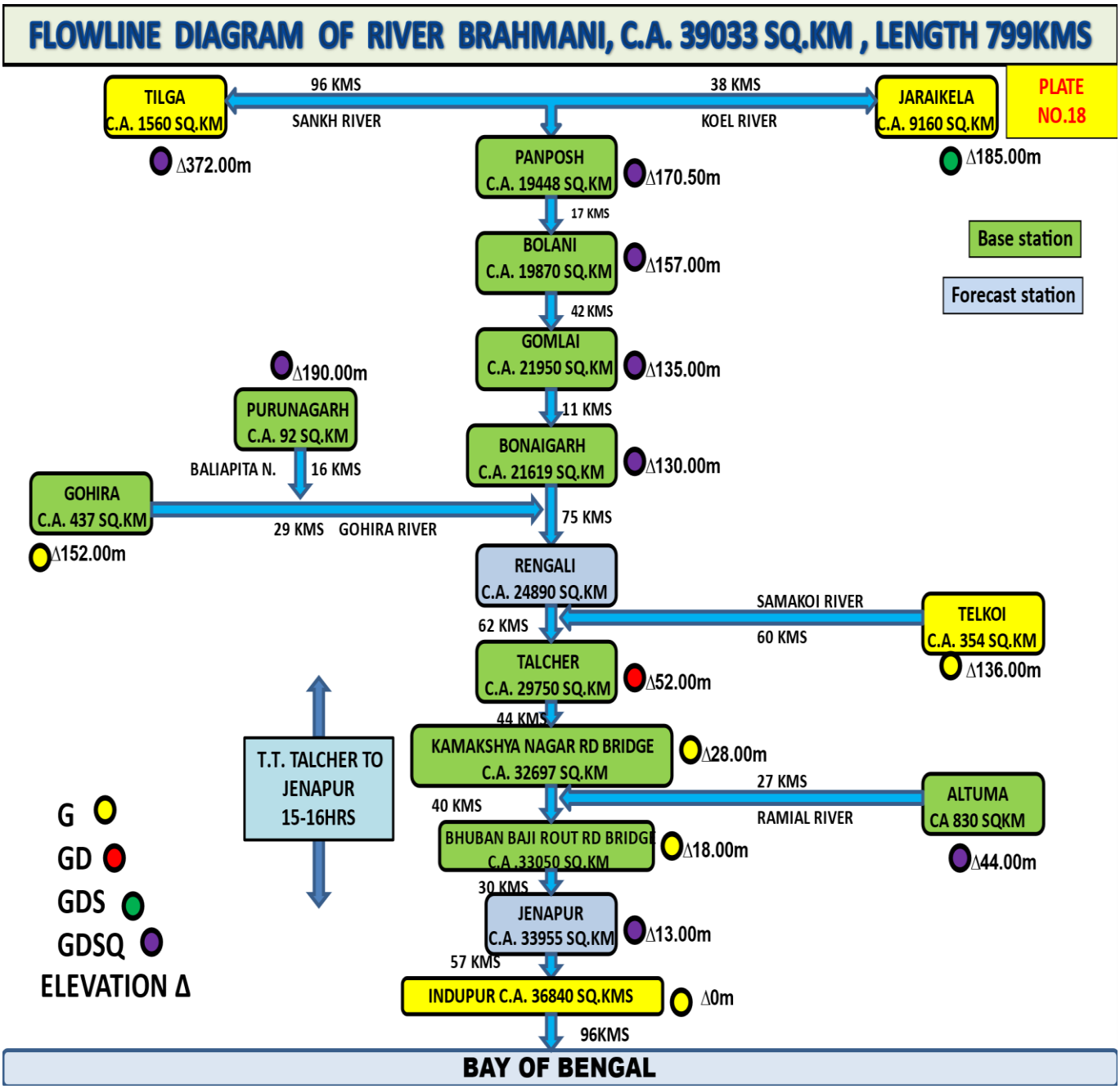


Fig- 6.0 (The flow line diagram of Brahmani River)

3.1.4 Burhabalanga River:

The Burhabalanga River, also known as the Balanga River, flows through the districts of Mayurbhanj and Balasore in the Indian state of Odisha. It originates in the Similipal hills, plunging through the Barehipani Falls, India's second-highest waterfall. The river then flows northward, passing through Baripada and eventually emptying into the Bay of Bengal.

The flow line diagram of Burhabalanga River is depicted as follows:

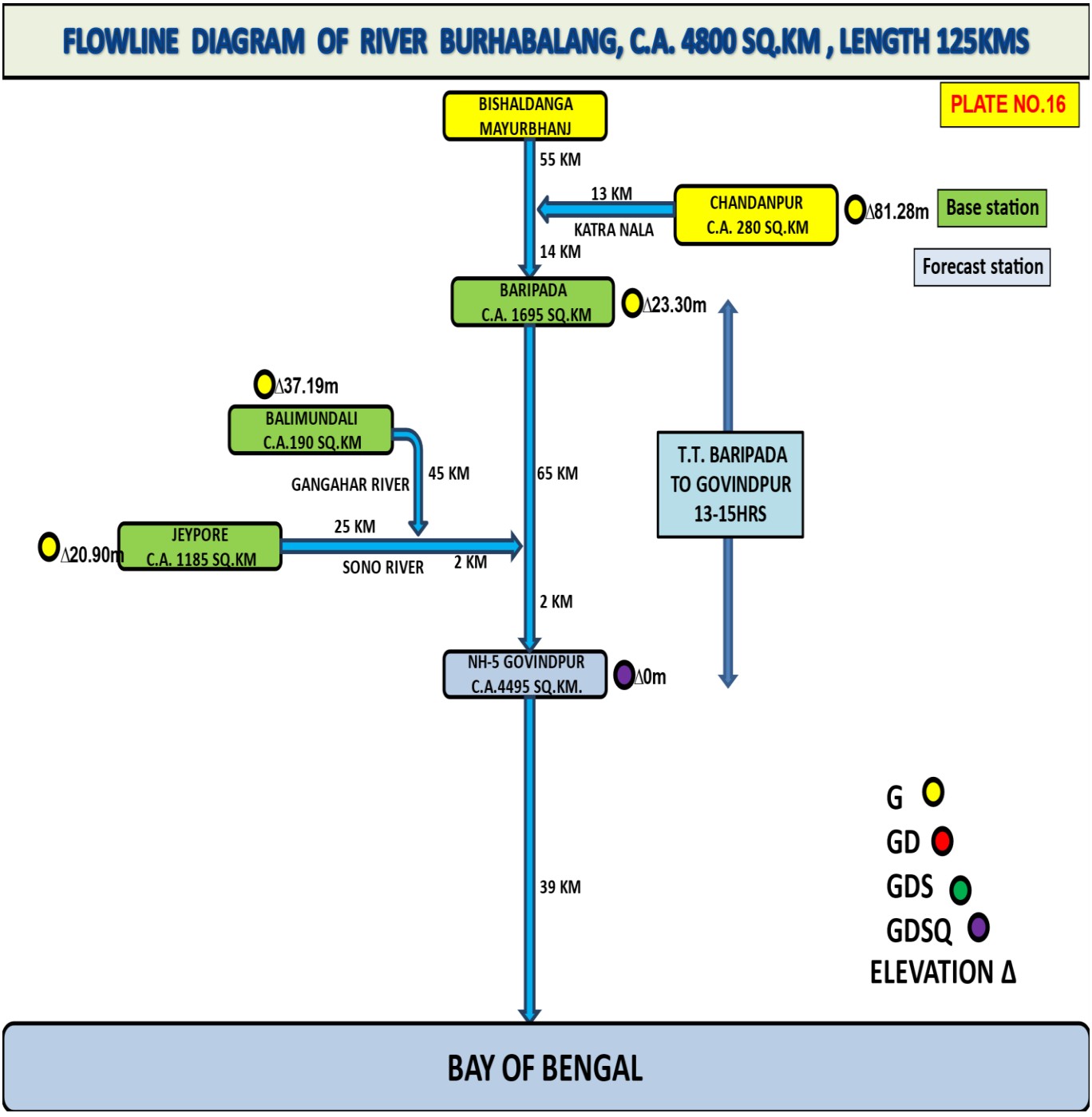


Fig- 7.0 (The flow line diagram of Burhabalanga River)

3.1.5 Rushikulya River:

The Rushikulya River is one of the major rivers in the state of Odisha, India, covering the entire catchment area in the districts of Kandhamal and Ganjam. Originating from the Rushimala Hills in Daringbadi, often called the "Kashmir of Odisha," it flows through rugged terrain.The river spans 165 kilometers, passing through towns like Surada, Asika, Brahmapur, and Chhatrapur. Notably, the Rushikulya hosts one of India's largest mass nesting sites (arribada) for olive ridley sea turtles near its mouth. Beyond its ecological significance, the Rushikulya River weaves cultural heritage and sustains local communities in the eastern region of India.

The flow line diagram of Rushikulya River is depicted as follows:

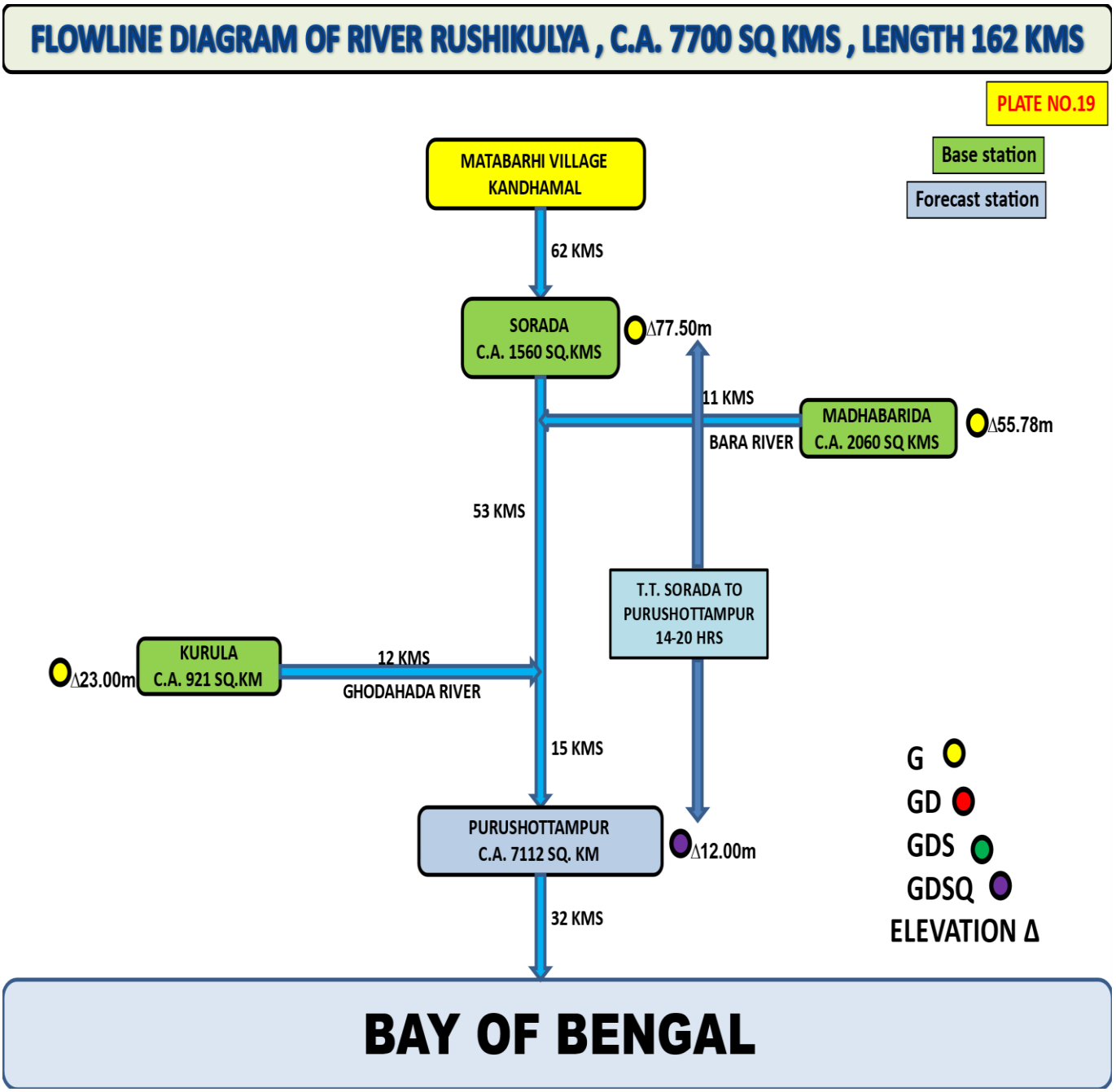


Fig- 8.0 (The flow line diagram of Rushikulya River)

3.1.6 Baitarani River

Baitarani is one of the important east flowing rivers of peninsular India, falling into Bay of Bengal. Major portion of its catchment lies in the state of Odisha and a small patch in the upper reach lies in Jharkhand. The river originates from the hill ranges of Keonjhar district of Odisha near Mankarancho village at an elevation of about 900 m. The total catchment area of this basin is 10,982 sq. km. The basin is situated approximately between East longitudes of 85°10' to 87°03' and between North latitudes of 20°35' to 22°15'. The basin is surrounded by the Brahmani basin on the south and west, the Subarnarekha basin on the north, the Burhabalang and the Bay of Bengal on the east.

The flow line diagram of Baitarani River is depicted as follows:

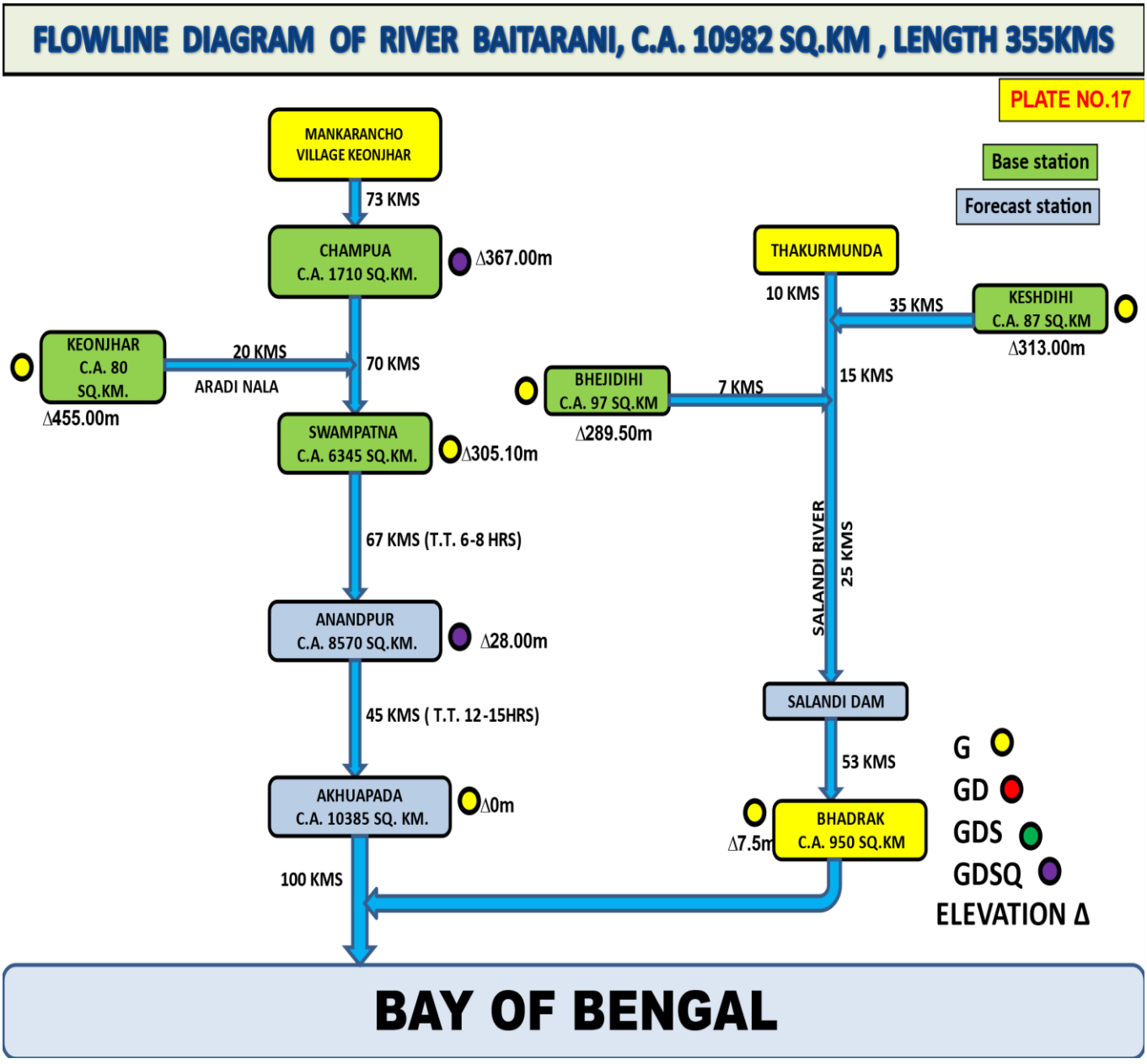


Fig- 9.0 (The flow line diagram of Baitarani River)

3.1.7 Nagavali River

River Nagavali is a medium sized east flowing river in peninsular India and lies within the geographical co-ordinates of North latitude 18°10 ′to 19°44′ and East longitudes of 82 °53′ and 84 °05′. It originates near the Lakhbahal village in Kalahandi district (Odisha) at an elevation of about 1300 m. The total length of the river run is 256 km. It is surrounded by Vamsadharabasin in the North, Champavathi and Peddagedda basins in the South, Godavari basin in the West and the Bay of Bengal in the East. It drains parts of the districts of Kalahandi, Rayagada, Koraput of State and Srikakulam, Vijayanagaram and Visakhapatanam of Andhra Pradesh State.

The flow line diagram of Nagavali River is depicted as follows:

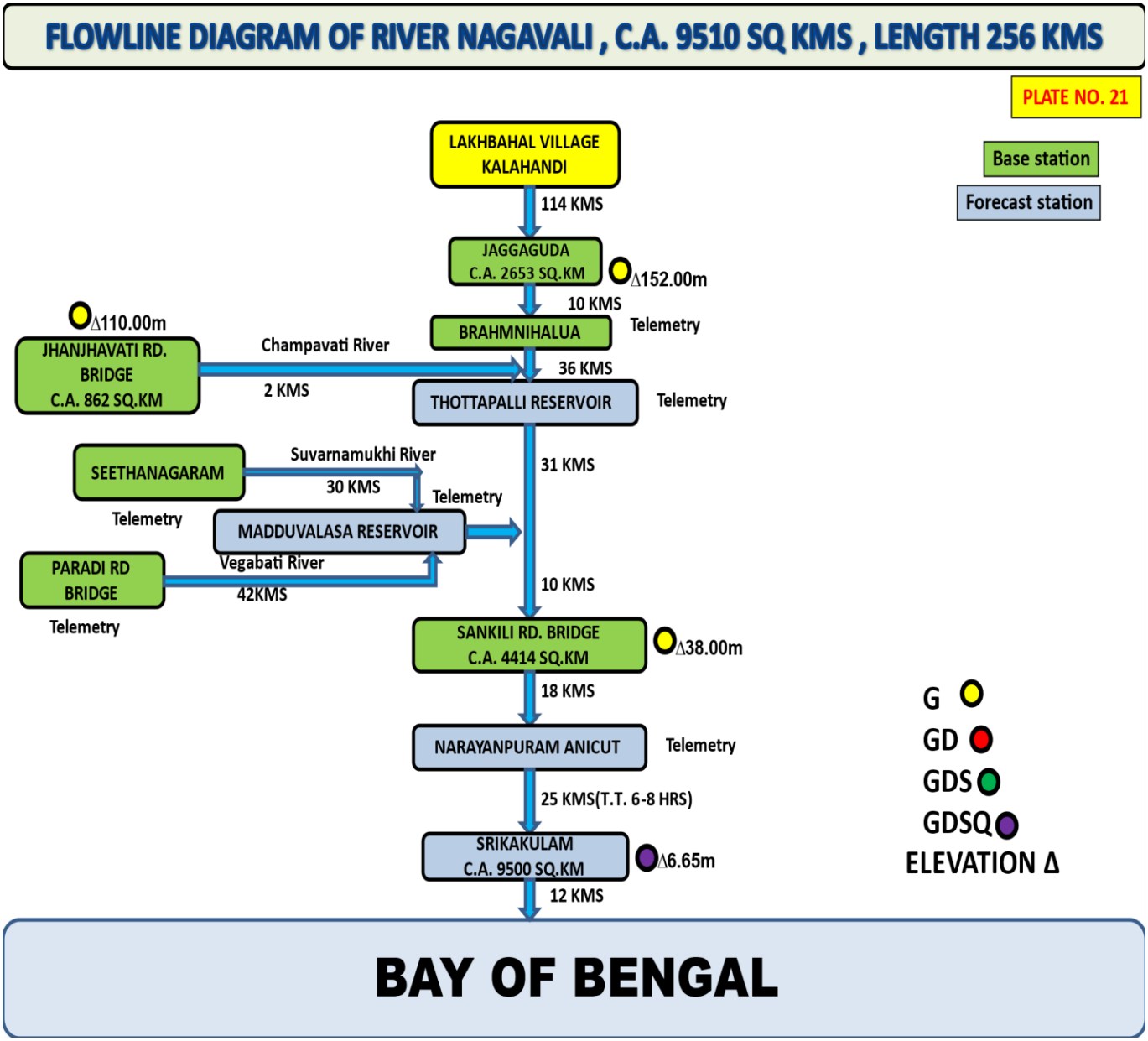


Fig-10.0 (Flowline diagram of the Nagabali River)

3.1.8 Vamsadhara River

Vamsadhara River is an important east flowing river between Mahanadi and Godavari basins. The river originates near Lanjigarh village in Kalahandi district and runs for a total distance of about 254 km before it joins the Bay of Bengal at Kalingapatnam (Andhra Pradesh). The basin is narrow and undulated. It is situated within the geographical co-ordinates of 18°15′ to 19°55′ north latitudes and 83°20′ to 84°20′ east longitudes. The total catchment area of this basin works out to 10830 sq. km.

The flow line diagram of Vamsadhara River is depicted as follows:

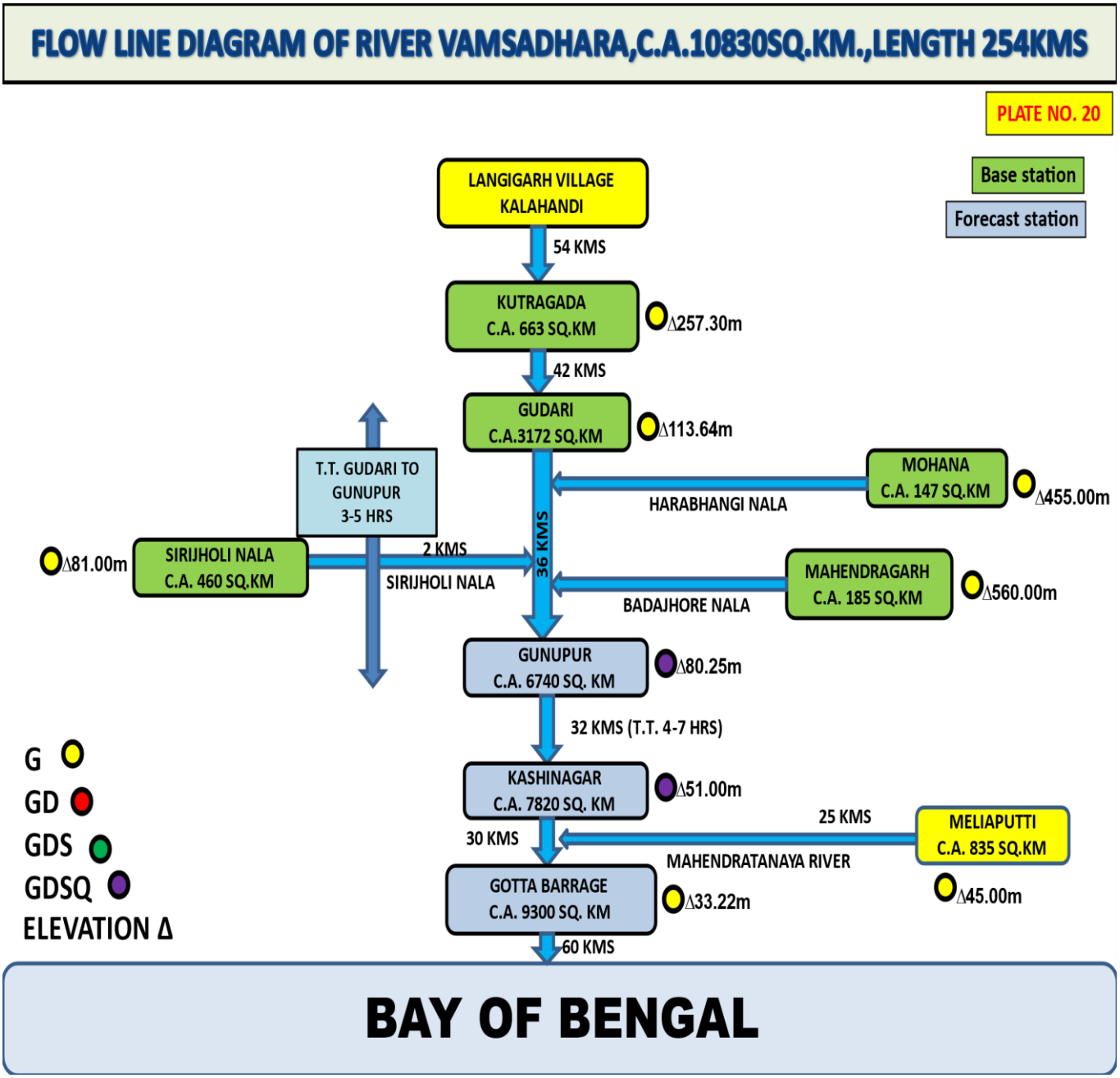


Fig-11.0 (Flowline diagram of the Vamsadhara River)

3.1.9 Sarada River

The Sarada River flows through Visakhapatnam district in Andhra Pradesh, India. It runs eastwards for 122 kilometers, joining the Bay of Bengal. The basin is surrounded by the Nagavali River in the north, the Bay of Bengal in the south, and the Machhkund sub-basin of the River Godavari in the west. Notably, it hosts historical Buddhist cave monastery remains near Anakapalli and serves as a major base for irrigation in the region.

The flow line diagram of Sarada River is depicted as follows:

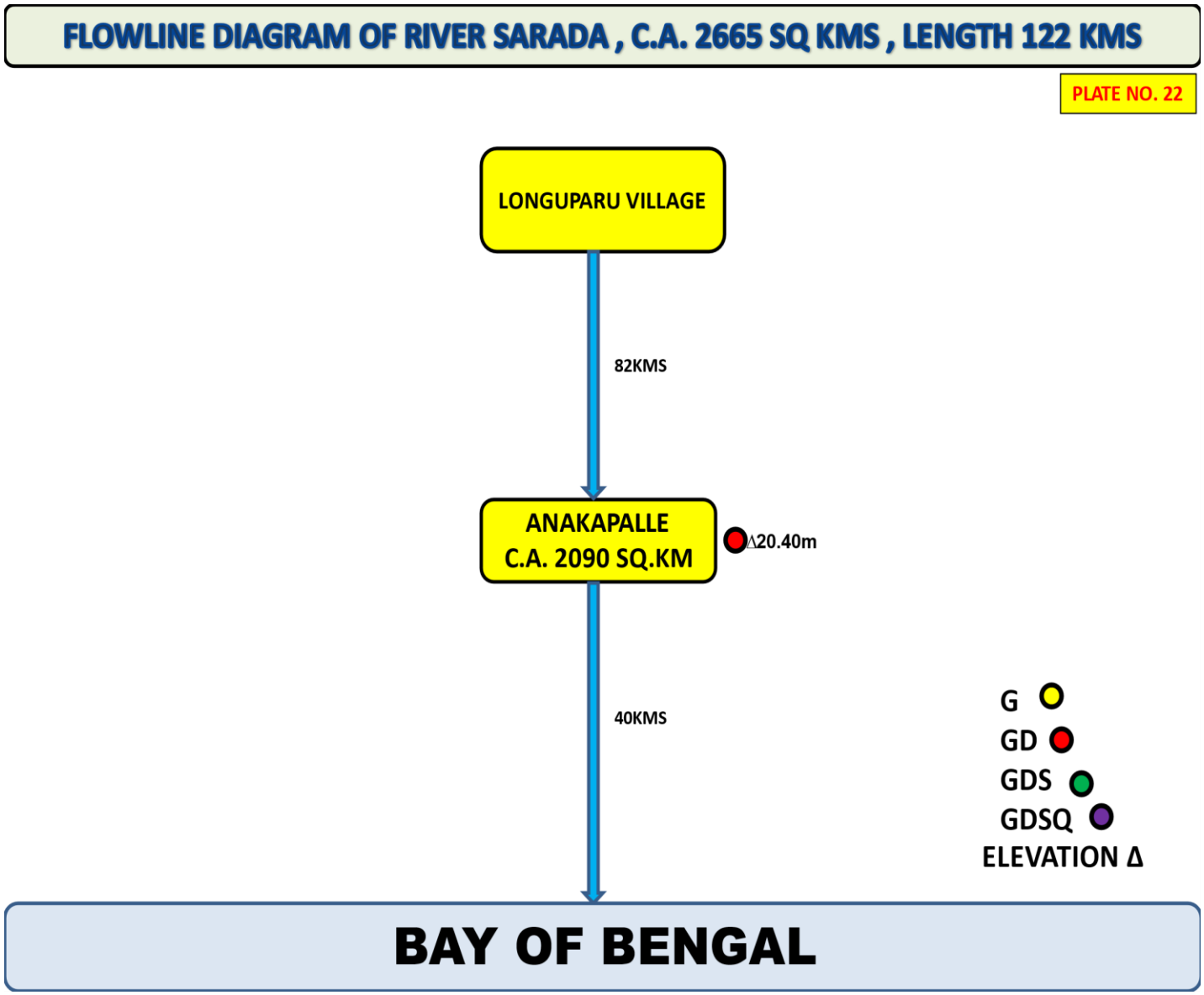


Fig-12.0 (Flowline diagram of the Sarada River)

4. Water Quality parameters, standards, sample collection and methodology:

4.1 Importance of Water Quality parameters:

Water in its chemically pure form occurs rarely in nature. In fact, water is commonly found to carry a variety of constituents. When water in its precipitate form reaches the surface of the earth, it has already collected a number of substances and properties that characterise natural water. Gases have been absorbed or dissolved, dust particles have been picked up, and it has obtained a certain temperature. In case of a high radioactive washout or high acidity pickup, atmospheric water may not even be clean in the general sense and may not be suitable for some uses.

Atmospheric water is subject to further changes of quality both upon reaching the earth's surface and during its travel underground. The ability to dissolve salts is gained in the topsoil where carbon-dioxide is released by bacterial action on organic matter. The soil water becomes charged with carbon-dioxide resulting in formation of carbonic acid. Under the acidic conditions that develop many soil and rock constituents are dissolved.

Humans' influence on the quality of water is quite apparent and is now a major concern. Mixing with municipal and industrial waste waters may result in drastic changes in the water quality of natural waters. Agriculturally oriented activities such as irrigation, use of fertiliser, pesticides, herbicides, etc., may lead to diffuse pollution of both surface waters and groundwater. Irrigation return waters also tend to increase total salt in the receiving water. Construction schemes, such as those connected with river training, flood control, low flow augmentation, etc., considerably influence the quality regime. Mining activities often cause substantial water quality changes.

There is a great range of water quality parameters that can be used to characterise water. Largely, the water quality measurement objectives and the previous history of the water body will determine selection of parameters. It is true, however, that some parameters are of special importance and deserve frequent attention.

The number of parameters monitored in river water quality assessments varies depending on the specific objectives, regulatory requirements, and environmental conditions of the river system. However, typically, multiple parameters are measured to comprehensively evaluate water quality. These parameters can be broadly categorized into physical, chemical, and biological indicators.

In Mahanadi & Eastern Rivers Organization, CWC, Bhubaneswar currently monitoring 06 water quality parameters like 1. Temperature 2. Colour 3. Electrical Conductivity 4. Electrical Conductivity / TDS 5. pH 6. Dissolved Oxygen (DO) in its 46 Level-I laboratories and 23 water quality parameters like 1. Temperature 2. pH 3. Electrical Conductivity 4. Total Dissolved Solids (TDS) 5. Turbidity 6. Sodium 7. Calcium 8. Magnesium 9. Potassium 10. Carbonate 11. Bicarbonate 12. Chloride 13. Sulphate 14. Fluoride 15. Boron 16. Silicate 17. Ammonia (Nitrogen) 18. Nitrate 19. Nitrite 20. Phosphate 21. Dissolved Oxygen (DO) 22 Biochemical Oxygen Demand (BOD) 23. Chemical Oxygen Demand (COD) in its 02 Level-II laboratories situated at Bhubaneswar and Raipur.

Sl. No.	Parameter	Parameter Importance
1.	Temperature	It depends on location, season and time of the day. Warm water environment along with organic pollution, would lead to a greater stress on the oxygen resources of the stream.
2.	pH	It reflects the capacity of a water sample to neutralize acid or alkalinity, respectively.
3.	Conductivity	It may serve as an approximate index of the total content of dissolved substances in water samples
4.	TDS	It is approximately equal to the total content of dissolved substances in a water sample. Surface evaporation in arid climates and agricultural return waters increase the TDS considerably.
5.	Turbidity	It interferes to the passage of light or scattering of light by suspended particles in a column of water. It is directly proportional to the Photosynthesis process in the aquatic ecosystem.
6.	Calcium as Ca	It is an important determinant of water hardness. Hardness is primarily a function of the geology of the area with which the surface water is associated
7.	Magnesium as Mg	
8.	Sodium	To maintain blood pressure, control fluid levels and for normal nerve and muscle function
9.	Potassium	Its role in nerve stimulus, muscle contractions, blood pressure regulation and protein dissolution
10.	Carbonate	It is an important determinant of water alkalinity. Alkalinity is needed to ensure pH remains in the optimal range.
11.	Bi-carbonate	
12.	Chloride as Cl -	It is considered to be an essential nutrient for human health
13.	Sulphate as SO4	Sulfur is an essential plant nutrient. Aquatic organisms utilize sulfur and reduced concentrations have a detrimental effect on algal growth
14.	Fluoride as F	It helps to rebuild and strengthen the tooth's surface, or enamel
15.	Phosphorous, Orthophosphate as O-PO4-P	It is an important mineral for both human and for plant.
16.	Nitrate-N	Both are plant nutrients and help for the plant growth.
17.	Nitrite-N	
18.	Boron	It is a structural component of plant cell walls and is required for plant growth, pollination, and seed formation
19.	Silica	It can cause significant problems for industries, primarily in boiler and steam applications. High pressures and high temperatures cause silica deposits on boiler tubes and heat exchangers

20.	Ammonia-N	It is the preferred nitrogen-containing nutrient for plant growth. Ammonia can be converted to nitrite (NO2) and nitrate (NO3) by bacteria, and then used by plants
21.	Dissolved Oxygen	It is essential for the survival of fish and other aquatic organisms. Oxygen dissolves in surface water due to the aerating action of winds. Oxygen is also introduced into the water as a by product of aquatic plant photosynthesis
22	Biological Oxygen Demand	It indicates the amount of organic pollution present in an aquatic ecosystem. It determines the amount of organic matter present in soils, sewages, sediment, garbage, sludge, etc.
23.	Chemical Oxygen Demand	It is widely used as a measure of the susceptibility to oxidation of the organic and inorganic materials present in water bodies and in the municipal and industrial wastes.
24.	Total Coliform	In general, coliform bacteria do not pose a large risk to human health, but they are a good indicator of general water safety. If high amounts of coliform bacteria are found in a water sample, it is likely that disease-causing pathogens such as viruses, parasites, and other types of bacteria are also present.
25.	Fecal Coliform	

4.2 Water Quality Standards

4.2.1 Water quality criteria define the different standards, drinking, bathing and irrigation by various agencies i.e. CPCB, Classification (A, B, C, D, E) and their corresponding criteria for river water quality assessment:

The river water quality monitoring is most essential aspect of restoring the water quality. One of the main objectives of the river water quality monitoring is to assess the suitability of river water for drinking purposes, irrigation, outdoor bathing and propagation of wildlife, fisheries. The physical and chemical quality of river water is important in deciding its suitability as a source of drinking water after treatment/bathing etc. As such the suitability of river water for potable uses with regard to its chemical quality has to be deciphered and defined on the basis of some vital characteristics of the water. River water quality is very important for aspect in India. The physicochemical parameters like pH, Electrical Conductivity (EC), Fluoride (F-), Ammonia as N (NH3-N), Nitrate as N (NO3--N), Chloride (Cl-), Total Hardness (TH), Boron (B), Sodium Adsorption Ratio (SAR), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Total Coliform (TC) and Faecal Coliform (FC) are important constituents defining the quality of river water in surface water.pH, Electrical Conductivity (EC), Ammonia as N (NH3-N), Boron (B), Sodium Adsorption Ratio (SAR), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD) and Total Coliform (TC) parameters are done based on Class B, D & E of Designated best uses of water by Central Pollution Control Board (CPCB). In addition to above parameters, hotspots identification in Indian River with respect to Fluoride (F^{-}), Nitrate as N (NO3--N) , Chloride (Cl-), Total Hardness (TH) parameters are done based on BIS (Bureau of Indian Standards) IS 10500: 2012 for drinking water as a benchmark in absence of any standard for these parameters for drinking waters. Faecal Coliform (FC) is based on the Primary Water Quality Criteria for Bathing Water mentioned in the Ministry of Environment, Forest and Climate Change (MoEFCC) Gazette Notification, 2000.

Designated Best Uses of Water

Designated Best Use	Class	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	1.Total Coliforms Organism MPN/100ml shall be 50 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 6mg/l or more 4. Biochemical Oxygen Demand 5 days 20 °C, 2mg/l or less
Outdoor bathing (Organised)	B	1.Total Coliforms Organism MPN/100ml shall be 500 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 5mg/l or more 4. Biochemical Oxygen Demand 5 days 20 °C, 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	1. Total Coliforms Organism MPN/100ml shall be 5000 or less 2. pH between 6 and 9 3. Dissolved Oxygen 4mg/l or more 4. Biochemical Oxygen Demand 5 days 20 °C, 3mg/l or less
Propagation of Wild life and Fisheries	D	1. pH between 6.5 and 8.5 2. Dissolved Oxygen 4mg/l or more 3. Free Ammonia (as N) 4. Biochemical Oxygen Demand 5 days 20 °C, 2mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	1. pH between 6.0 and 8.5 2. Electrical Conductivity at 25 °C micro mhos/cm, maximum 2250 3. Sodium absorption Ratio Max. 26 4. Boron Max. 2mg/l
	Below-E	Not meeting any of the A, B, C, D & E criteria

Source: CPCB

4.2.2 Water Quality Standards for Drinking Water as per IS 10500:2012:

The maximum permissible limit for different physico-chemical parameters for drinking water is given in IS 10500:2012 which is tabulated below:

DrinkingWaterIS10500: 2012			
Sl. No.	**Parameters**	**Acceptable Limit**	**Permissible Limit**
1.	pH	6.5 to 8.5	No relaxation
2.	TDS(mg/L)	500	2000
3.	Turbidity(NTU)	1	5
4.	Calcium as Ca (mg/L)	75	200
5.	Magnesium as Mg (mg/L)	30	100
6.	Chloride as Cl^-(mg/L)	250	1000
7.	Sulphate as SO4 (mg/L)	200	400
8.	Fluoride as F (mg/L)	1	1.5
9.	Hardness as CaCO3 (mg/l)	200	600
10.	Alkalinity as CaCO3 (mg/l)	200	600

4.3 Sample collection and transportation:

4.3.1 Collection methodology and transportation:

All samples are collected and transported to level-II and III laboratories by staffs of level-I laboratories. Different techniques are used for different type of sample collection as per the CWC mandates and other SOPs (APHA- 24th Edition 2023, Brown et al 1994). A single grab sample at each station is collected on the scheduled dates at 30 cm below the water surface at the discharge measuring section from the stream. The water samples are collected by level-1 laboratory staffs in polythene bottles of one liter capacity and in 300 ml BOD glass bottles thrice in every month on the sample collection date. The water samples collected in polythene bottles are used for the analysis of physico chemical parameters and the water sample collected in the BOD glass bottle is used for the analysis of Biological parameter (DO &BOD). The samples are transported in sealed packs to the respective laboratories with a minimum loss of time to ensure that they reach the laboratories as soon as possible after collection. The parameters like pH, dissolved oxygen, alkalinity and ammonia are analyzed immediately soon after the receipt of samples in laboratory. Afterwards, they are preserved at 4 degree C in the cold cabinet for analysis of other parameters within the prescribed time limits. For heavy metal analysis, the water samples are collected in polypropylene bottles. These bottles are previously conditioned with 6N nitric acid (HNO3) and cleaned with detergents, washed with distilled water followed by rinsing with 1:1 v/v nitric acid to avoid metal absorption on surface of the sampling bottles. In the laboratory samples are immediately acidified with 6N nitric acid to prevent oxidation of metals (Brown et al 1994) for heavy metal analysis.

4.3.2 Sample container:

The sample containers needed for a sampling campaign are prepared by the laboratory and given to the person collecting samples. An overview of the types of containers and preservation in the tabular format given below:

	Analysis	Container	Volume (mL)	Preservation
0	on site analysis	PE bowl or container	±200	-
1	General (SS, TDS, major ions, chlorophyll-a)	Glass, PE	1000	-
2	COD, NH3, NO2-+NO3-	Glass, PE	500	H_2SO_4, pH <2
3	P	Glass	100	-
4	DO	special BOD bottle	300	DO fixing
5	BOD	Glass, PE	1000	4°C, Dark
6	Coliforms	Glass, PE, Sterilised	300	4°C, Dark
7	Heavy metals (Cd, Zn)	Glass, PE	500	HNO_3, pH <2
8	Mercury	Glass	1000	HNO_3, pH <2
9	Pesticides	Glass, Teflon	1000	4°C, Dark

4.3.3 Quantity of Sample being collected:

Samples for physico-chemical & metal analysis have been collected separately as the method of sampling and preservation is completely different from each other. The analysis of the sample started as early as possible after receiving of the sample at laboratory.
Quantity of sample for General Analysis: 2 litres in PE bottle (non-acidified).
Quantity of sample for BOD Analysis: 300 ml in glass bottles (two nos.).
Quantity of sample for Ammonia & COD Analysis: 250 ml in amber glass bottles (one no.).

4.3.4 Sample Preservation:

As a general rule, all water quality samples have been stored at a temperature below 4 ℃ and in the dark as soon after sampling as possible. In the field, this usually means placing them in an insulated cool box together with ice or cold packs. Once in the laboratory, samples should be transferred as soon as possible to cooling cabinets. Cooling serves the purpose of reducing the reaction rate of all bio-chemical reactions taking place in the sample and thus slowing down undesired changes in the quality of the sample. When a sample is being collected for dissolved oxygen analysis by the 'Winkler' method, it is important that, because the dissolved oxygen concentration in the sampling bottle can change rapidly from its original value, the sample is chemically 'fixed'. This ensures that the dissolved oxygen concentration determined is as near as possible to that which prevailed in the water body. Chemical fixing of dissolved oxygen is carried out by adding 1 ml of manganous sulphate solution and 1 ml of alkaline iodide-azide solution to 300 mL water sample and mixing. The analytical determination may then be carried out up to 8 hours later with no loss of accuracy. If samples collected for chemical oxygen demand (COD) analysis cannot be determined the same day they are collected they should be preserved below pH = 2 by addition of concentrated sulphuric acid. This procedure should also be followed for samples for ammonical nitrogen and total oxidised nitrogen analysis.

4.4 Water Quality parameters and analysis methodology:

Sl. No.	Parameter Name	Unit	Method of testing
1	Temperature	ºC	2550 B. Laboratory And Field Methods (APHA)
2	pH	Unitless	4500-H^+ B. Electrometric Method (APHA)
3	Electrical Conductivity	µS/cm	2510 B. Laboratory Method (APHA)
4	Total Dissolved Solid	mg/L	Gravimetric Methods
5	Turbidity	NTU	2130 B. Nephelometric Method (APHA)
6	Calcium as Ca^{2+}	mg/L	3500-Ca B. EDTA Titrimetric Method (APHA)
7	Magnesium as Mg^{2+}	mg/L	3500-Mg B. Calculation Method (APHA)
8	Sodium as Na^+	mg/L	3500-Na. Flame Emission Photometric Method (APHA)
9	Potassium as K^+	mg/L	3500-K B. Flame Photometric Method (APHA)
10	Carbonate as CO_3^{2-}	mg/L	2320 B. Titration Method (APHA)
11	Bi-carbonate as HCO_3^-	mg/L	2320 B. Titration Method (APHA)
12	Chloride as Cl^-	mg/L	4500-Cl^- B. Argentometric Method (APHA)
13	Sulfate as SO_4^{2-}	mg/L	4500-SO_4^{2-} E. Turbidimetric Method (APHA)
14	Fluoride as F^-	mg/L	4500-F^- C. Ion-Selective Electrode Method (APHA)

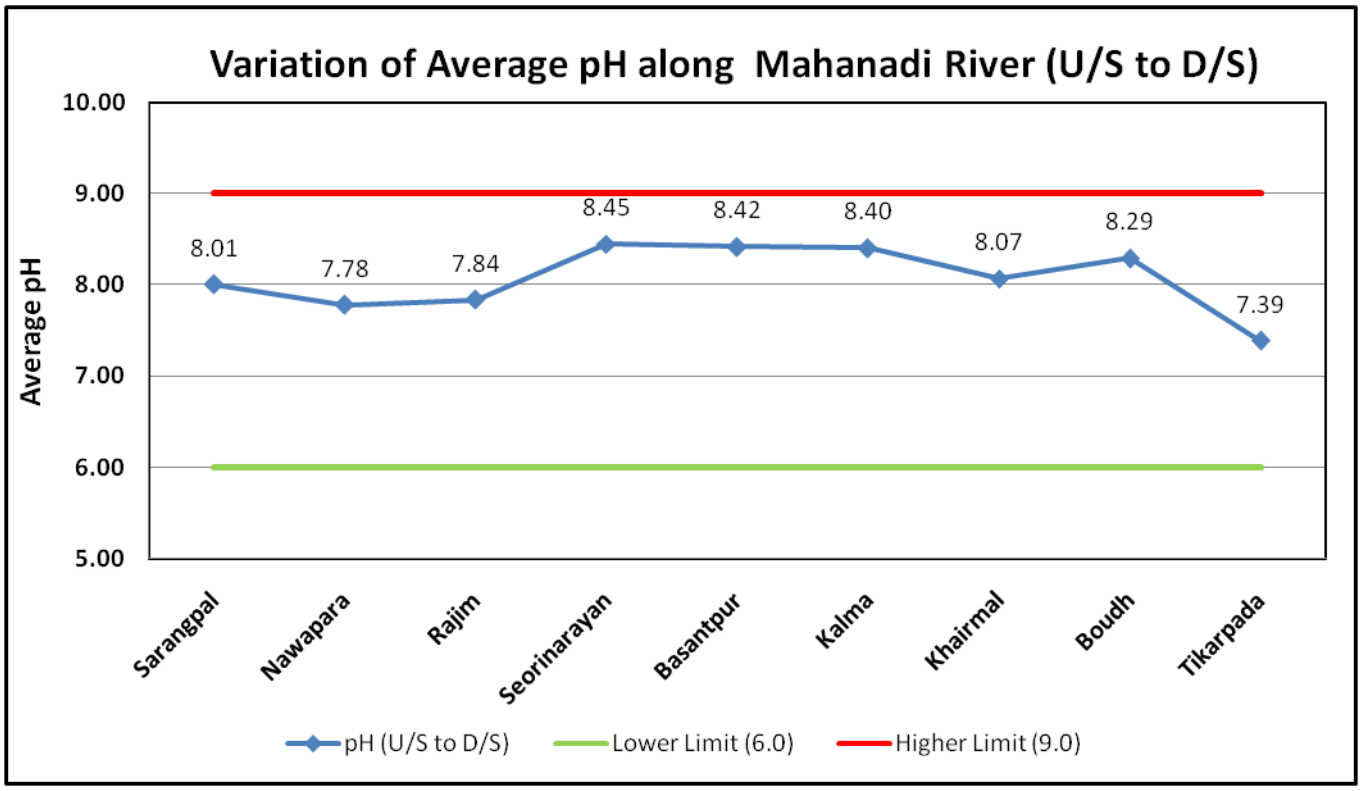
Sl. No.	Parameter Name	Unit	Method of testing
15	Phosphate as PO_4^{3-}	mg/L	4500 P E. Ascorbic Acid Method (as total PO_4^{3-}) (APHA)
16	Nitrate as NO_3^--N	mg/L	4500-NO_3^- D. Nitrate Electrode Method (APHA)
17	Nitrite as NO_2^--N	mg/L	4500-NO_2^- B. Colorimetric Method (APHA)
18	Boron as B	mg/L	APHA 4500 B. Curcumin Method (APHA)
19	Silicate as SiO_4^{4-}	mg/L	4500-SiO_2 C. Molybdosilicate Method (APHA)
20	Ammonia as NH_3-N	mg/L	4500-NH_3 D. Ammonia- Selective Electrode method (APHA)
21	Dissolved Oxygen	mg/L	4500-O C. Azide Modification Method (APHA)
22	Biochemical Oxygen Demand	mg/L	5210 B. 5-day BOD Test (@20^0C) (APHA)
23	Chemical Oxygen Demand	mg/L	5220 D Closed Reflux Colorimetric Method
24	Total Coliform	MPN/100 ml	MPN Method
25	Fecal Coliform	MPN/100 ml	MPN Method

5. Results and Discussion (Basin wise Water Quality Status)

5.1 Mahanadi Basin

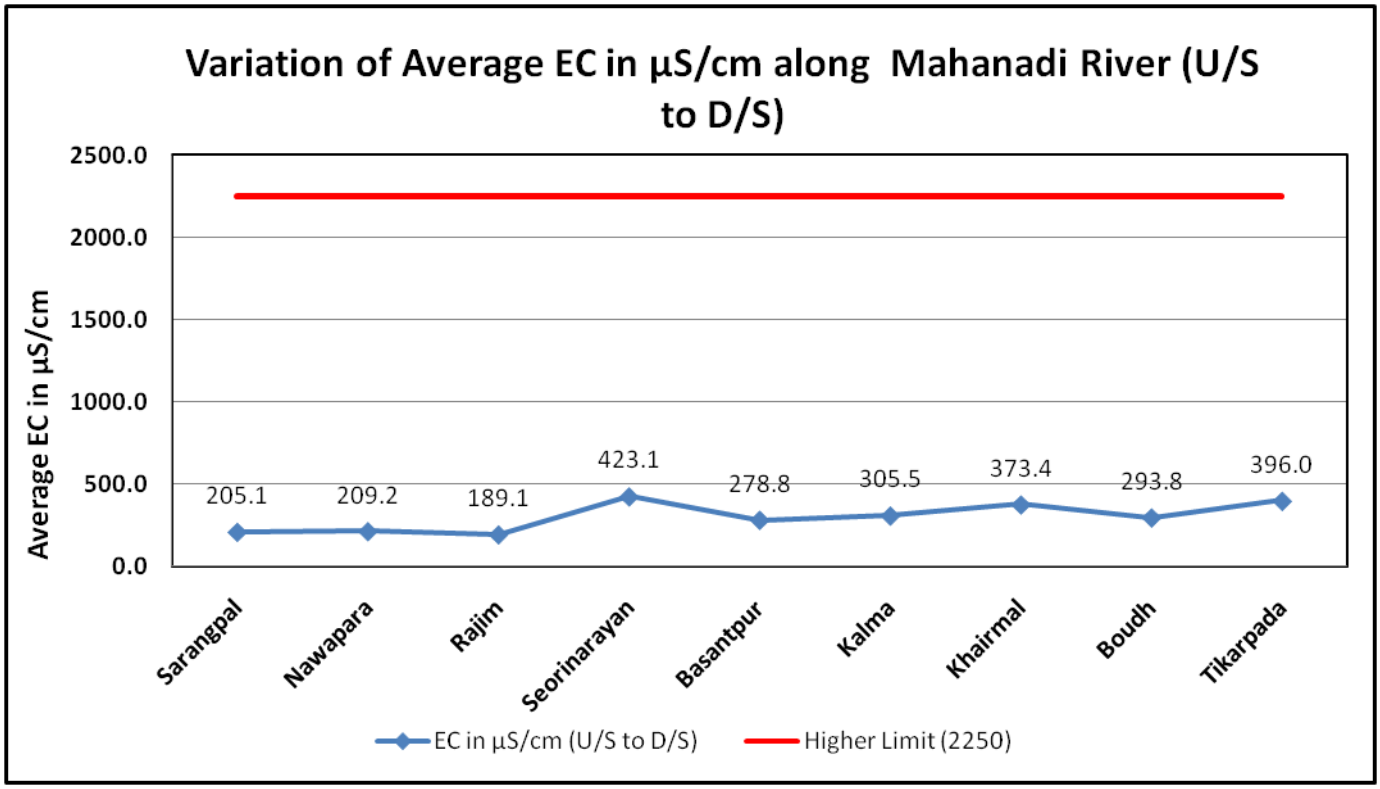
- **Mahanadi River:**

Graph: Variation of Average pH.



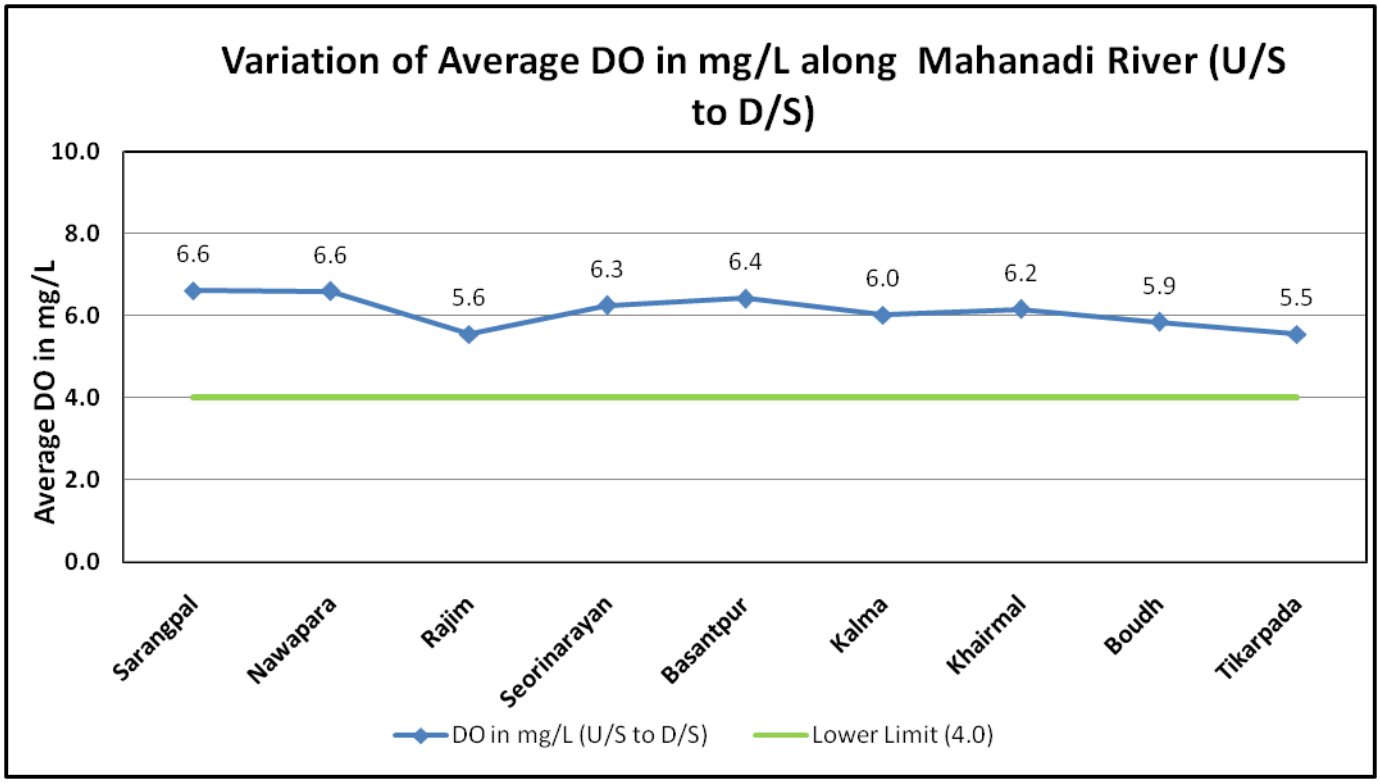
- The observation values of pH are within upper and lower value of tolerance limit as per Surface Water standard by CPCB (Designated best use of water).

Graph: Variation of Average EC in µS/cm



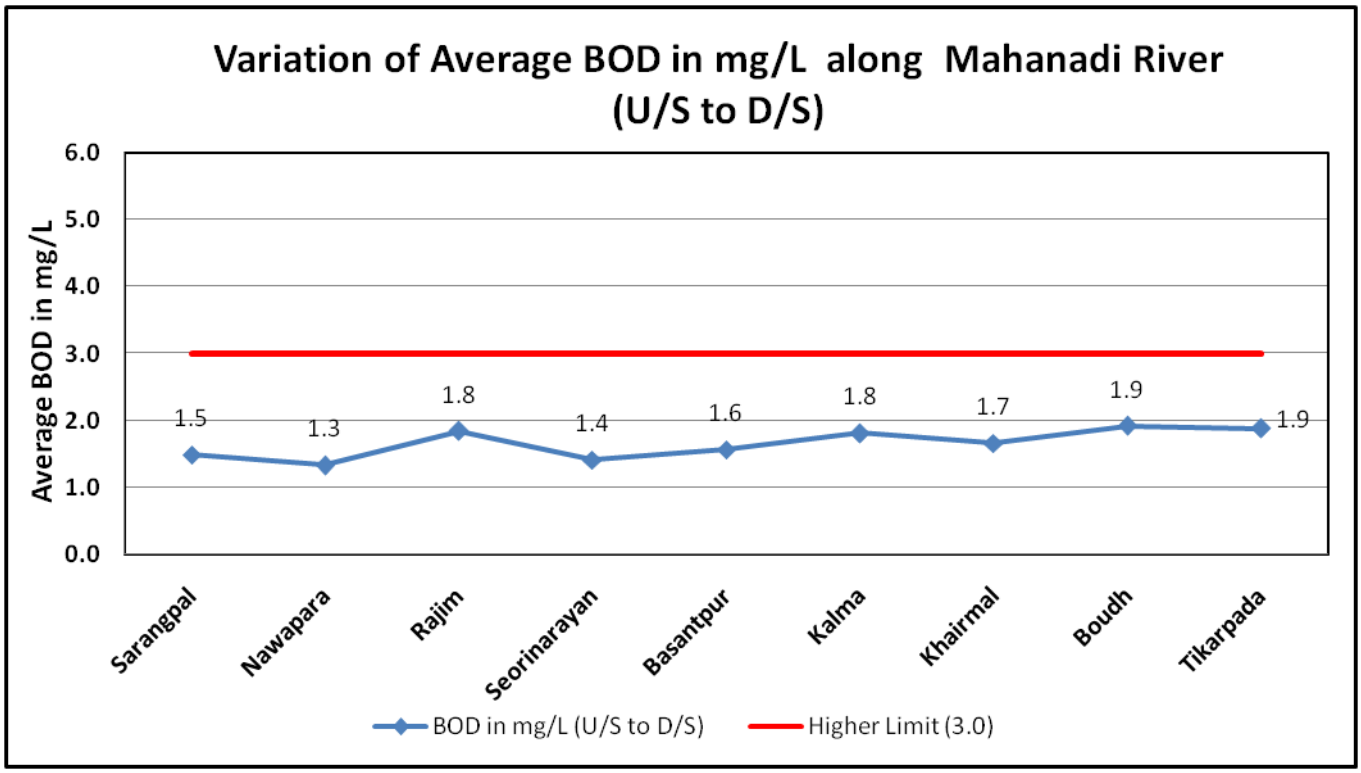
- The observation values of EC are within upper value of tolerance limit as per Surface Water standard by CPCB (Designated best use of water).

Graph: Variation of Average DO in mg/L



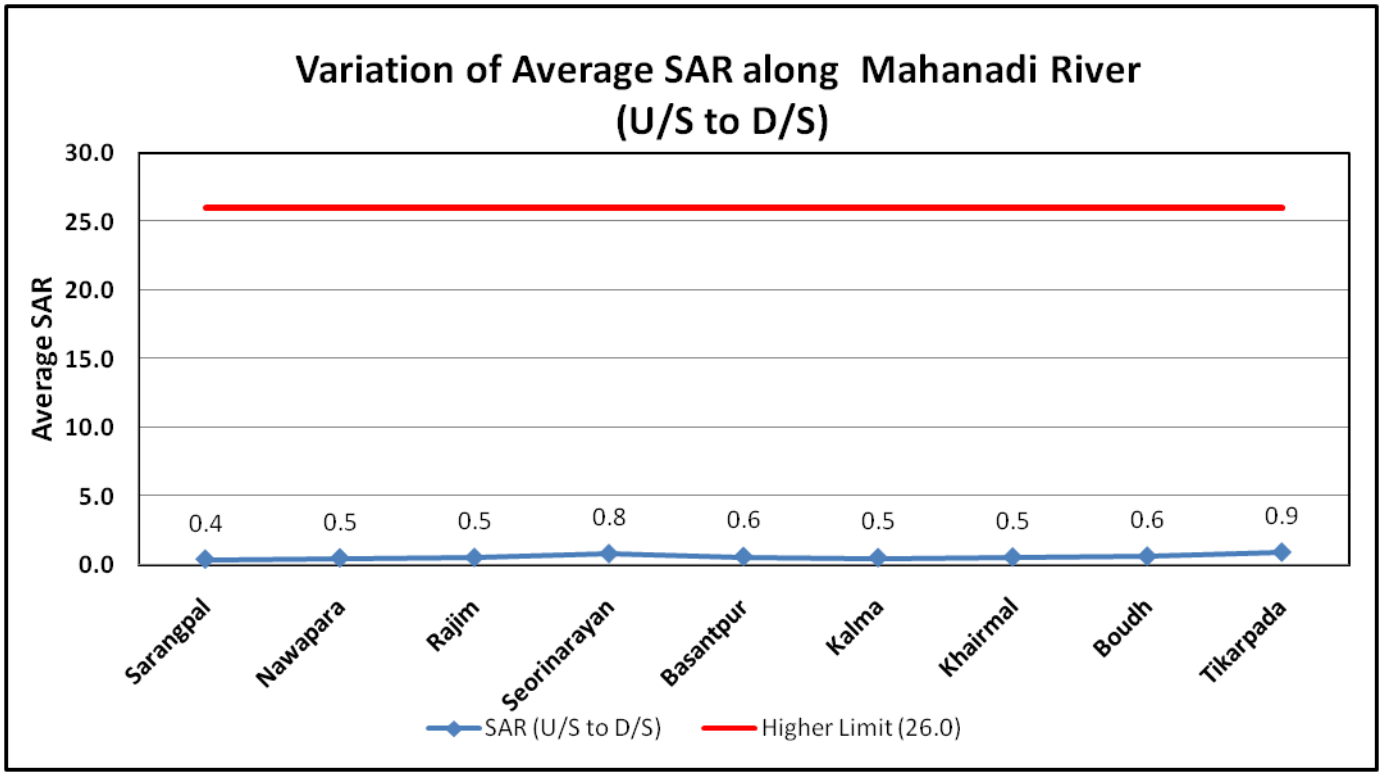
- The observation values of DO are above the lower value of tolerance limit as per Surface Water standard by CPCB (Designated best use of water).

Graph: Variation of Average BOD in mg/L



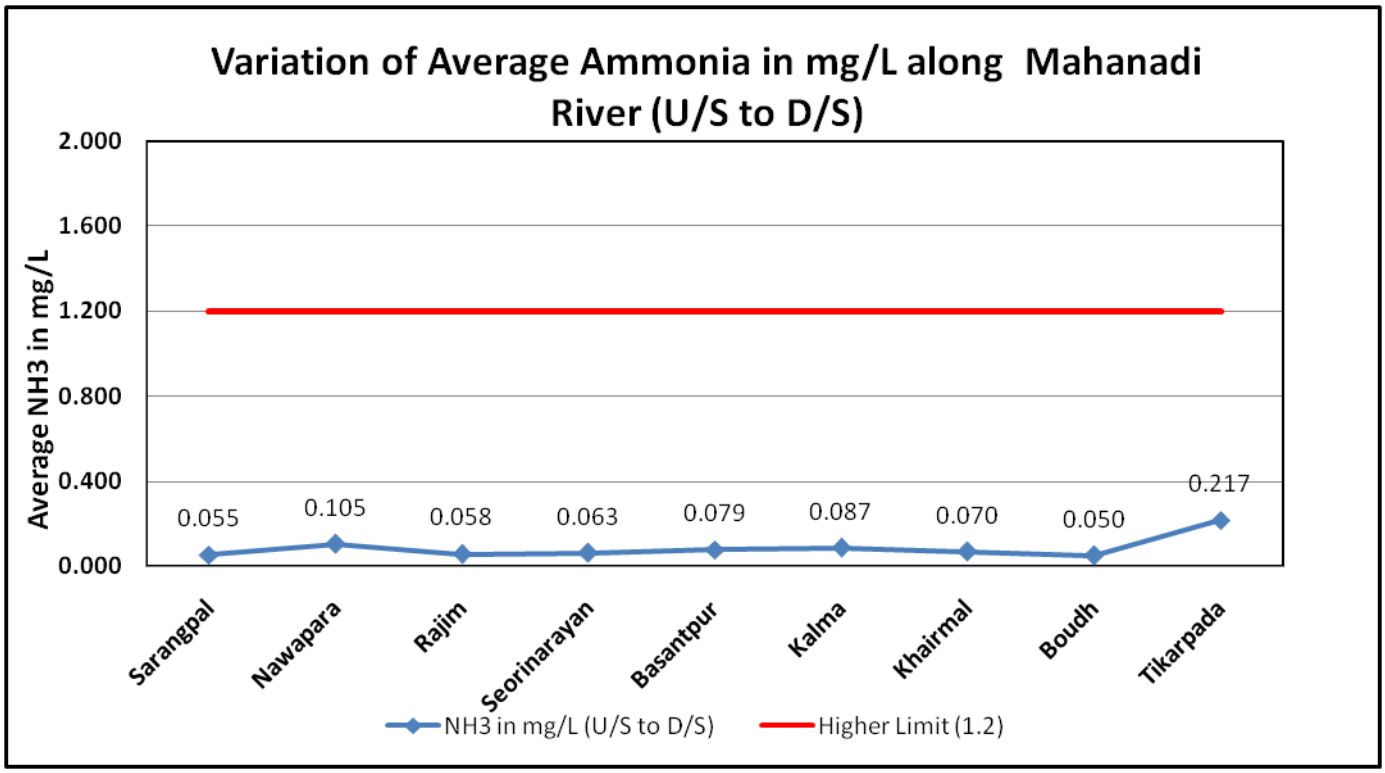
- The observation values of BOD are within upper value of tolerance limit as per Surface Water standard by CPCB (Designated best use of water).

Graph: Variation of Average SAR



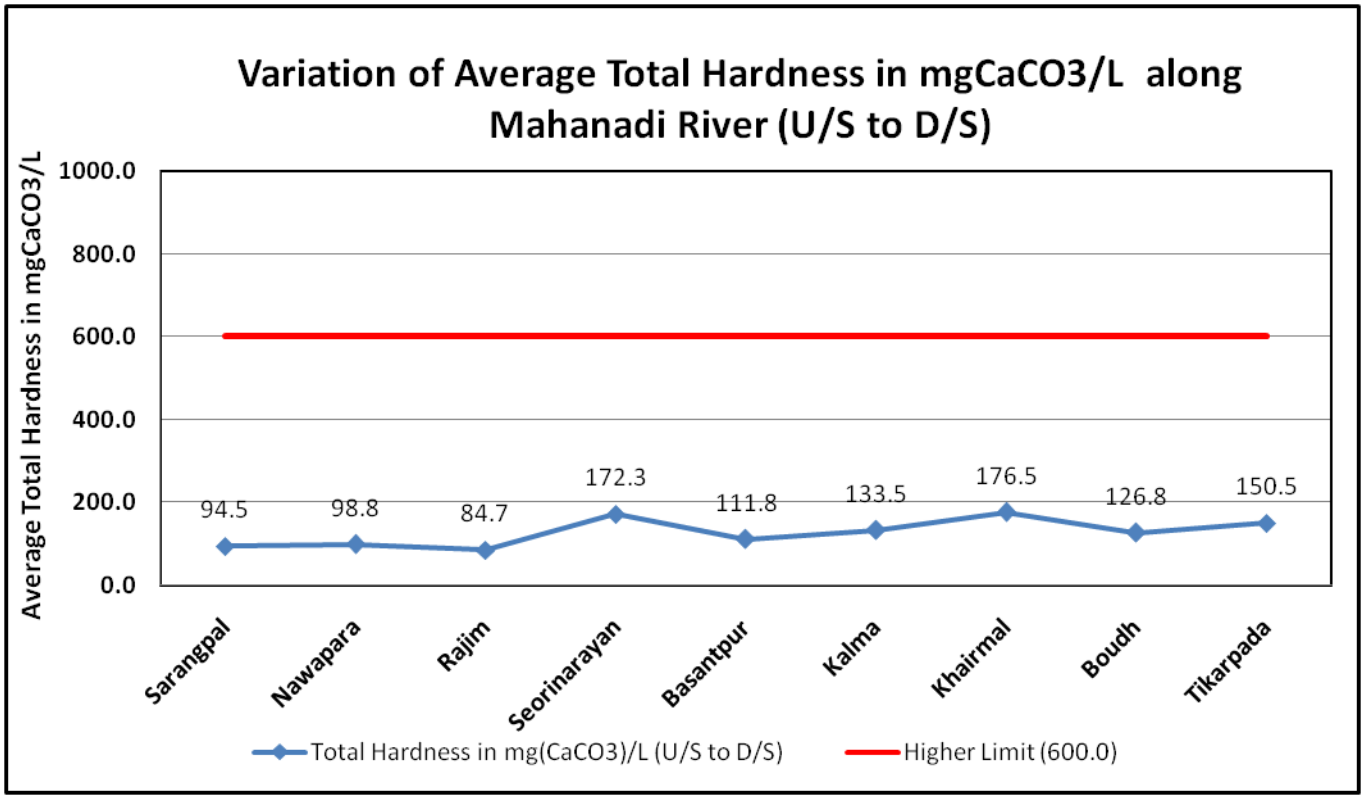
- The observation values of SAR are within upper value of tolerance limit as per Surface Water standard by CPCB (Designated best use of water).

Graph: Variation of Average Ammonia in mg/L.



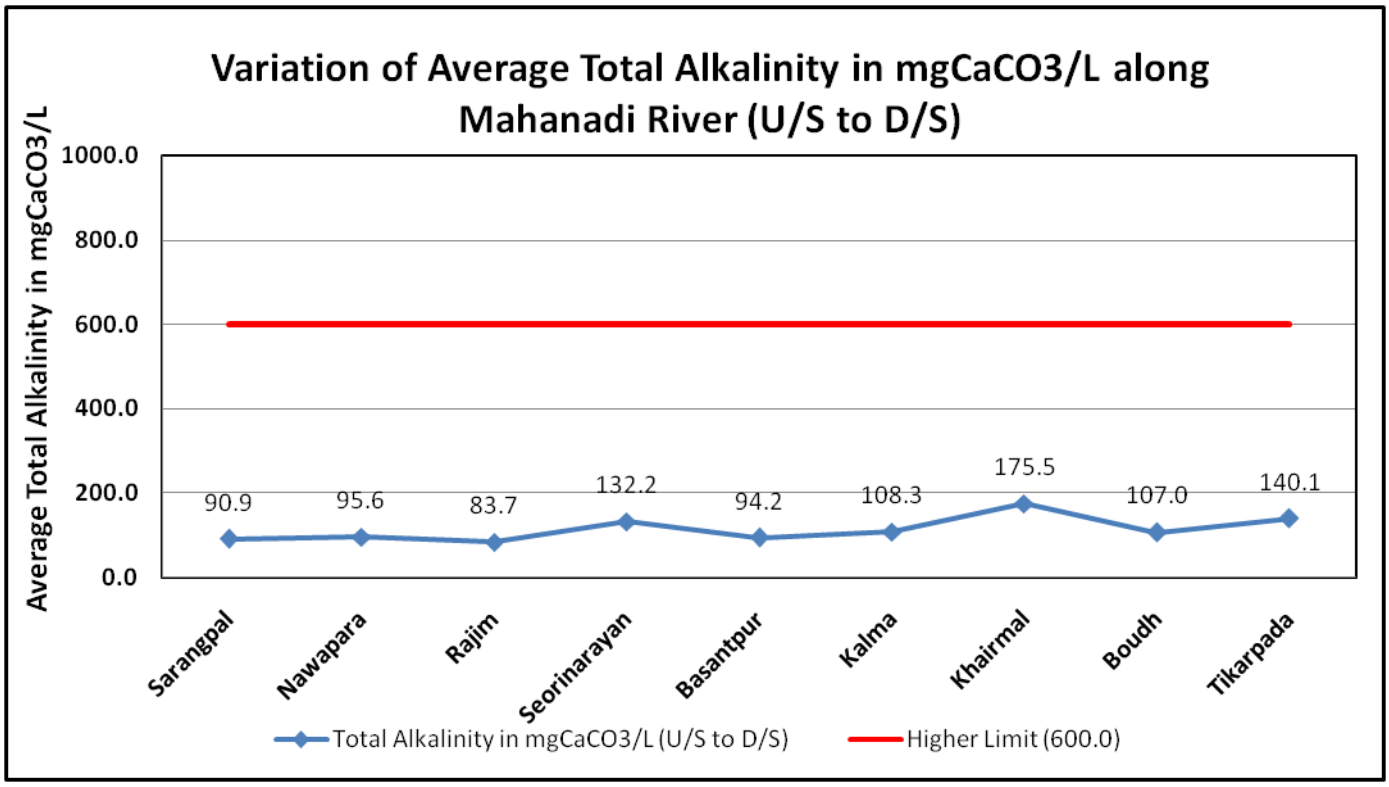
- The observation values of ammonia are within upper value of tolerance limit as per Surface Water standard by CPCB (Designated best use of water).

Graph: Variation of Average Total Hardness in mgCaCO3/L.



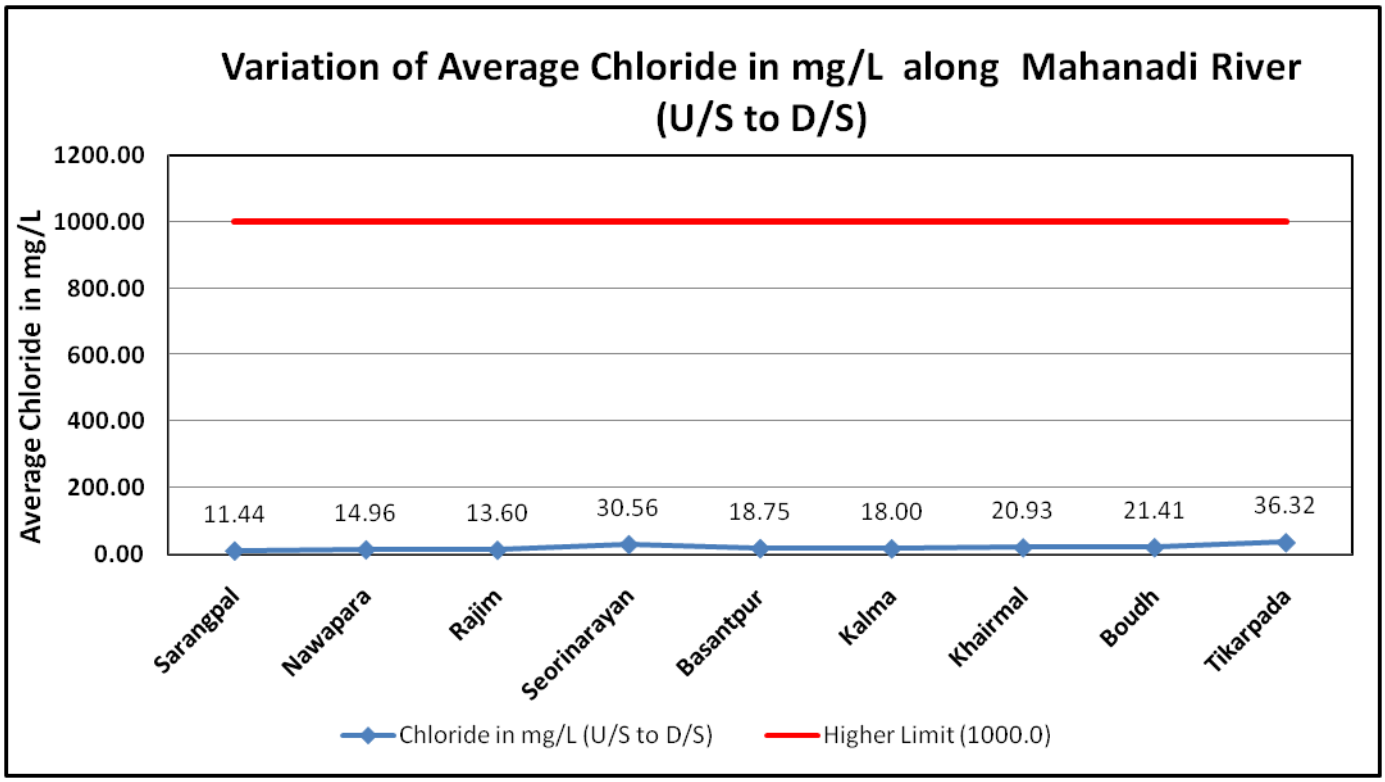
- The observation values of Total Hardness are within upper value of tolerance limit as per BIS drinking standard (IS 10500:2012).

Graph: Variation of Average Total Alkalinity in mgCaCO3/L.



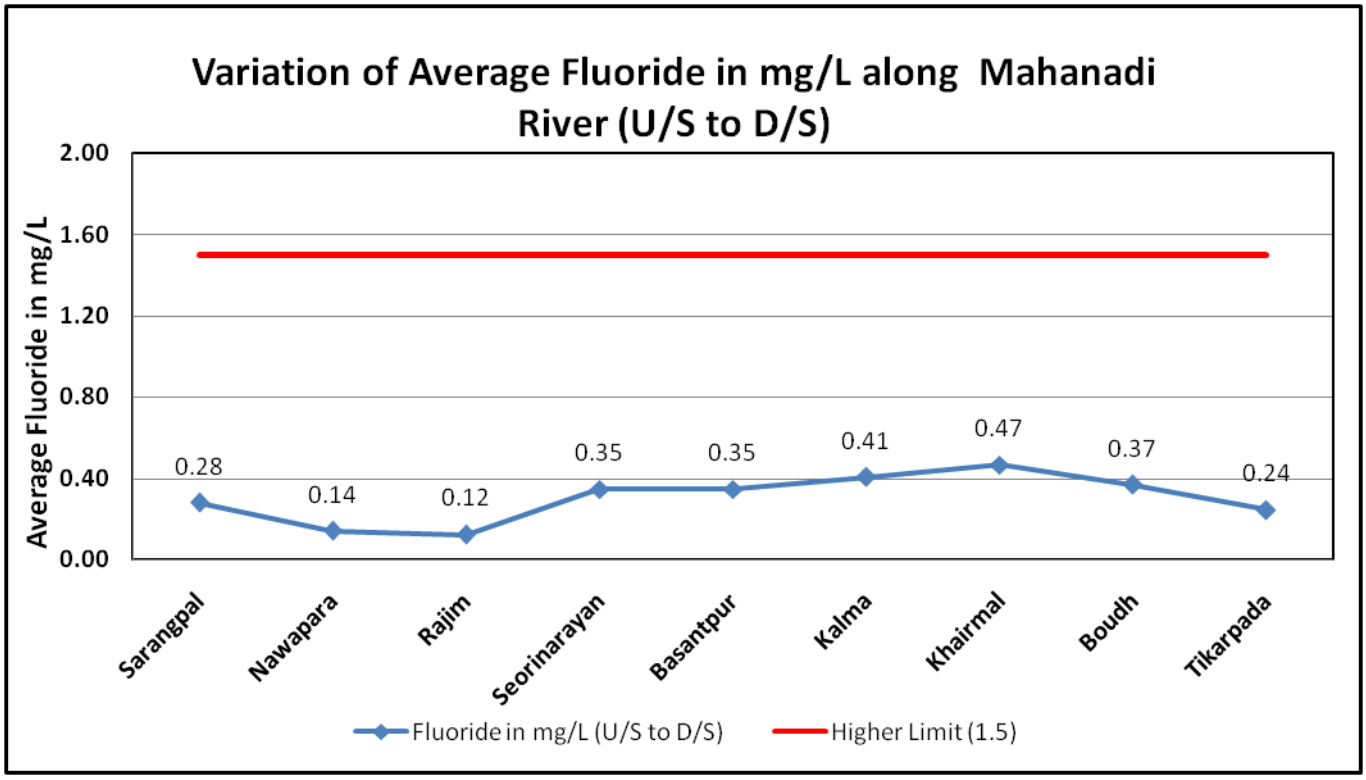
- The observation values of Total Alkalinity are within upper value of tolerance limit as per BIS drinking standard (IS 10500:2012).

Graph: Variation of Average Chloride in mg/L.



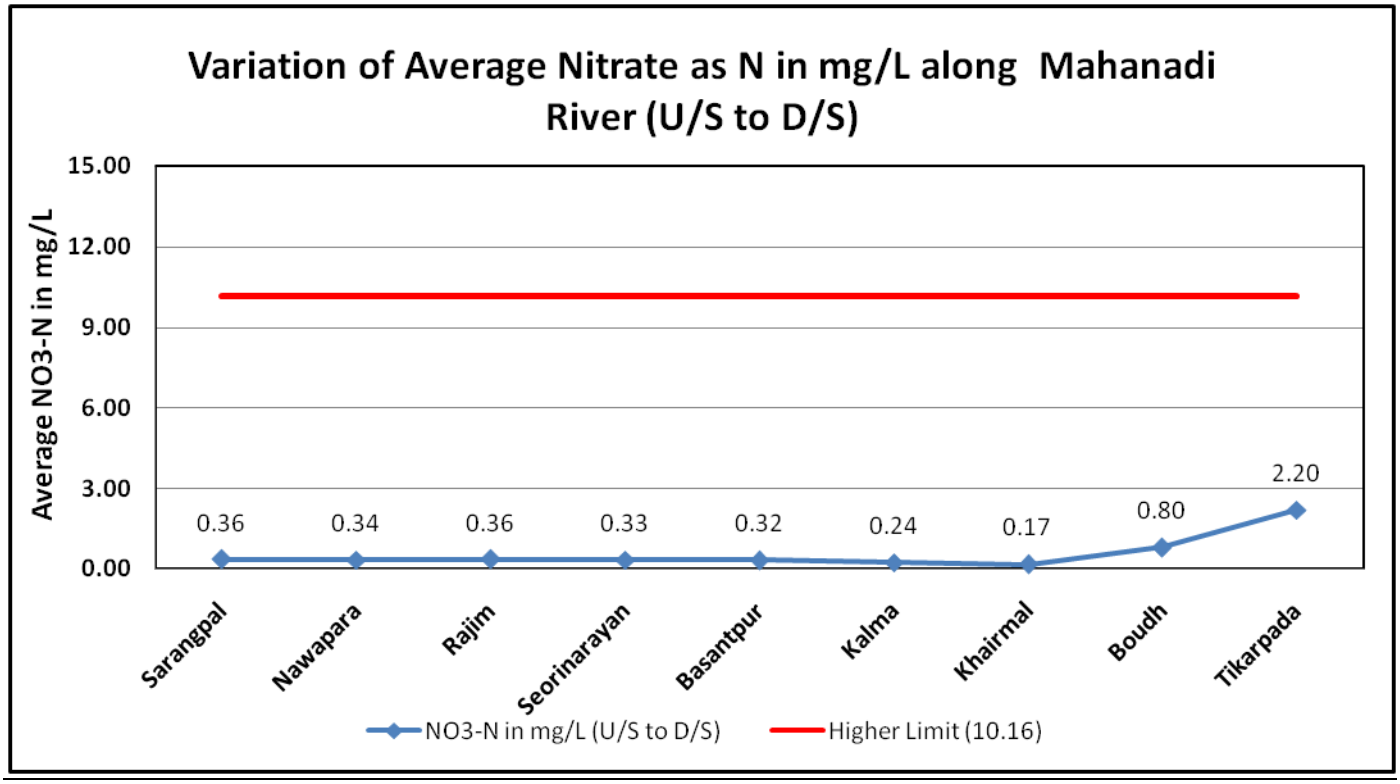
- The observation values of Chloride are within upper value of tolerance limit as per BIS drinking standard (IS 10500:2012).

Graph: Variation of Average Fluoride in mg/L.



- The observation values of Fluoride are within upper value of tolerance limit as per BIS drinking standard (IS 10500:2012).

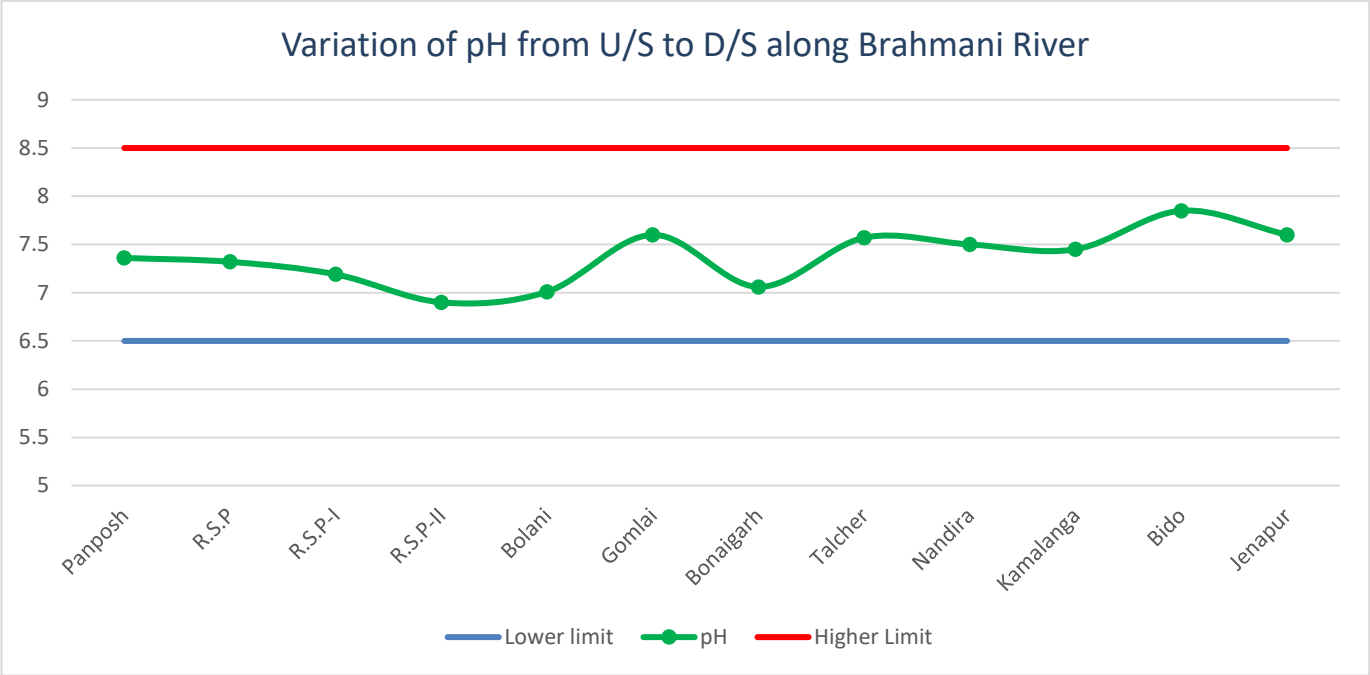
Graph: Variation of Average Nitrate as N in mg/L.



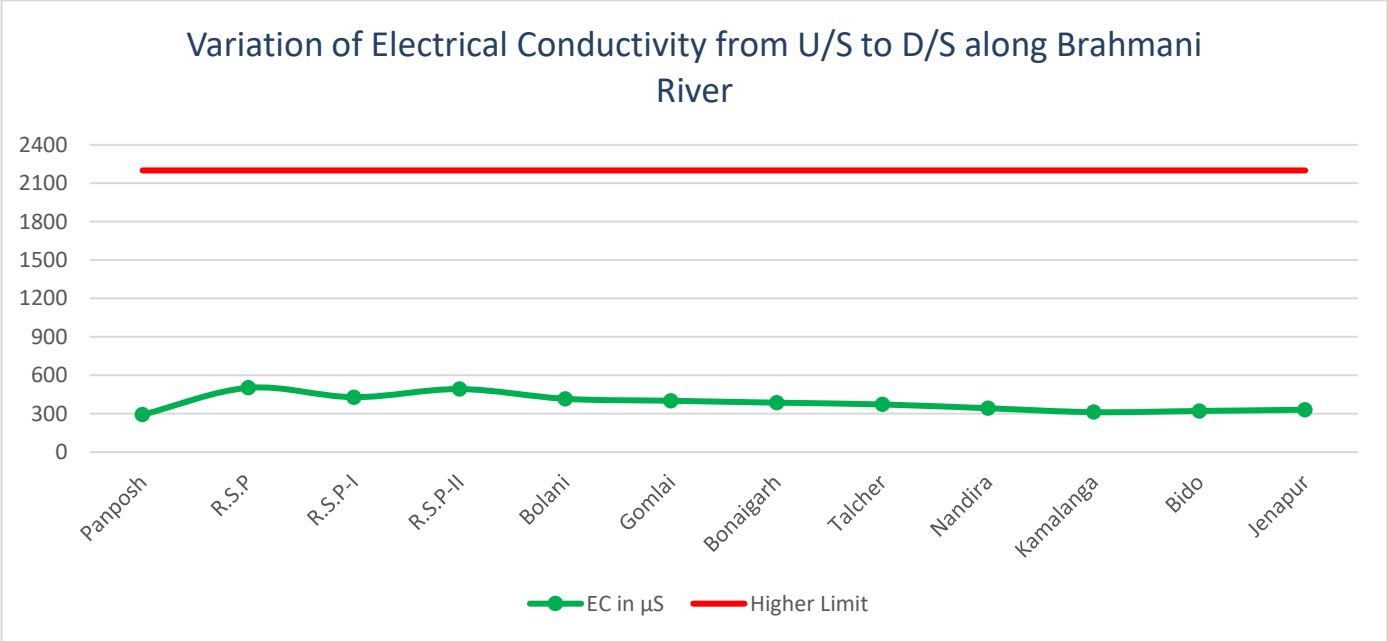
- The observation values of Nitrate are within upper value of tolerance limit as per BIS drinking standard (IS 10500:2012).

5.2 Brahmani Basin

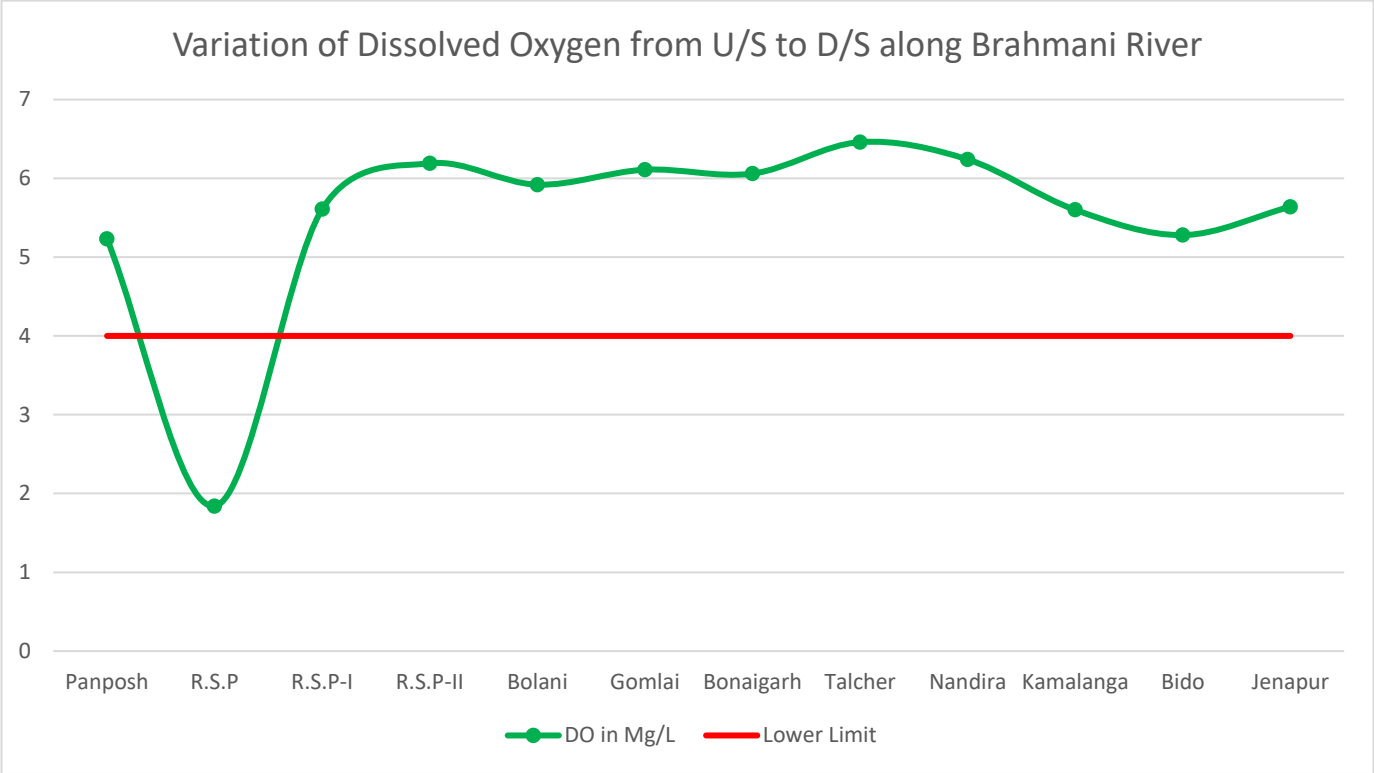
As the water sample from Indupurwater quality station was not received, so we have plotted graph for the rest of the sites of Brahmani basin except Indupur.



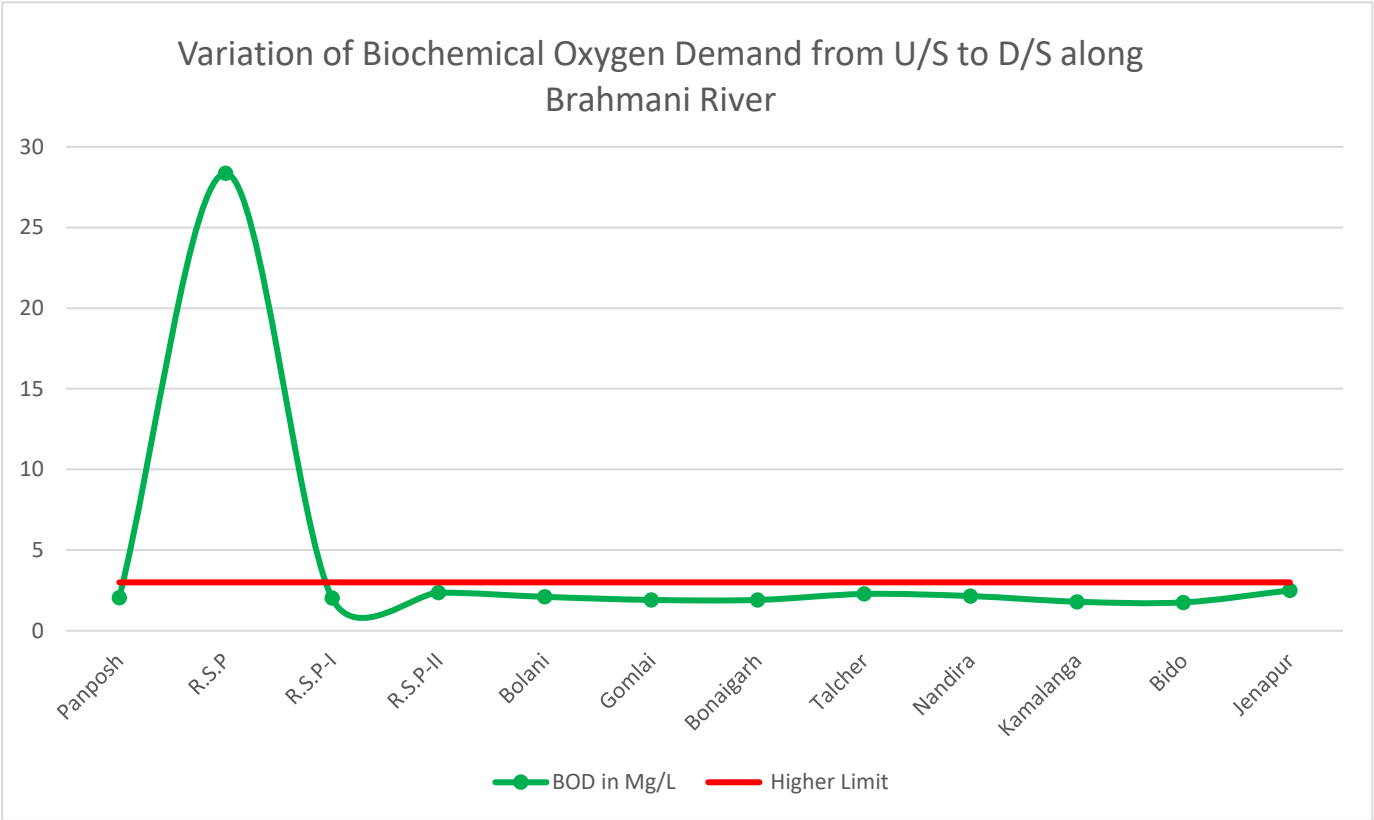
The pH of the river Brahmani is well within the limit (6.5 to 8.5) as per CPCB for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



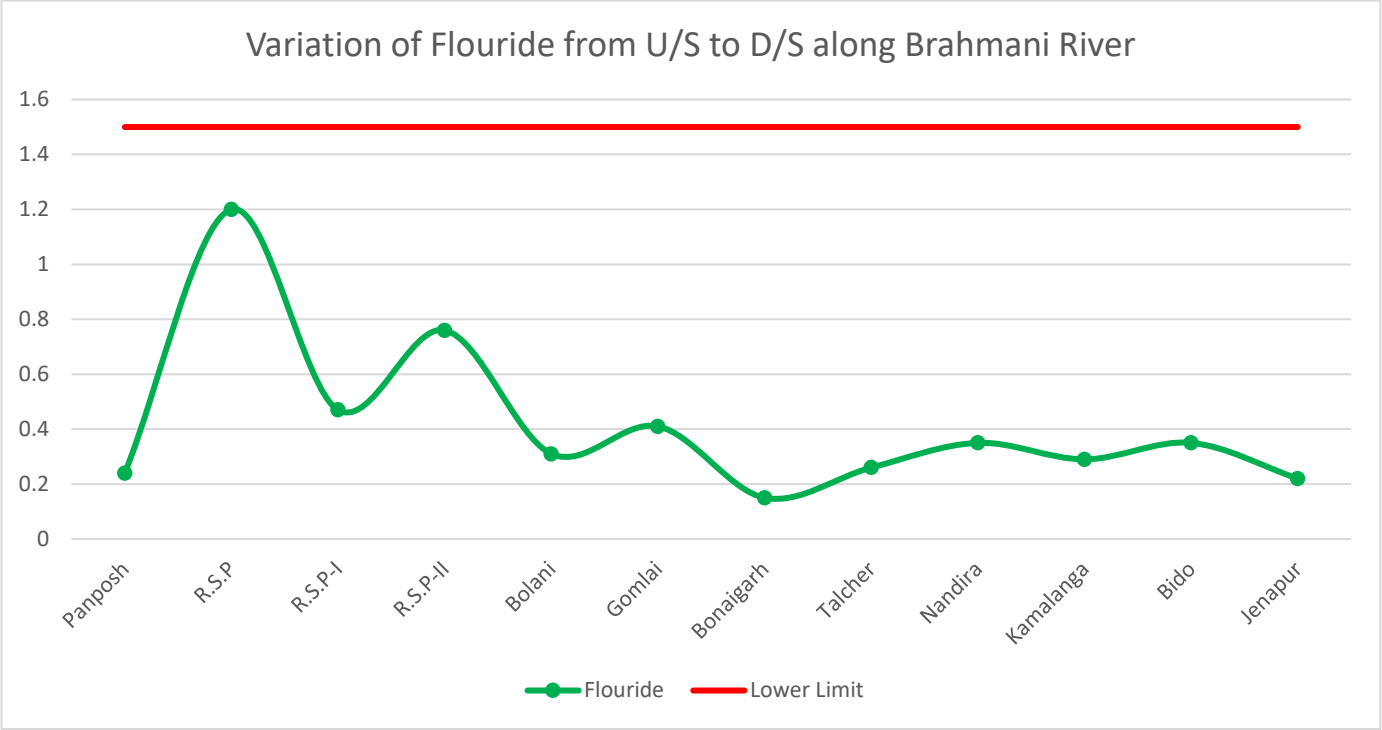
- The Electrical Conductivity of the river Brahmani is well within the limit (2250 µS/cm) as per CPCB Class E for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



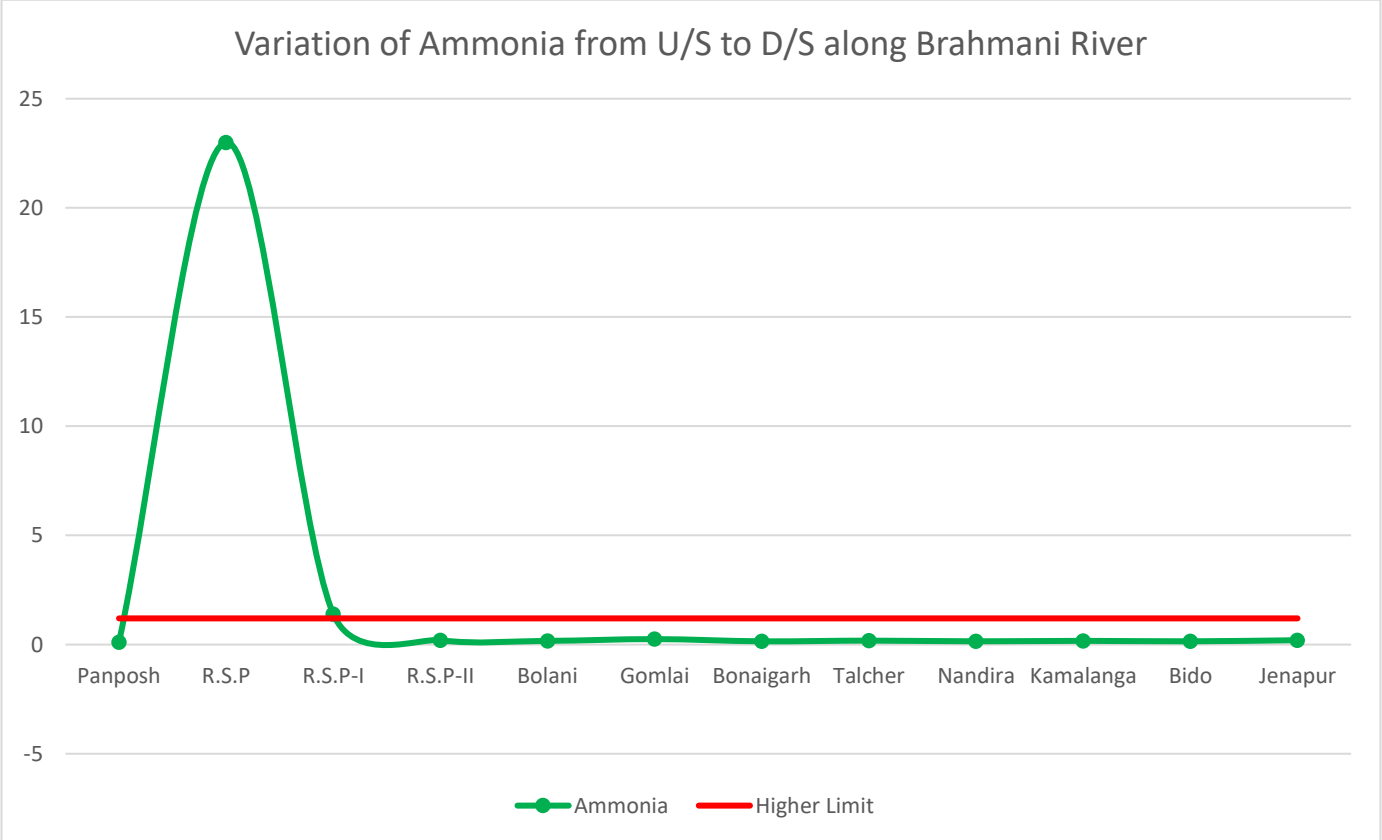
- The Dissolved Oxygen (DO) of the river Brahmani is well above the minimum limit of 4.0 mg/L as per CPCB Class C, for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar except RSPwater quality station.



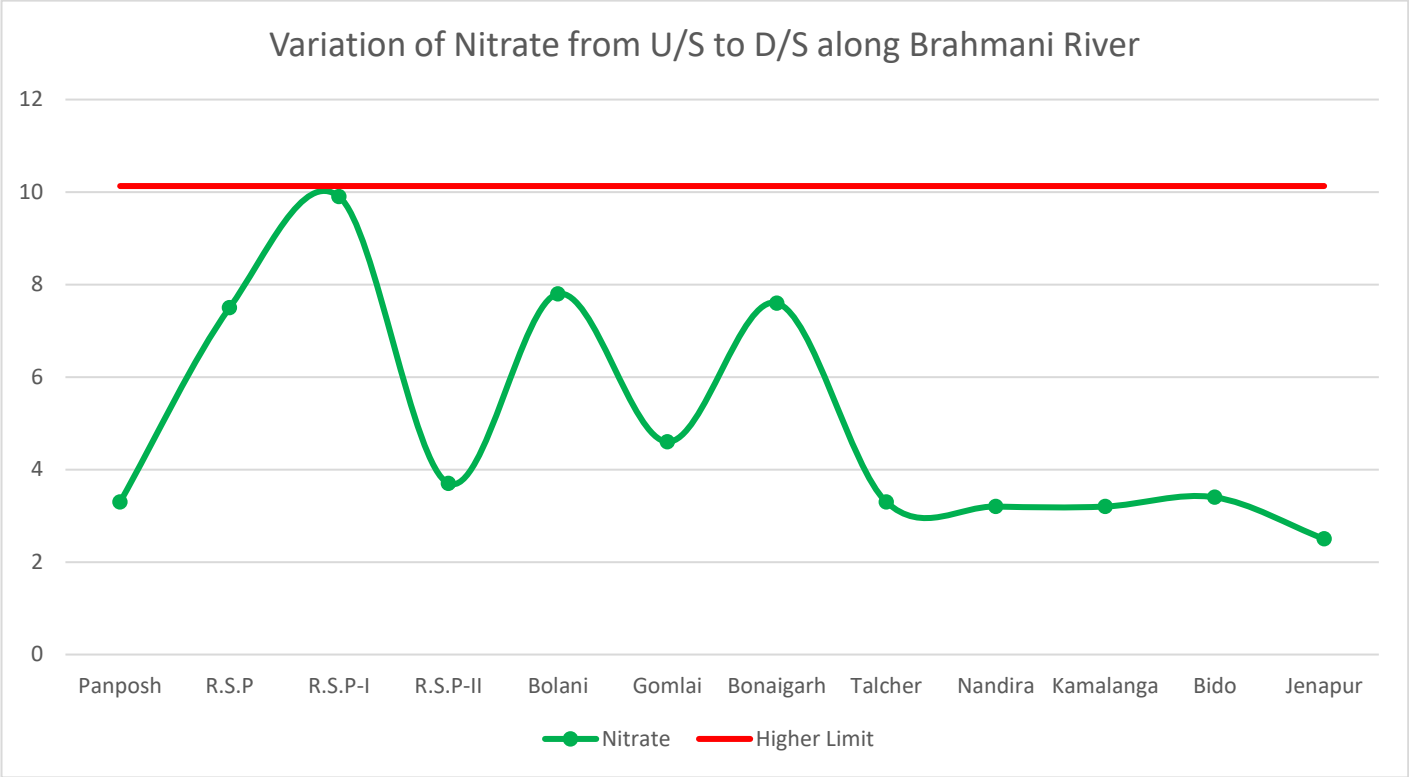
The Biochemical Chemical Oxygen Demand (BOD) of the river Brahmani is well within the maximum limit of 3.0 mg/L, as per CPCB Class C for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar except RSP water quality station.



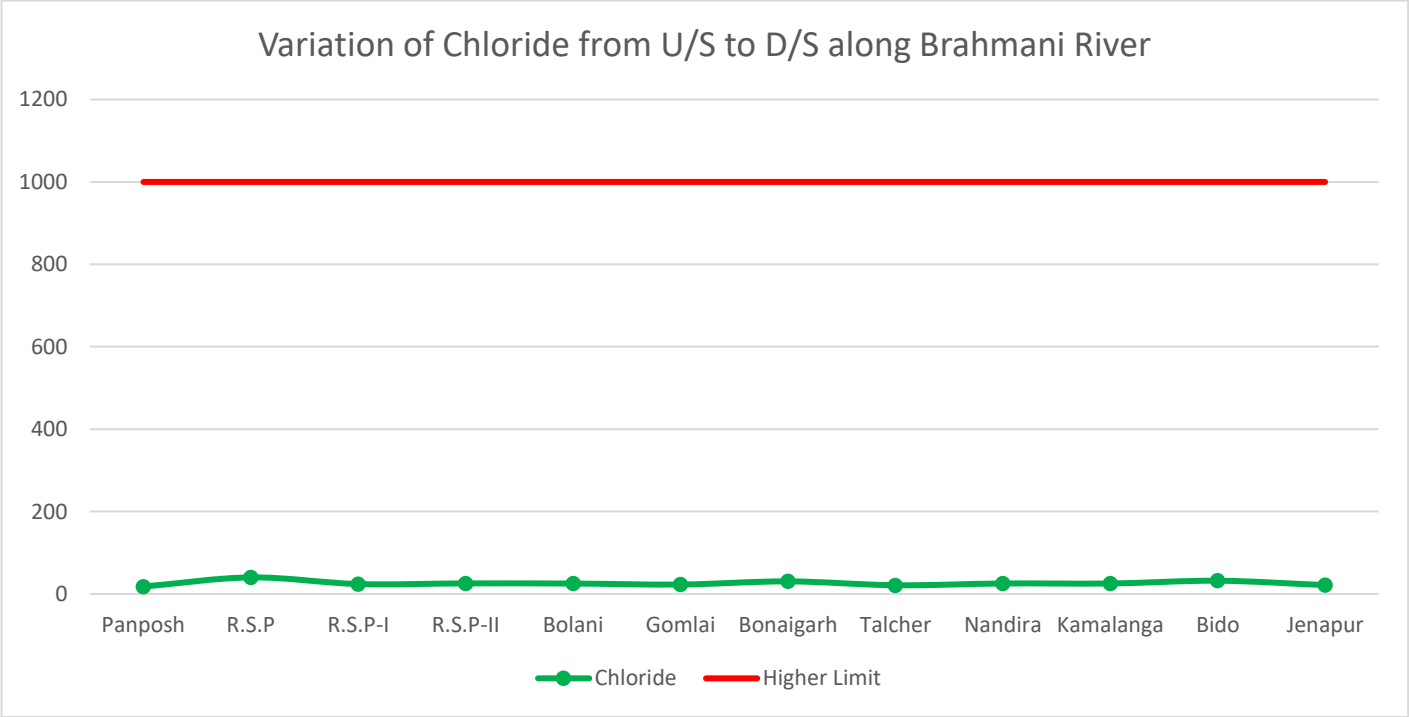
- The observed value of fluoride of the river Brahmani is well within the maximum limit of 1.5 mg/L, as per BIS 10500:2012 for the month of March 2025at all water stations of ERD, CWC, Bhubaneswar.



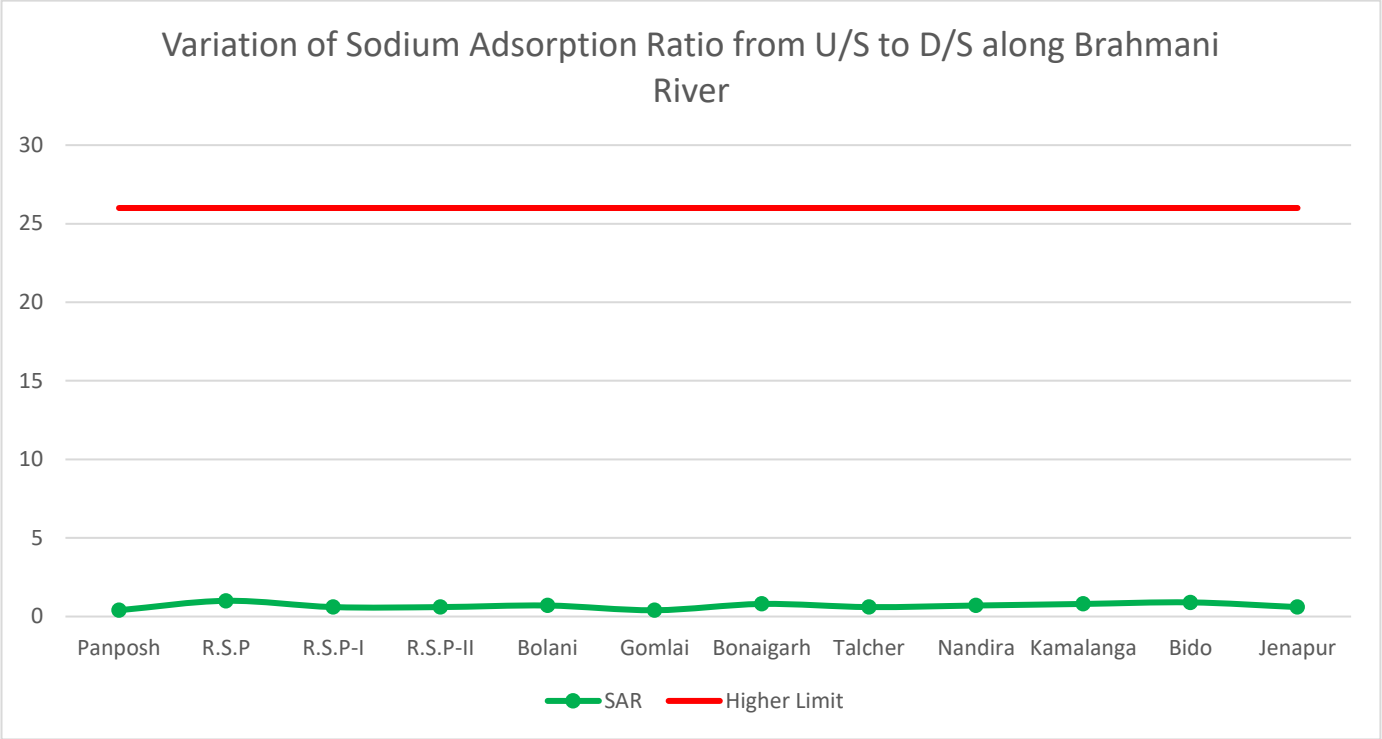
- The value of Ammonia of the river Brahmani is well within the maximum limit of 1.2 mg/L as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar except RSP and RSP-I water quality stations.This may be due to presence of leaching of industrial process.



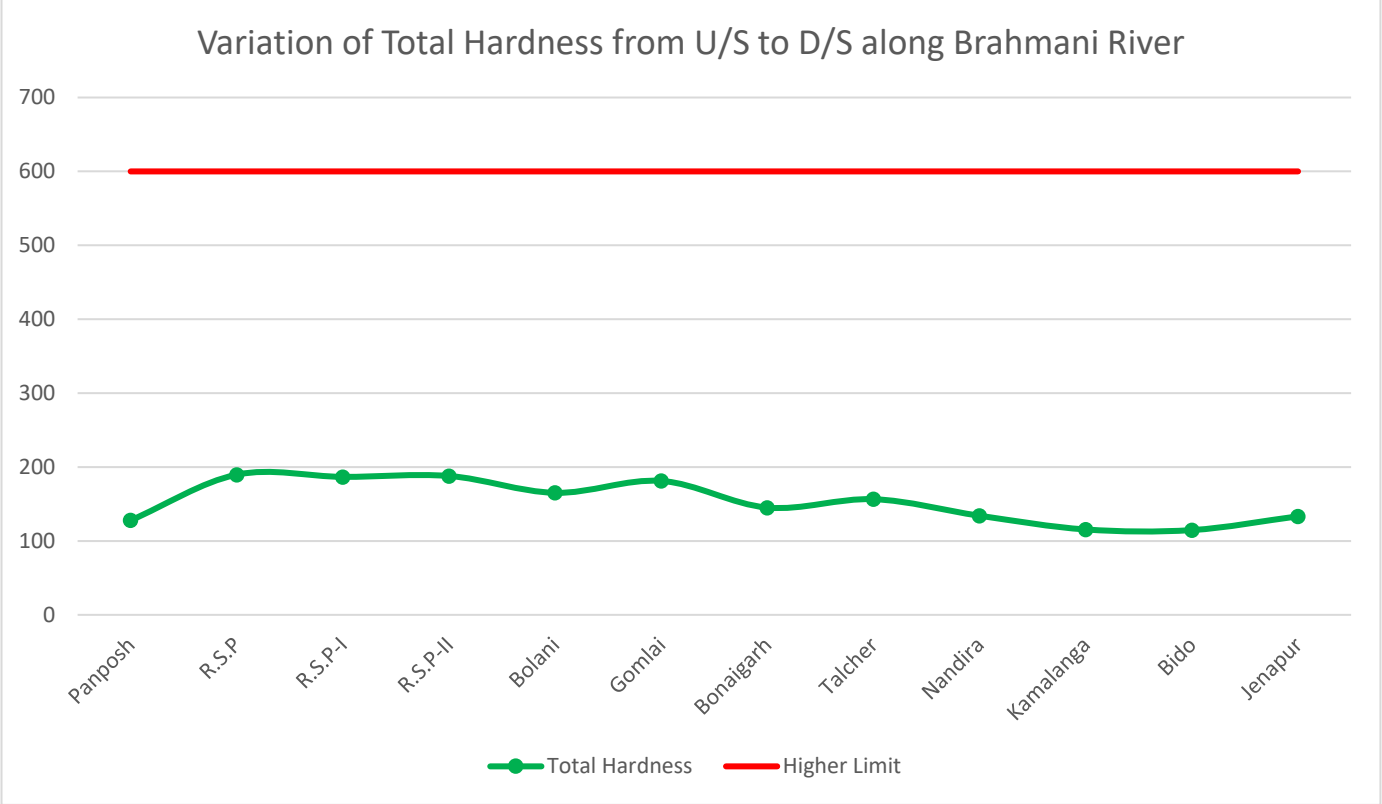
- The value of Nitrate of the river Brahmani is well within the limit (10.13 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Chloride of the river Brahmani is well within the maximumlimit (1000.0 mg/L) as per BIS 10500:2012 for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar.



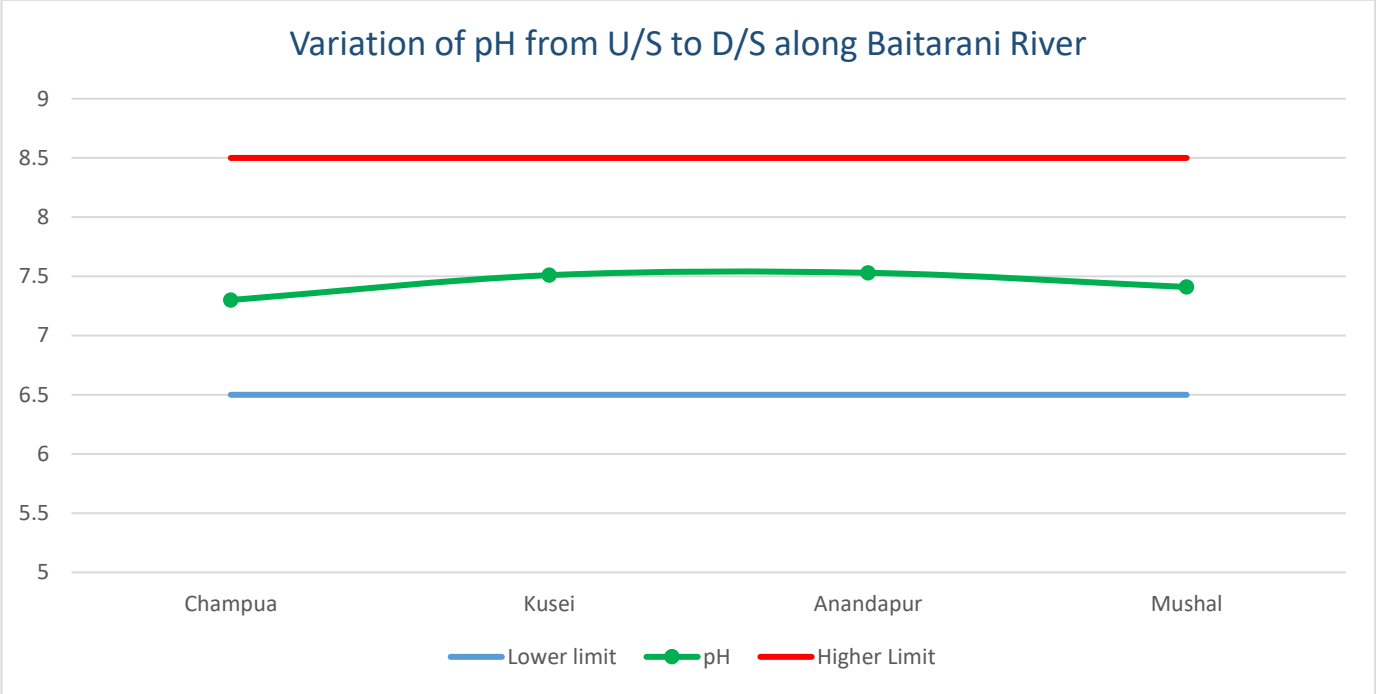
- The value of Sodium Absorption Ratio (SAR) of the river Brahmani is well within the maximum limit (26.0) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar .



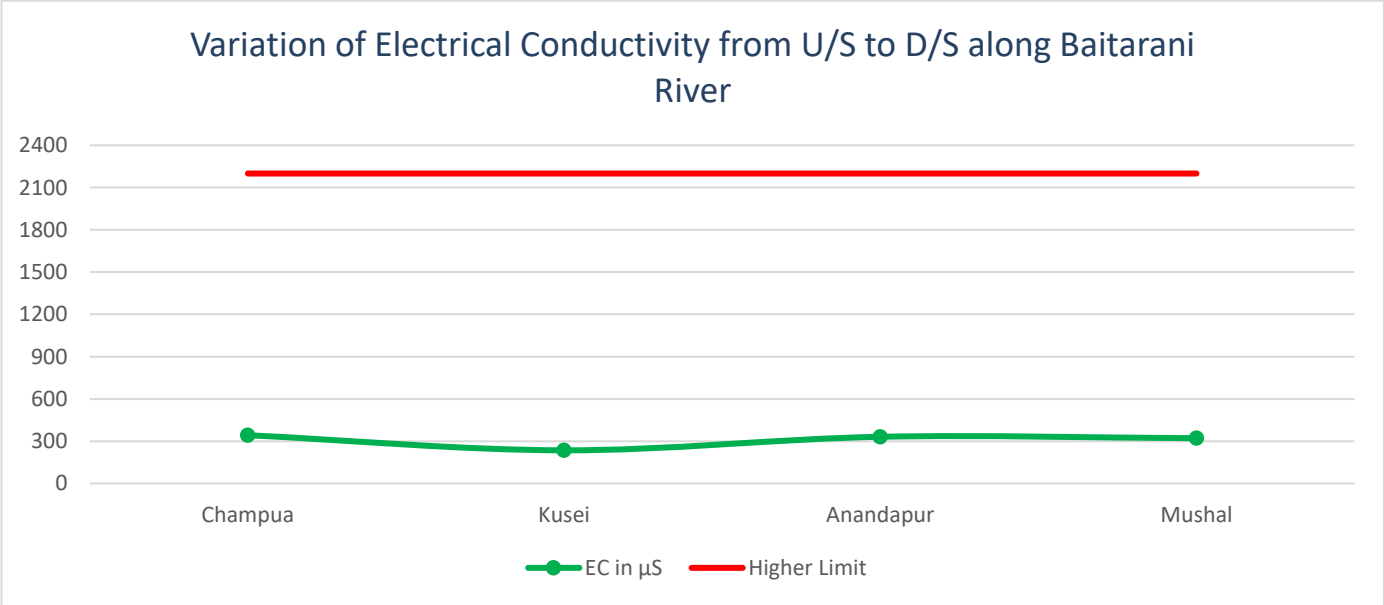
- The value of Total Hardness of the river Brahmani is well within the maximum limit (600 Mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

5.3 Baitarani Basin

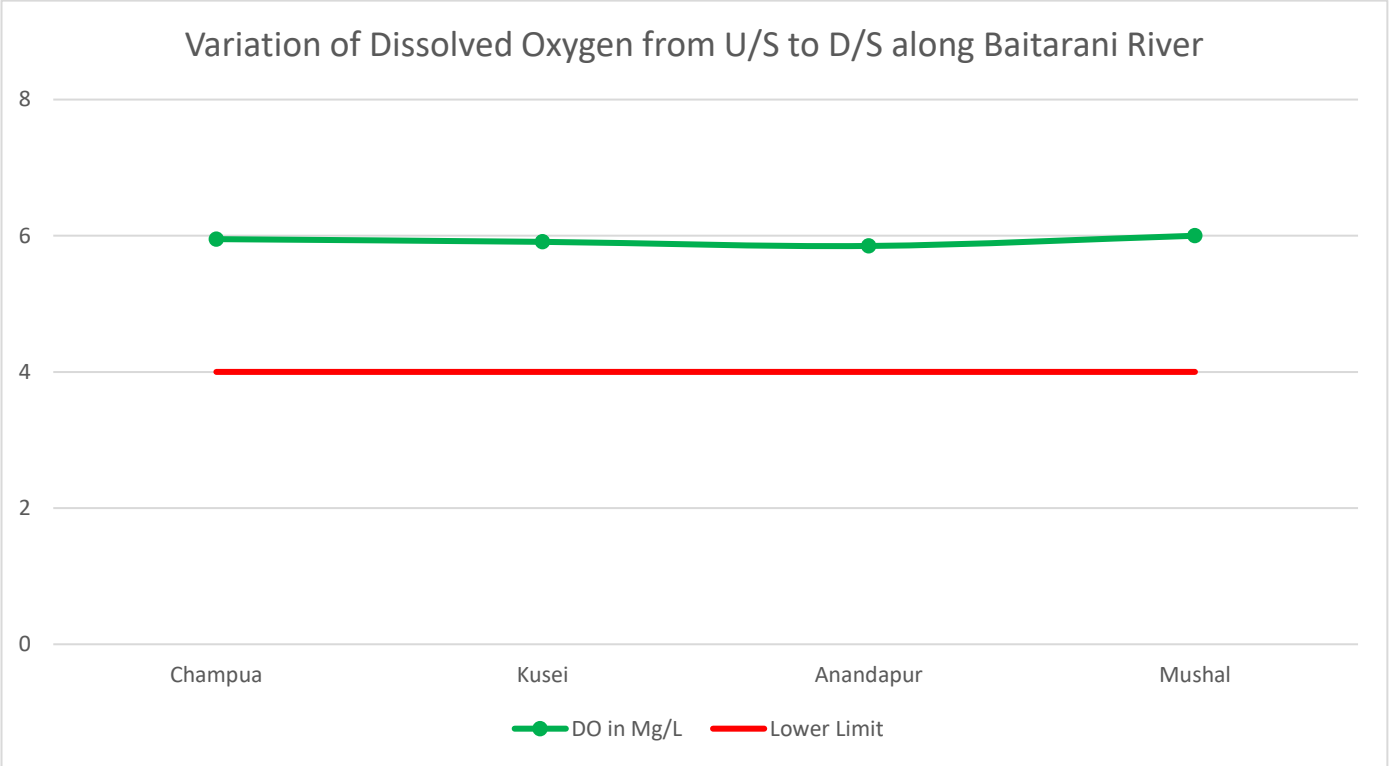
As the water sample from Swampatana water quality station was not received, so we have plotted graph for the rest of the sites of Brahmani basin except swampatana.



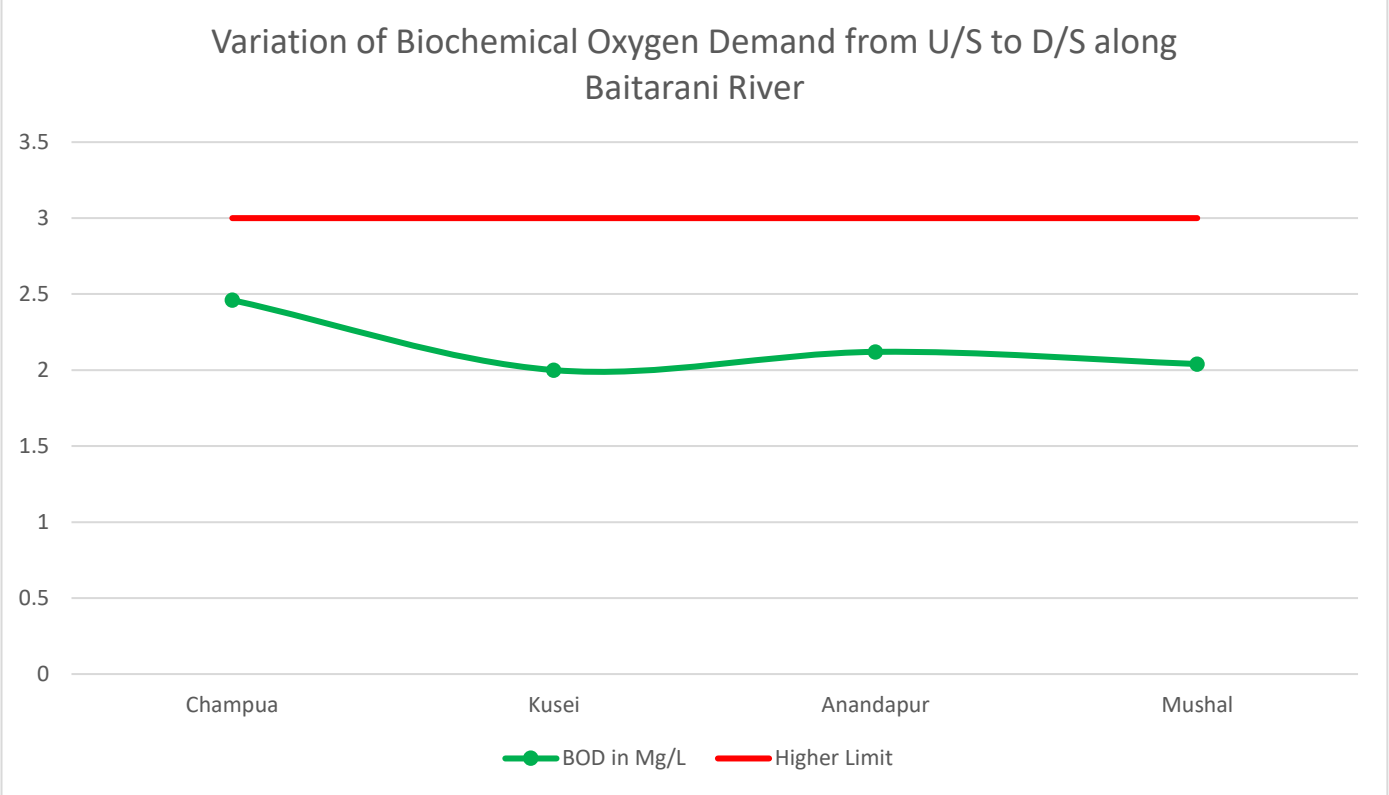
- The pH of the river Baitarani is well within the limit (6.5 to 8.5) as per CPCB for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



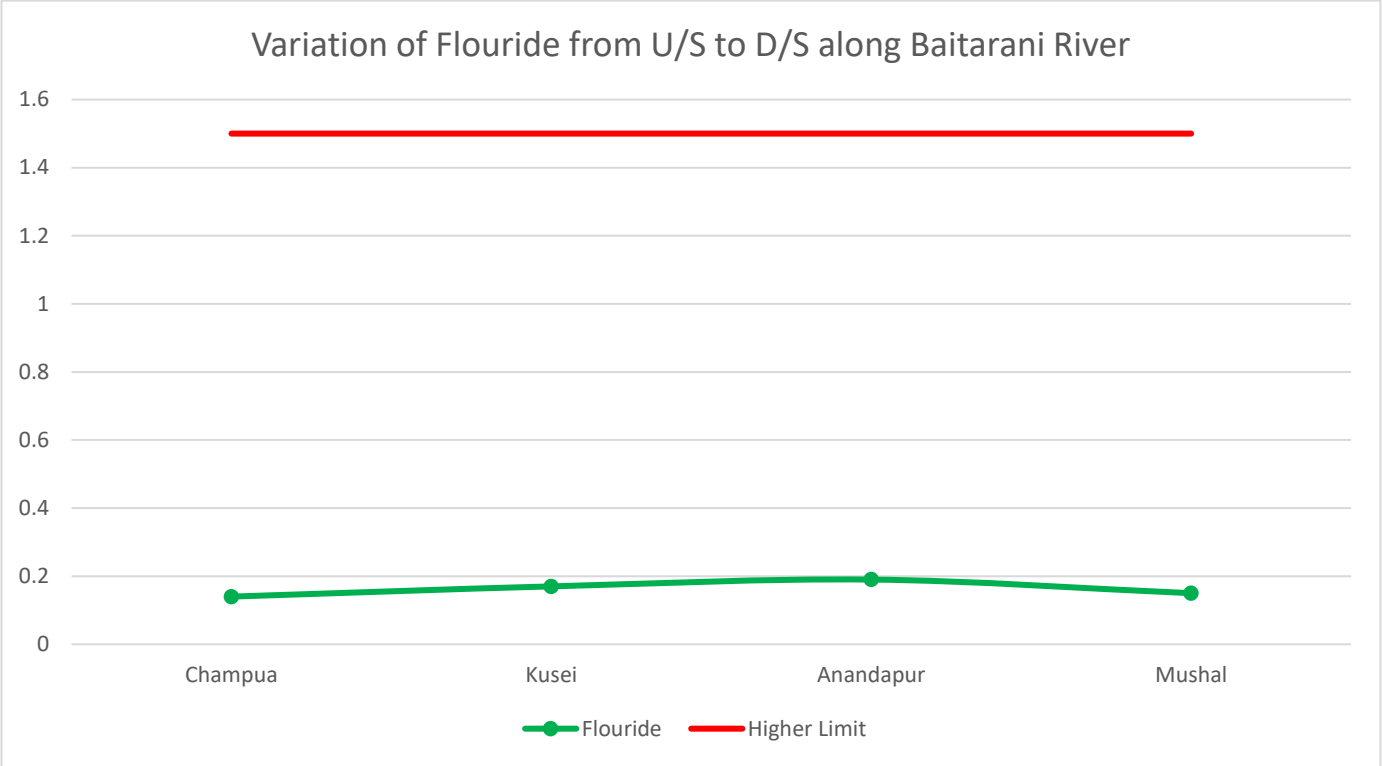
- The Electrical Conductivity of the river Baitarani is well within the maximum limit (2250 µS/cm) as per CPCB Class E for the month of March2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



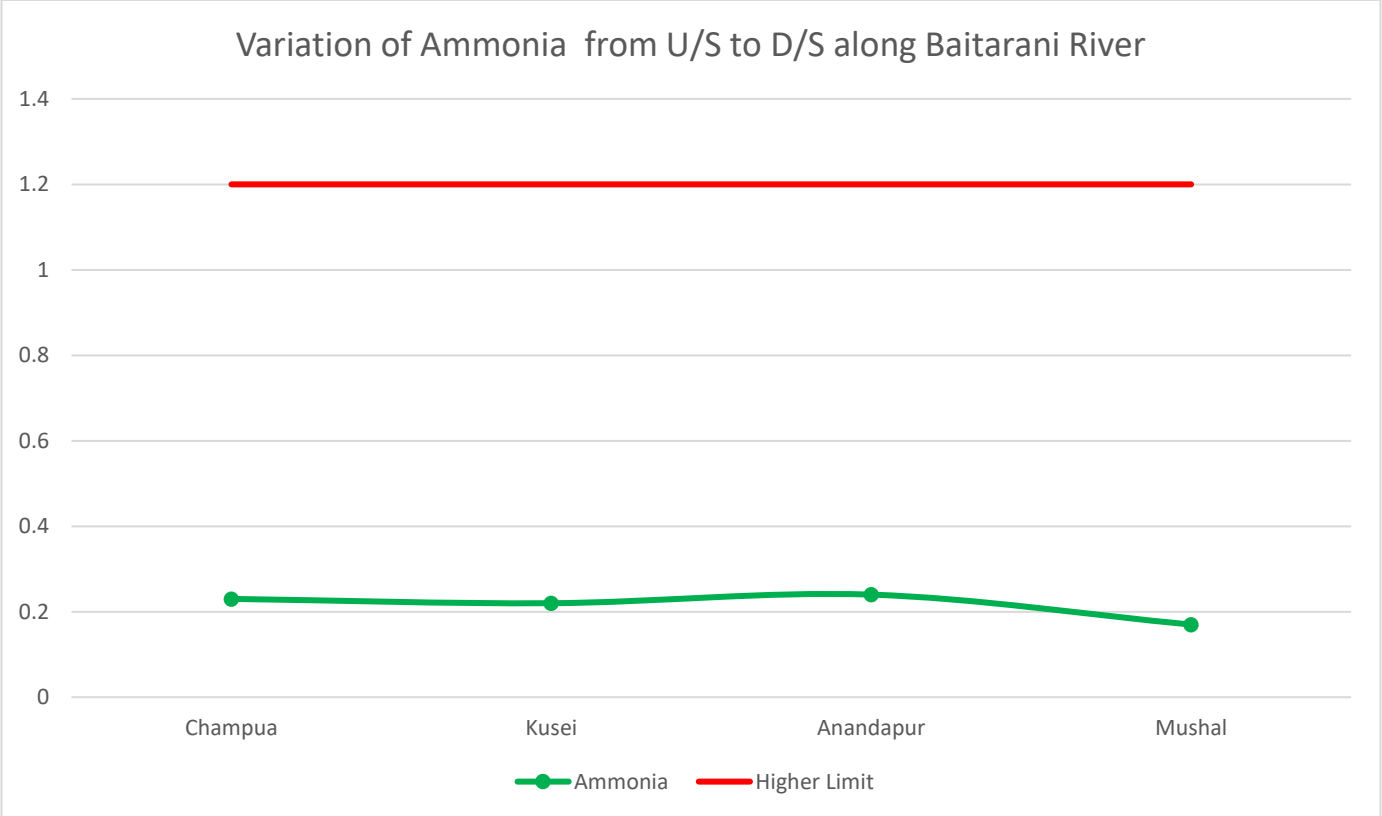
- The Dissolved Oxygen (DO) of the river Baitarani is wellabove the minimum limit (4.0 mg/L) as per CPCB Class C for the month ofMarch 2025 at all water quality stations.



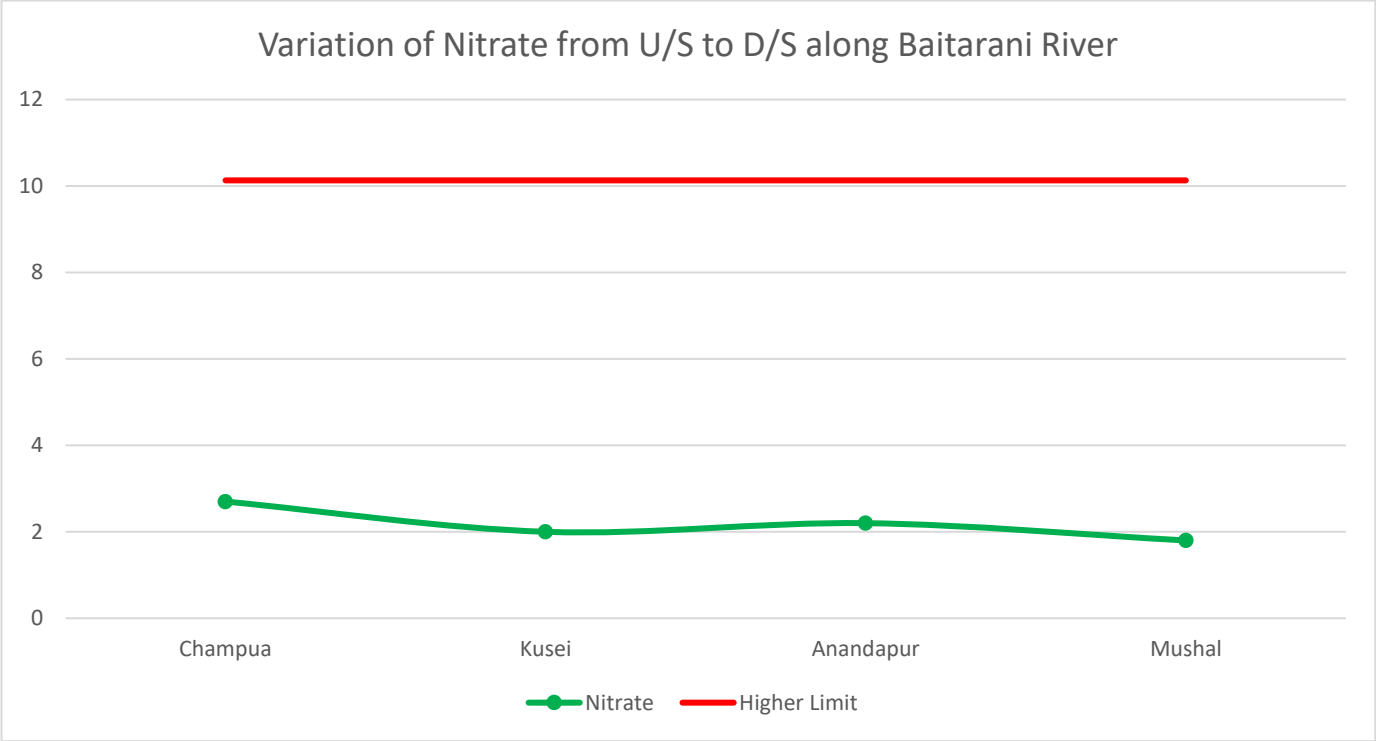
- The Biochemical Chemical Oxygen Demand (BOD) of the river Baitarani is well within the maximum limit (3.0 mg/L) as per CPCB Class C for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



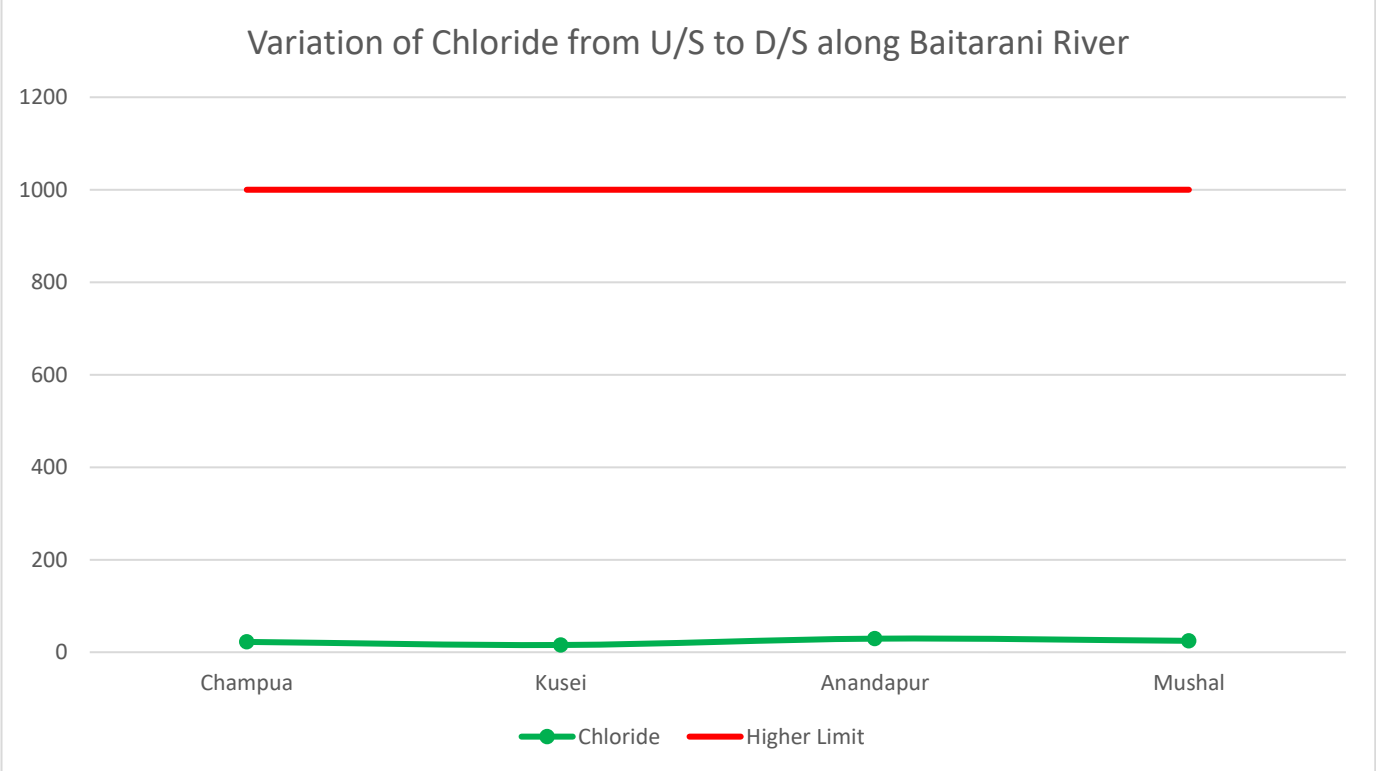
- The value of fluoride of the river Baitarani is well within the limit (1.5 mg/L) as per BIS 10500:2012 for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar.



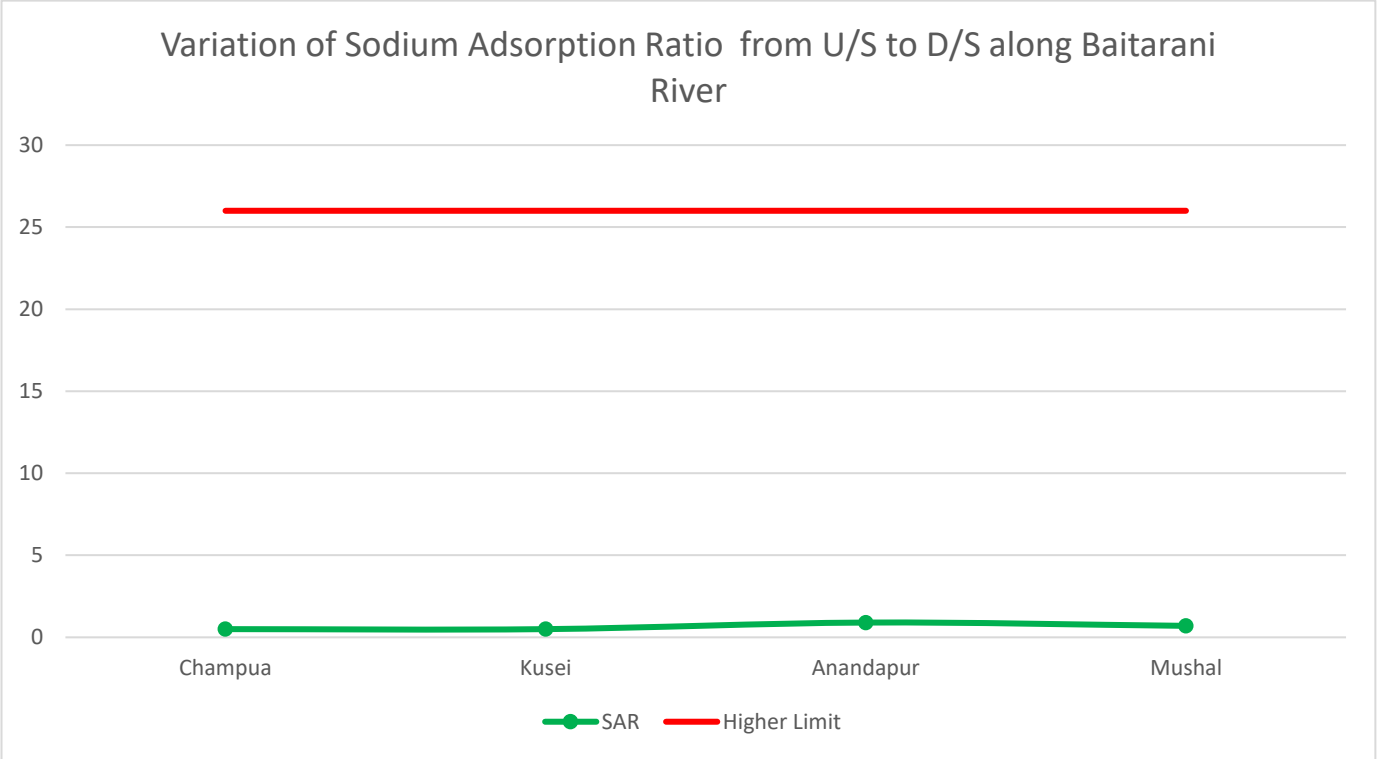
- The value of Ammonia of the river Baitarani is well within the maximumlimit (1.2 mg/L) as per BIS 10500:2012 for the month ofMarch 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



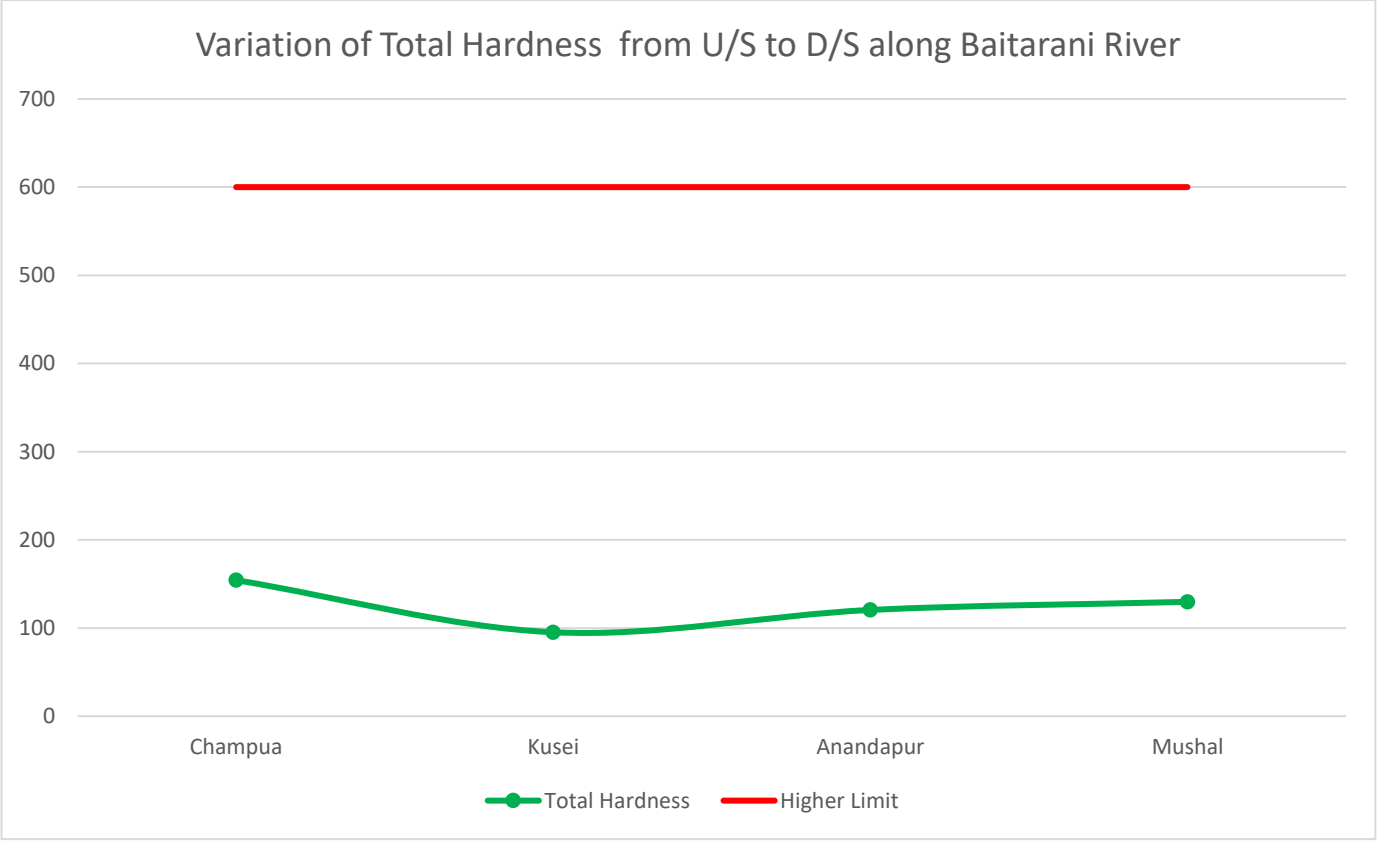
- The value of Nitrate of the river Baitarani is well within the maximum limit (10.13 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Chloride of the river Baitarani is well within the maximum limit (1000.0 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

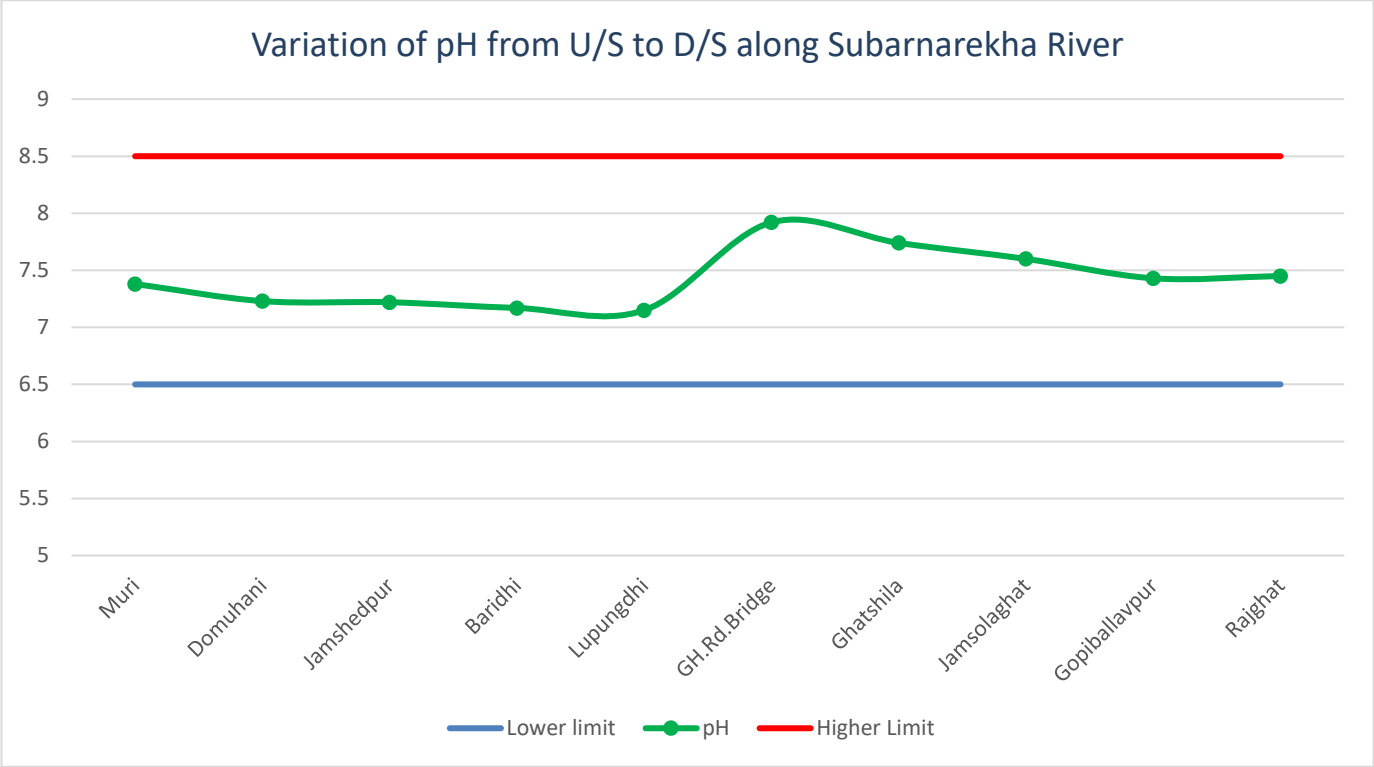


- The value of Sodium Absorption Ratio (SAR) of the river Baitarani is well within the limit (26.0) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

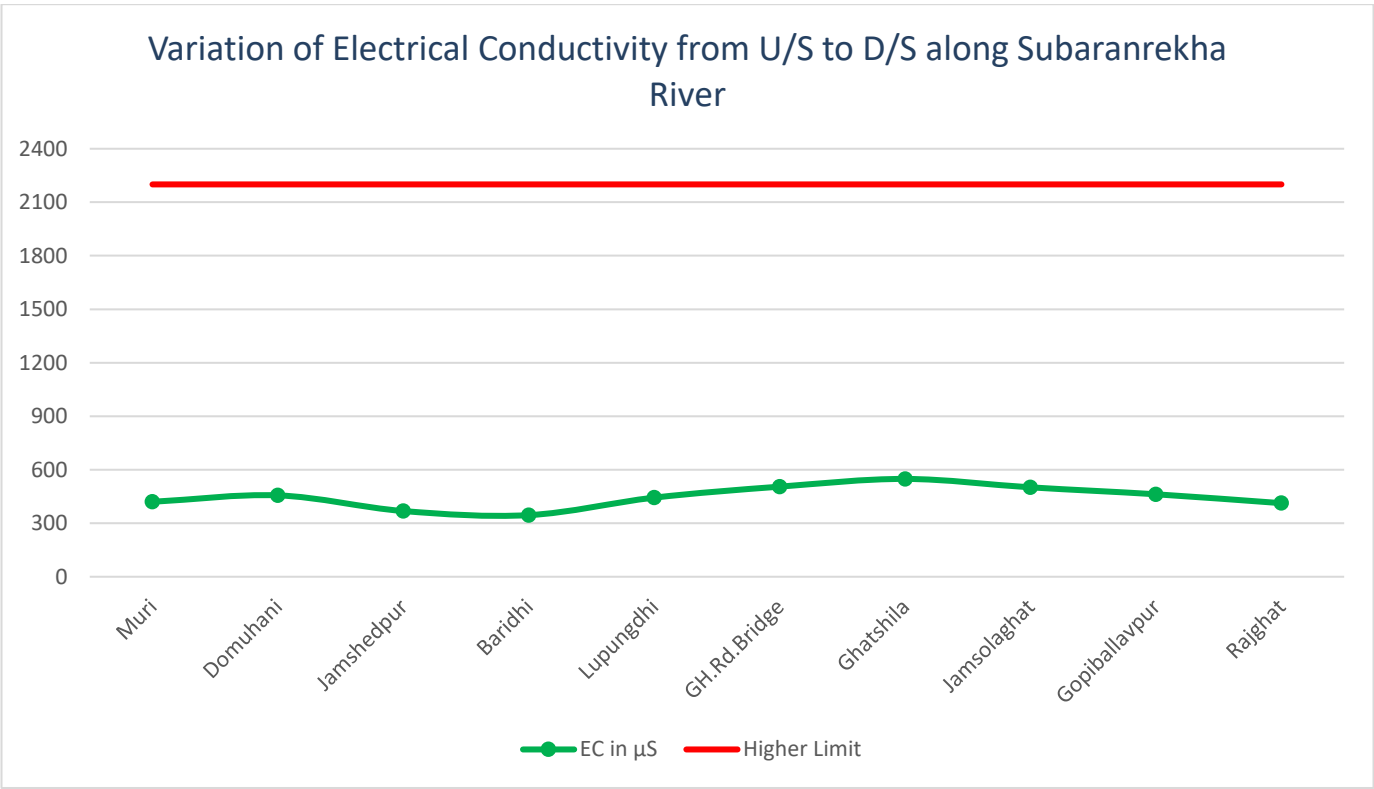


- The value of Total Hardness of the river Baitarani is well within the maximum limit (600. Mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

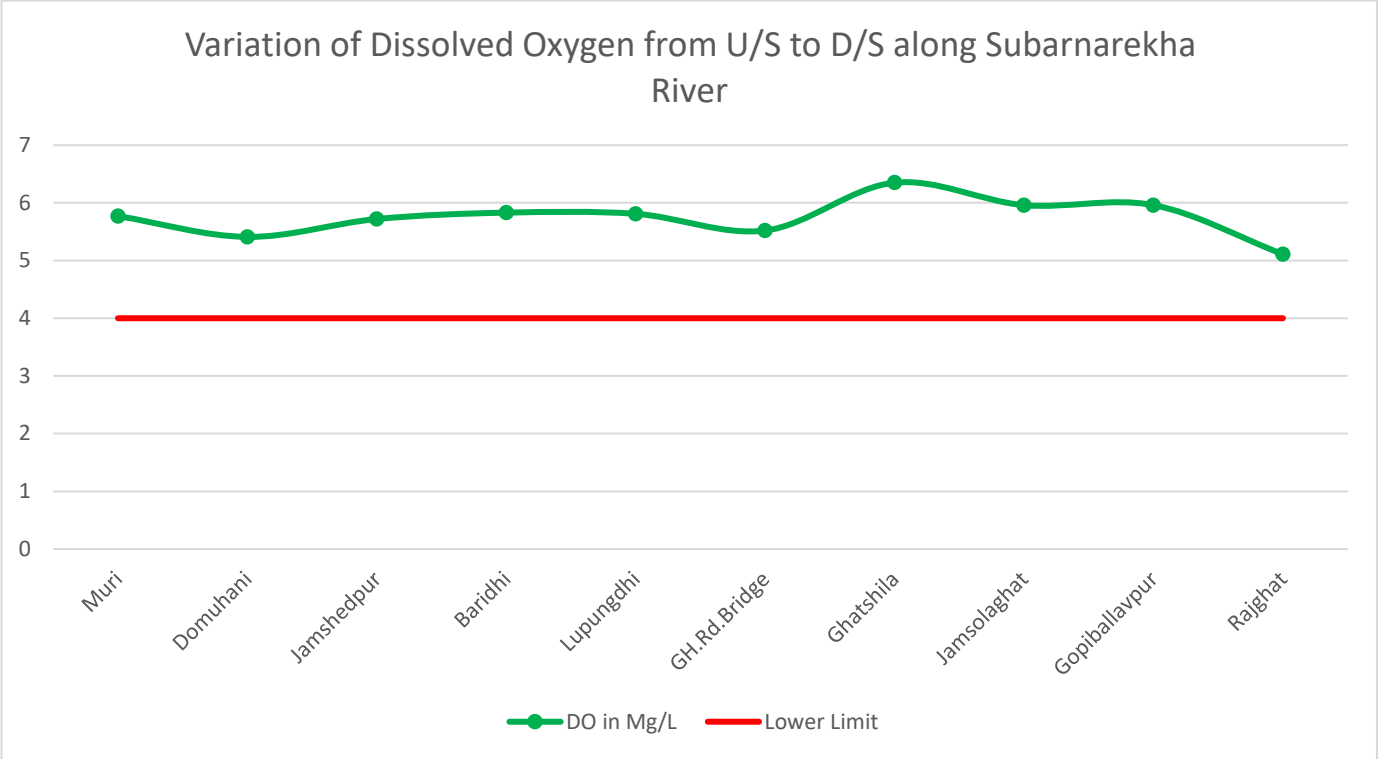
5.4 Subarnarekha Basin



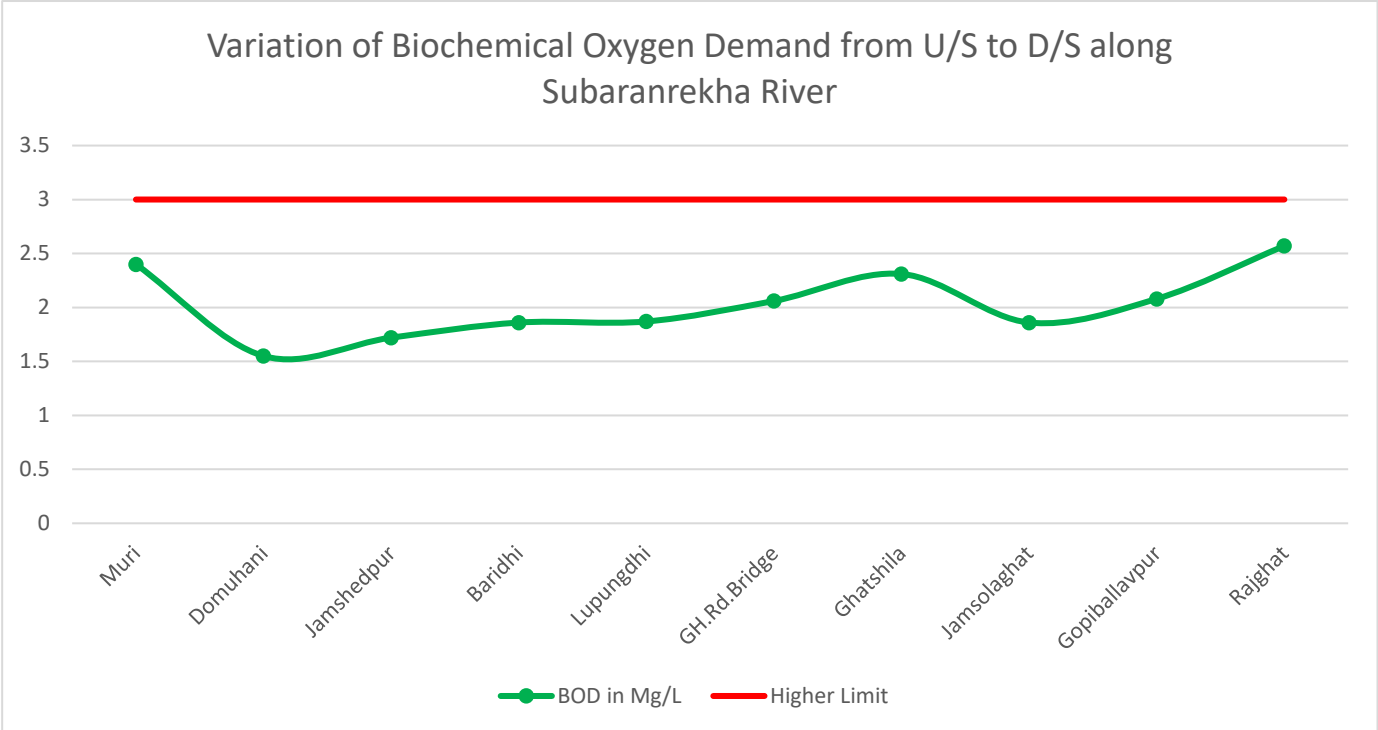
- The pH of the river Subarnarekha is well within the limit (6.5 to 8.5) as per CPCB for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



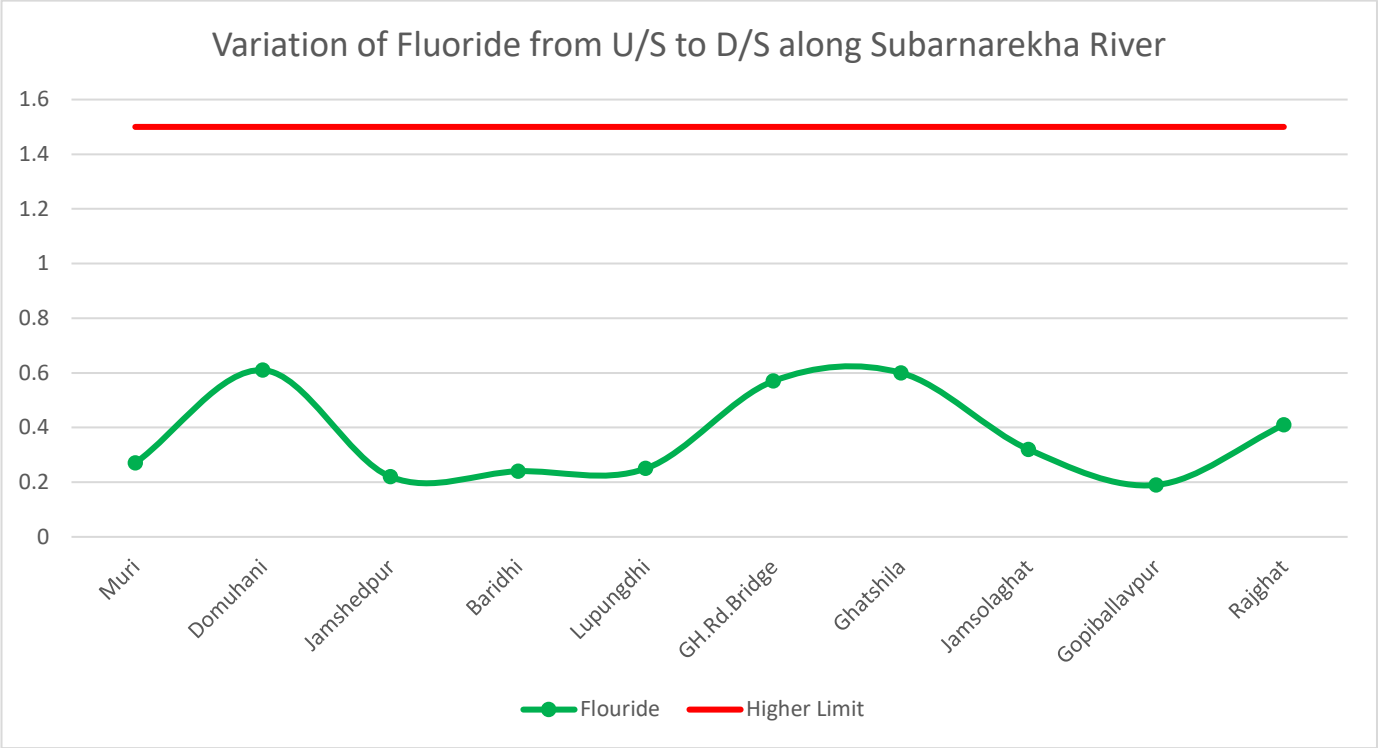
- The Electrical Conductivity of the river Subarnarekha is well within the maximum limit (2250 µS/cm) as per CPCB Class E for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



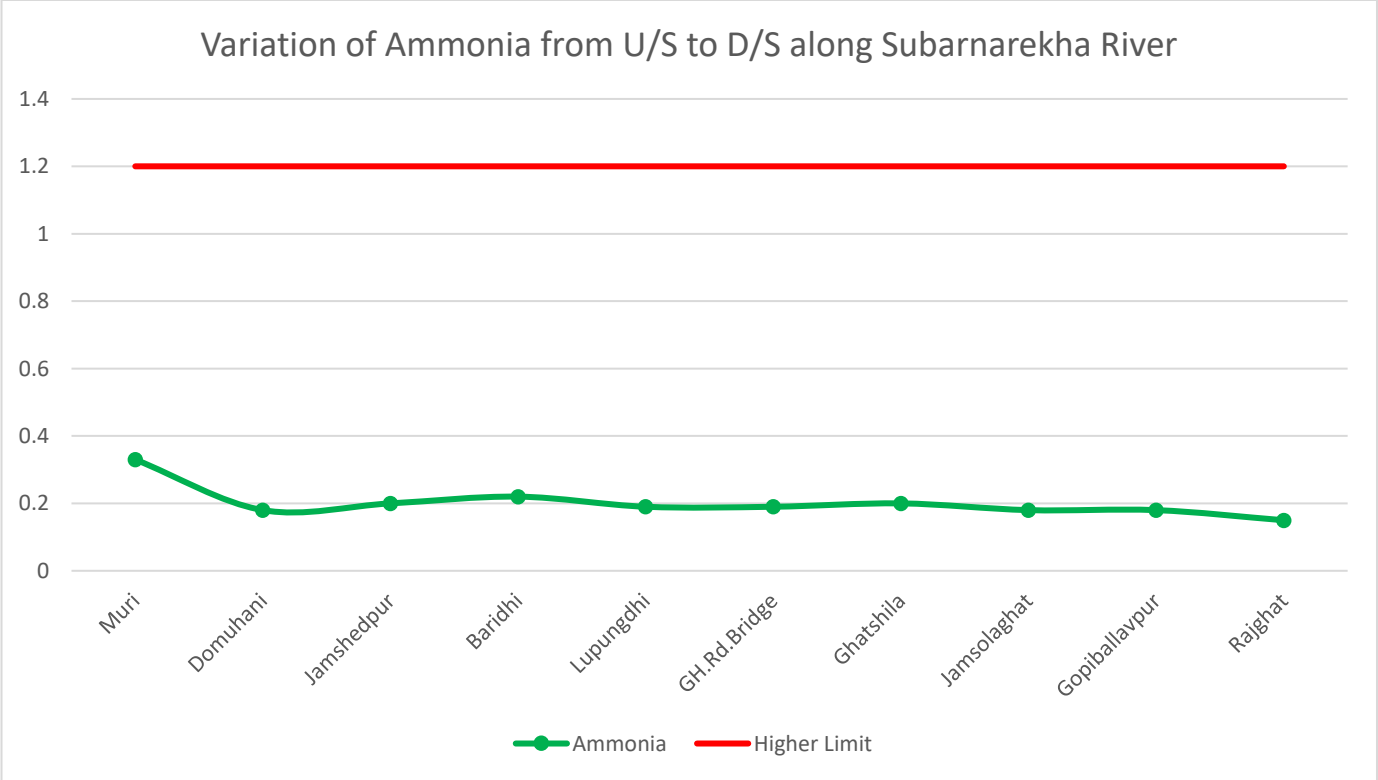
- The Dissolved Oxygen (DO) of the river Subarnarekha is wellabove the minimum limit (4.0 mg/L) as per CPCB ClassC for the month of March2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



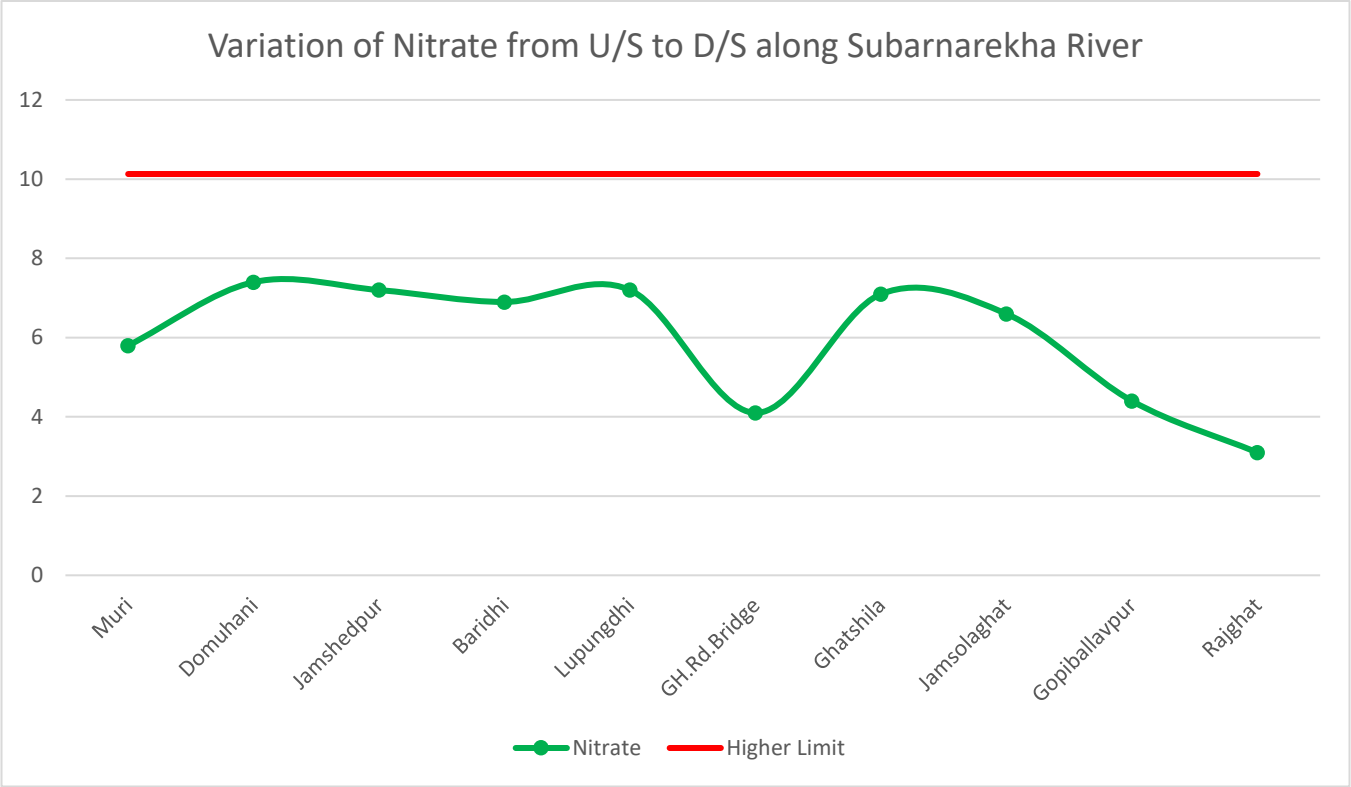
The Biochemical Chemical Oxygen Demand (BOD) of the river Subarnarekha is well within the maximum limit (3.0 mg/L) as per CPCB Class C for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



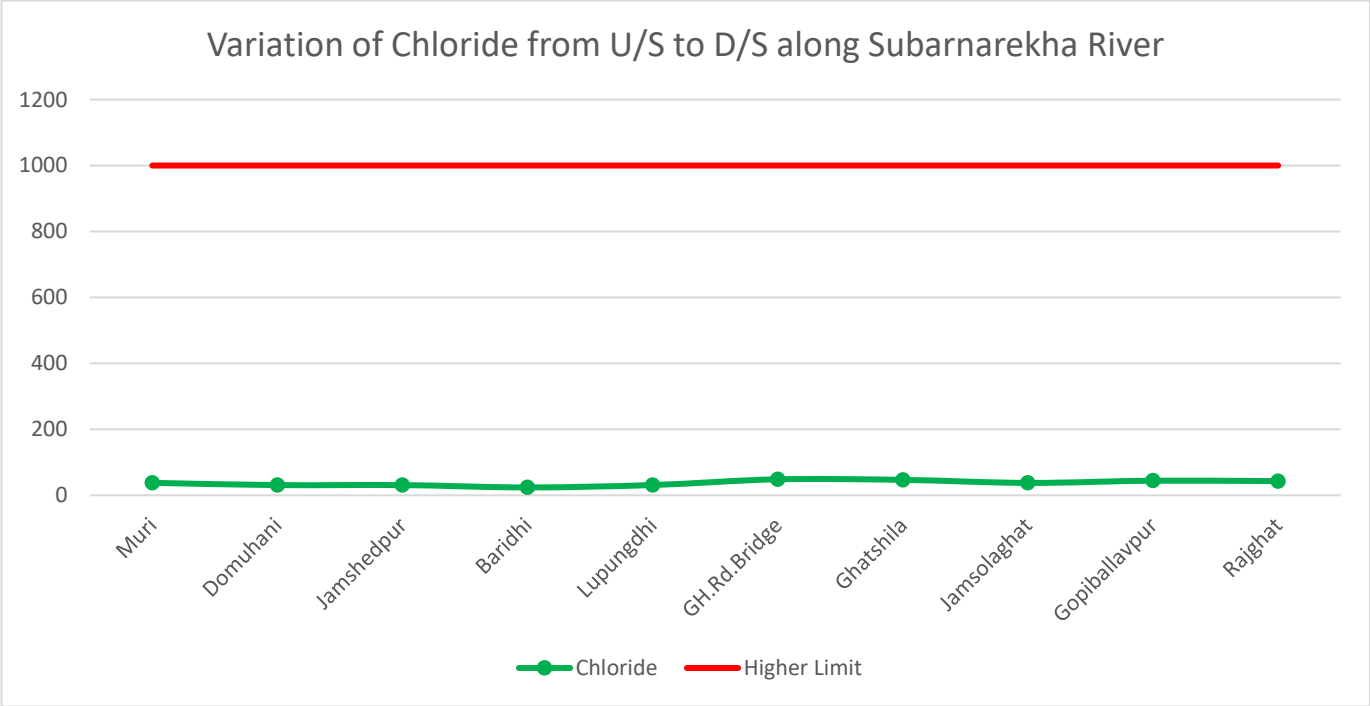
- The value of fluoride of the river Subarnarekha is well within the maximum limit (1.5 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



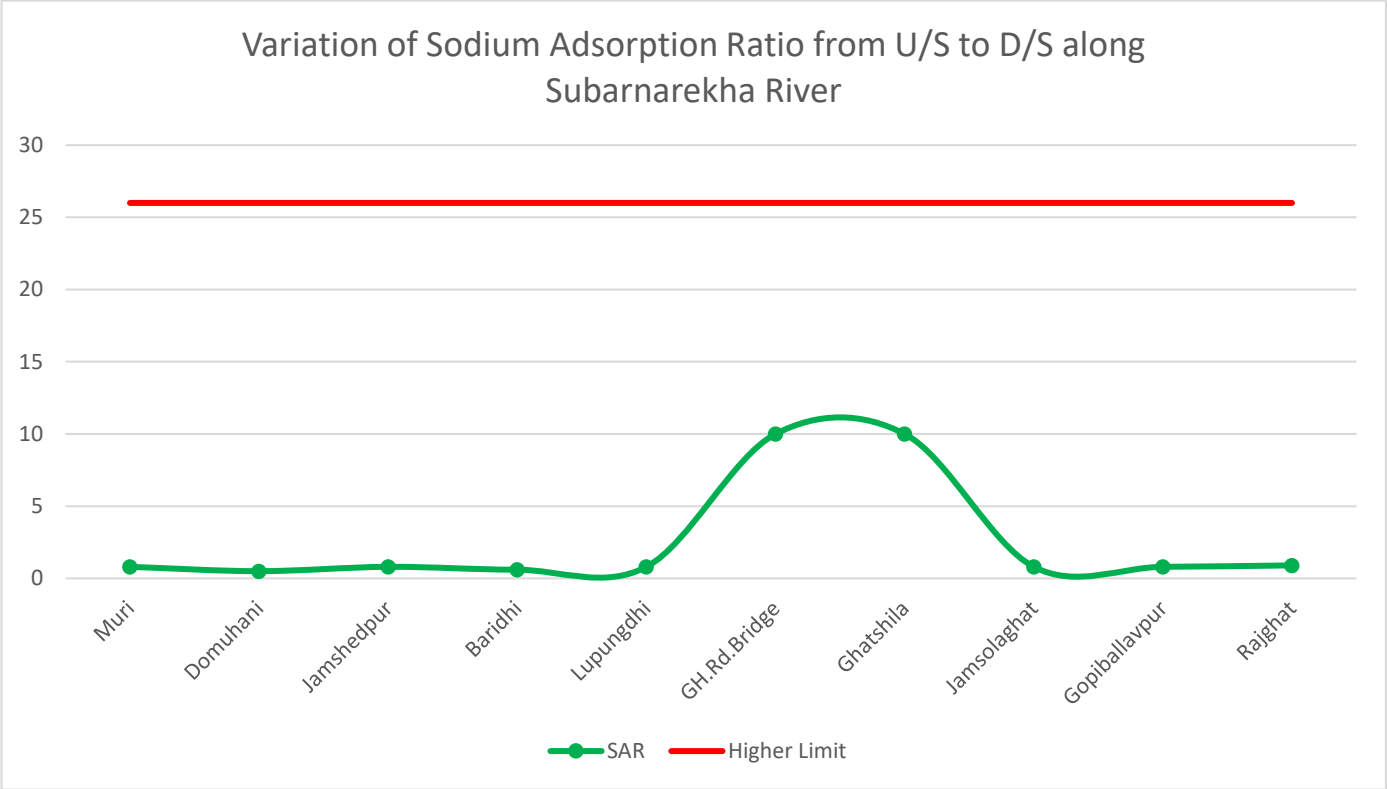
- The value of Ammonia of the river Subarnarekha is well within the maximum limit (1.2 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



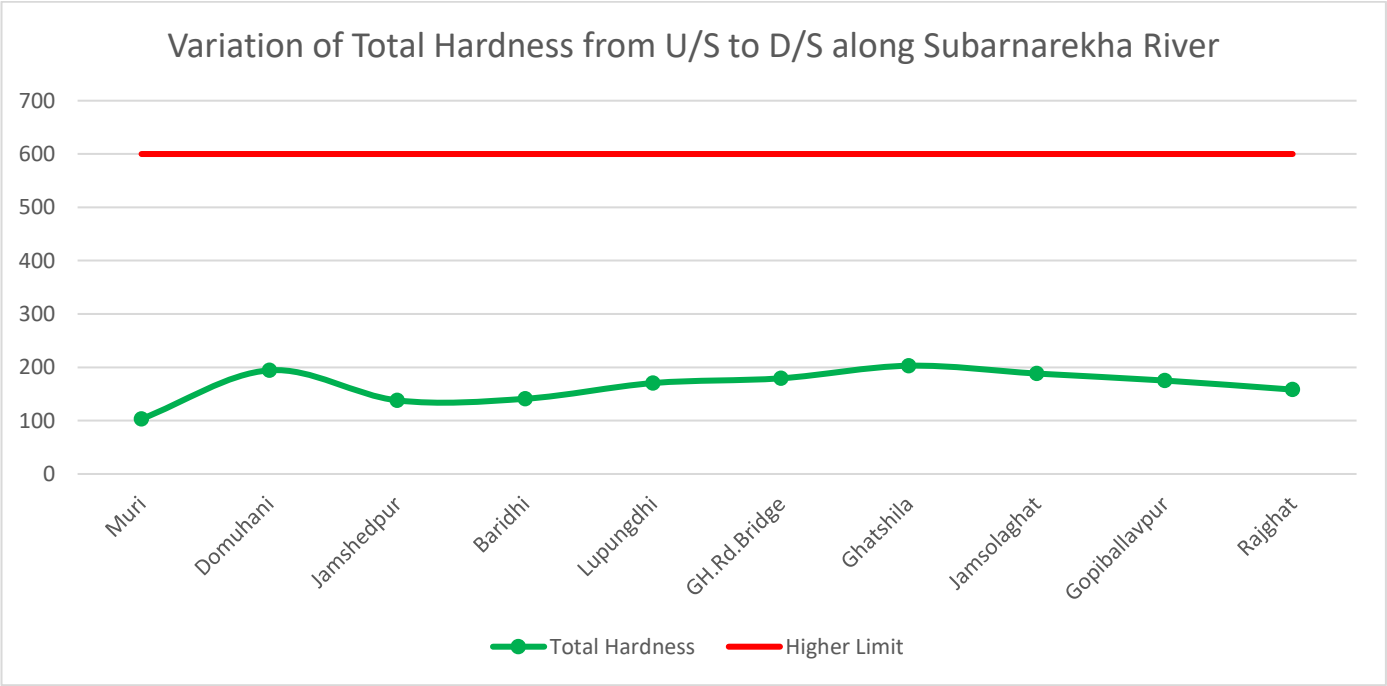
- The value of Nitrate of the river Subarnarekha is well within the maximum limit (10.13 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Chloride of the river Subarnarekha is well within the maximum limit (1000.0 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

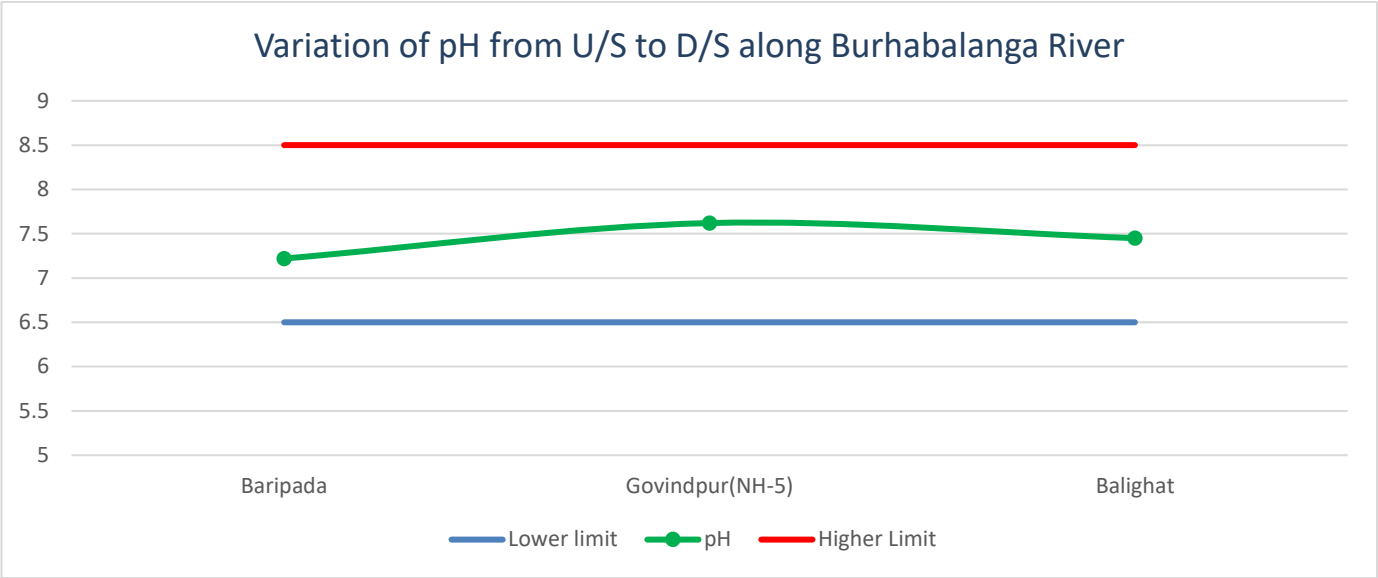


- The value of Sodium Absorption Ratio (SAR) of the river Subarnarekha is well within the maximum limit (26.0) as per BIS 10500:2012 for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar.

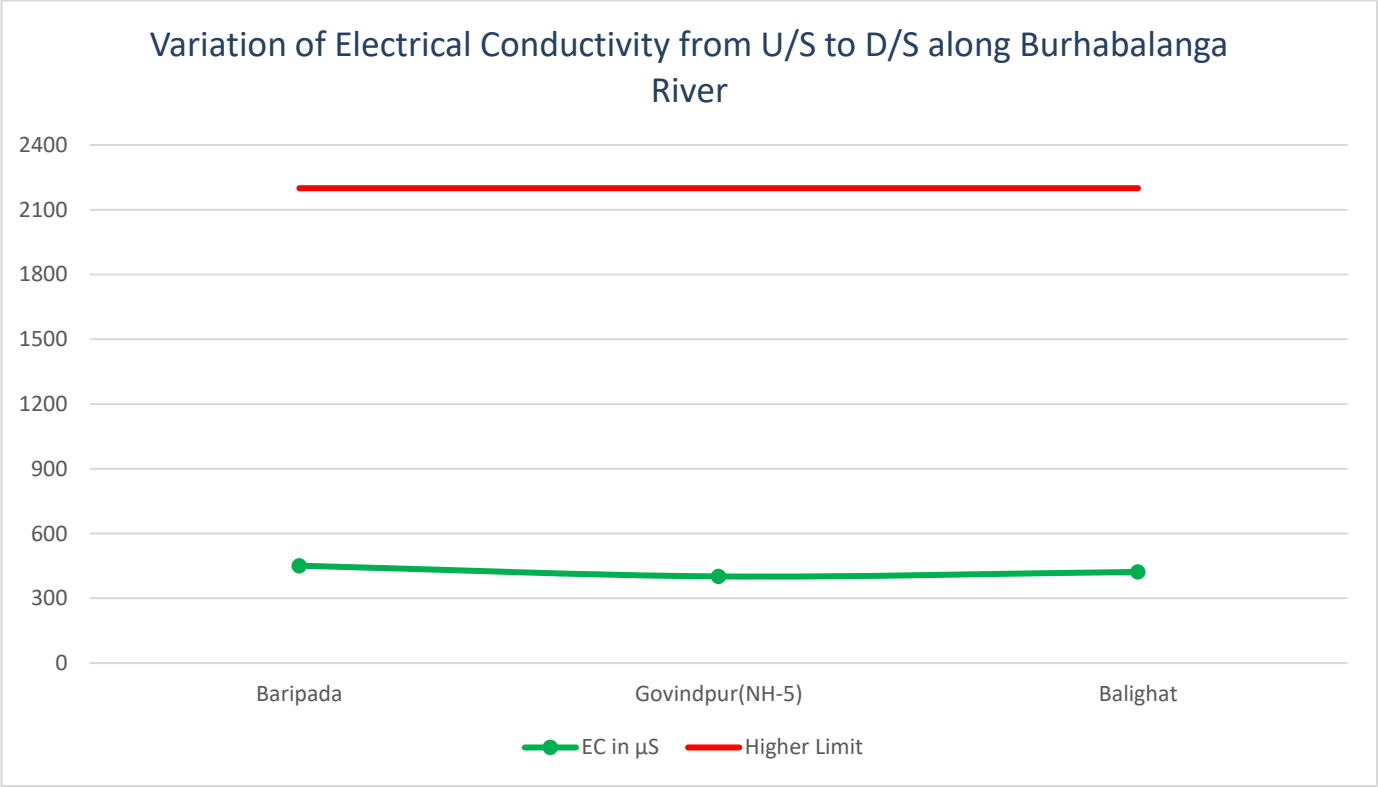


- The value of Total Hardness of the river Subarnarekha is well within the maximum limit (600. Mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

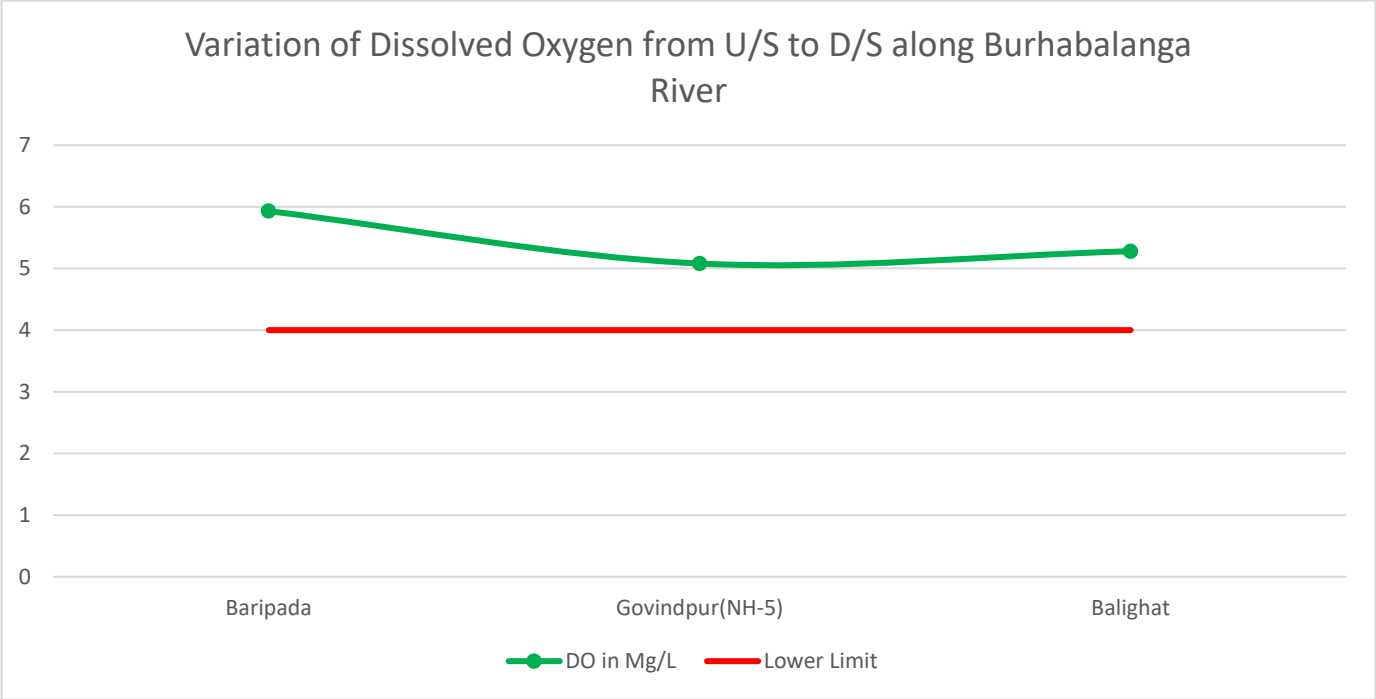
5.5 Burhabalanga Basin



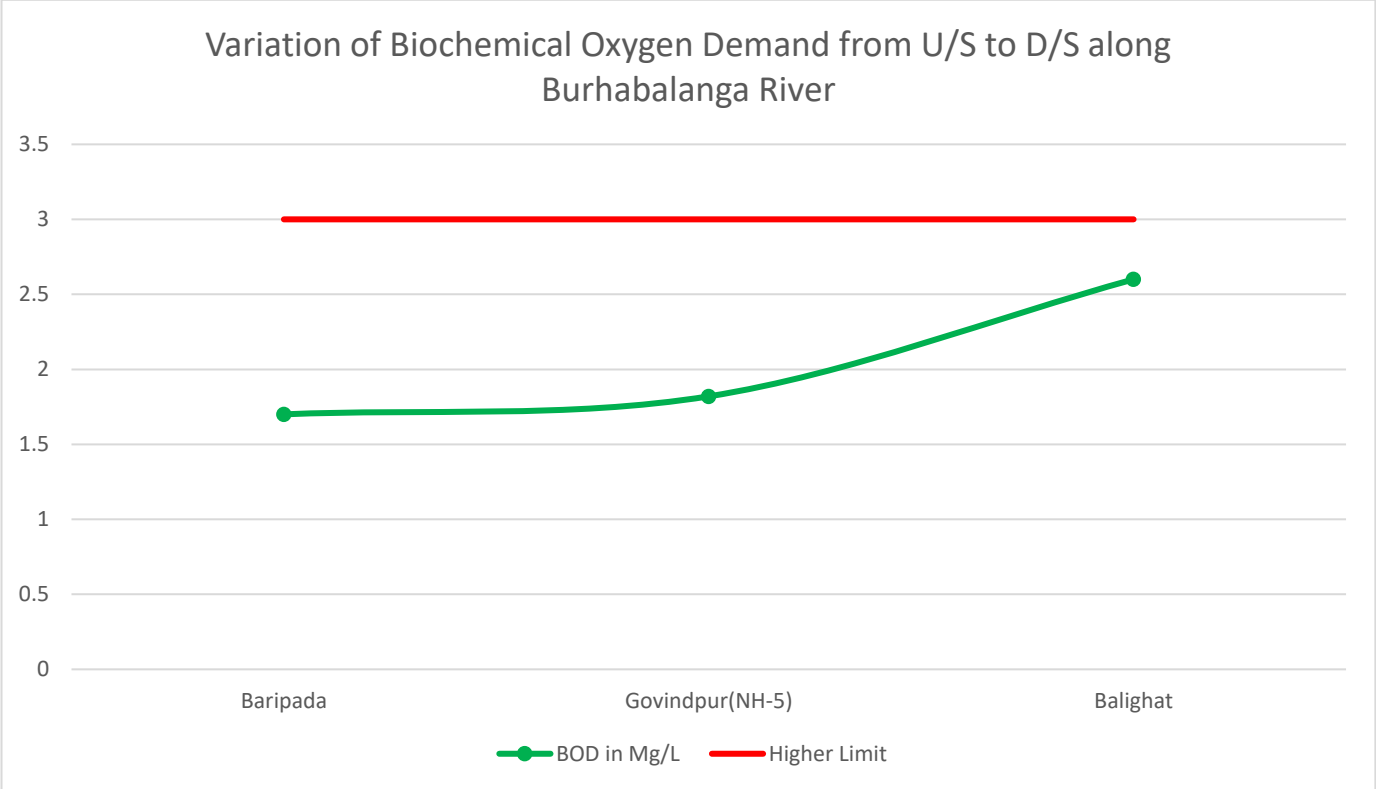
- The pH of the river Burhabalanga is well within the limit (6.5 to 8.5) as per CPCB for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar.



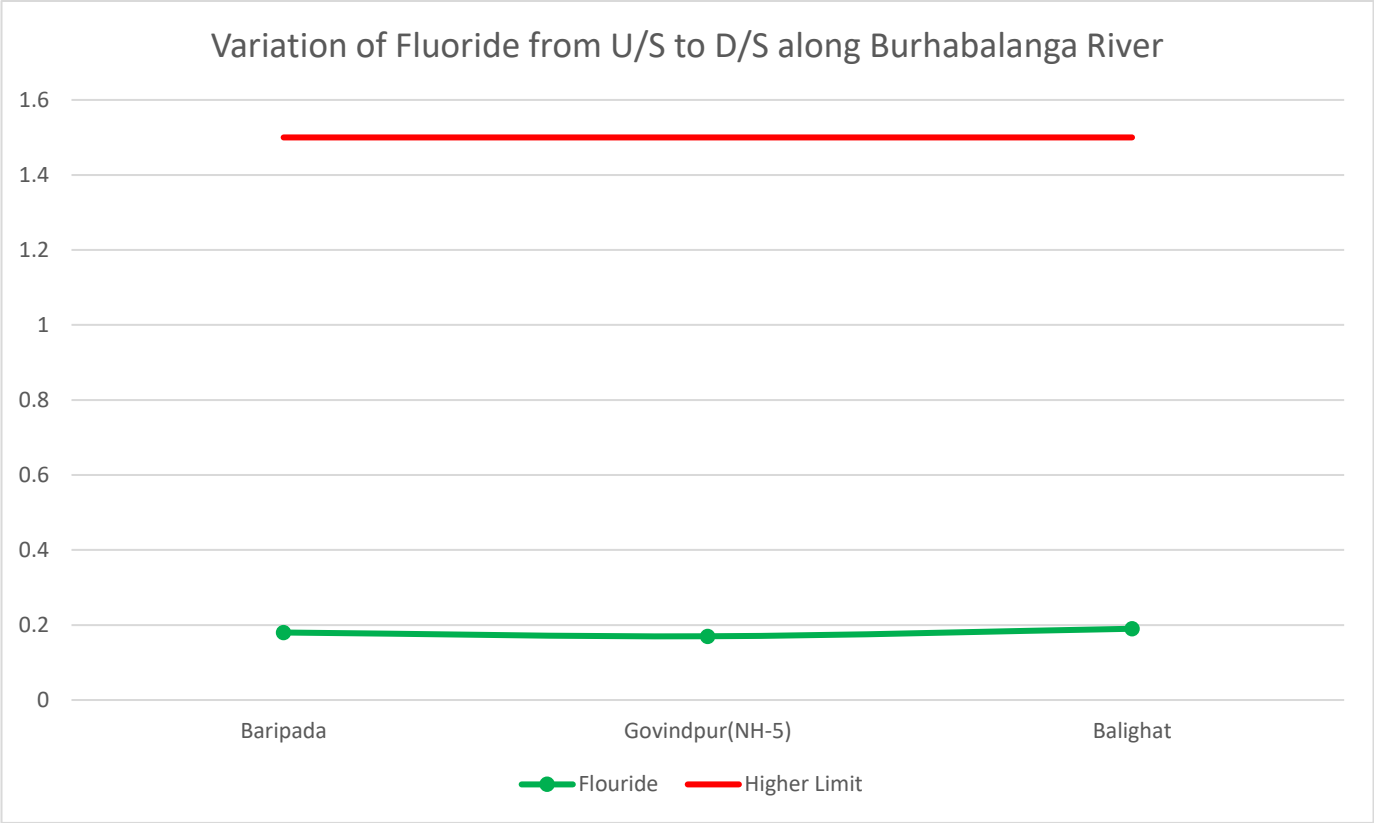
- The Electrical Conductivity of the river Burhabalanga is well within the maximum limit (2250 µS/cm) as per CPCB Class E for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



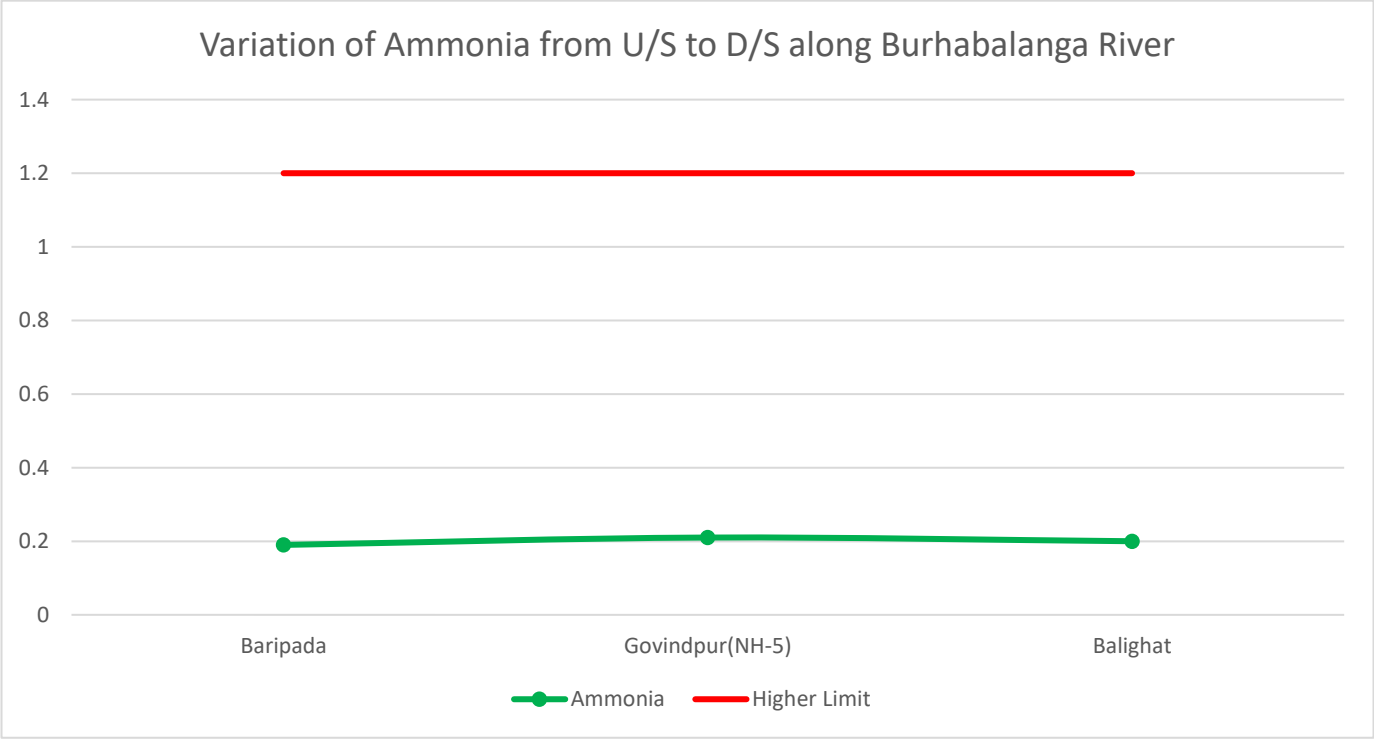
- The Dissolved Oxygen (DO) of the river Burhabalangaiswell abovethe minimum limit (4.0 mg/L) as per CPCB Class C for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



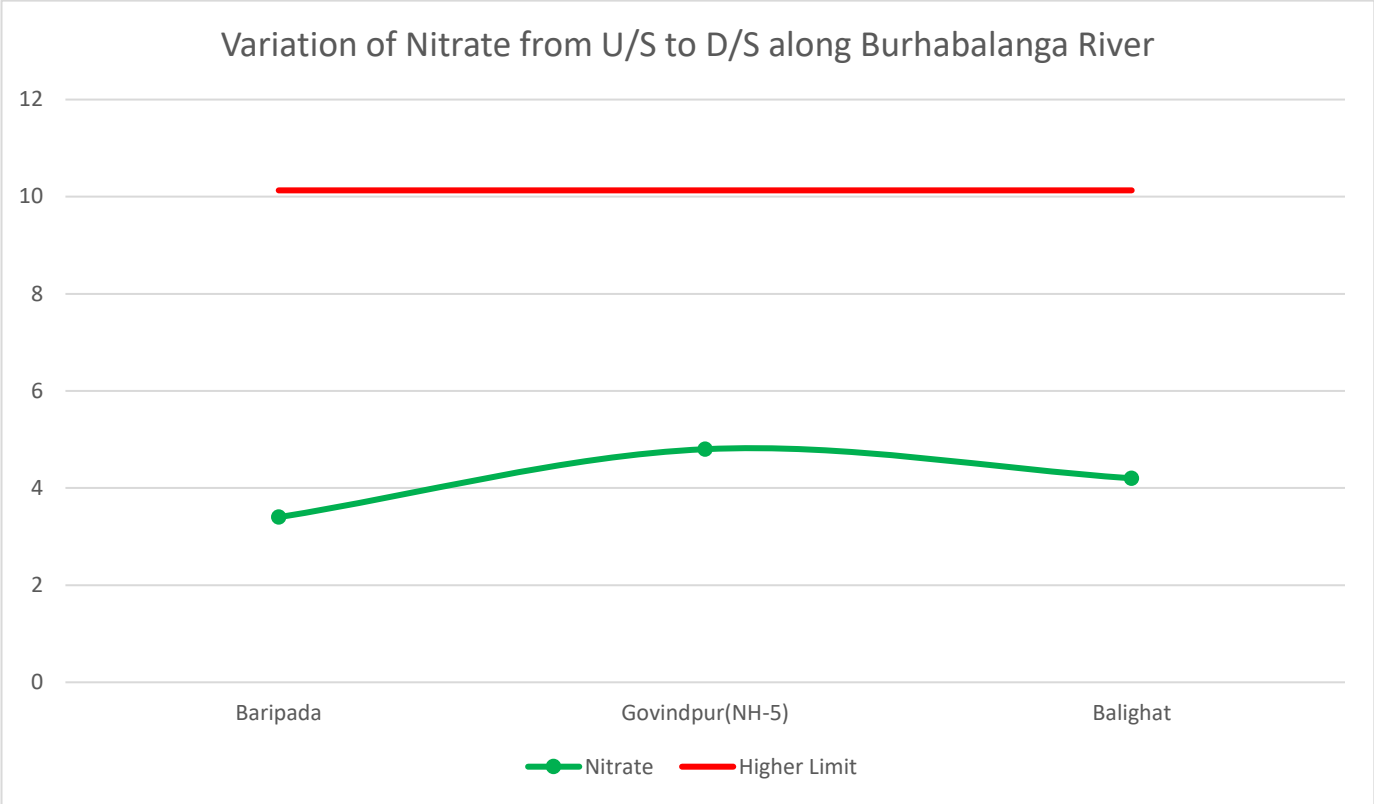
- The Biochemical Chemical Oxygen Demand (BOD) of the river Burhabalanga is well within the maximum limit (3.0 mg/L) as per CPCB Class C for the month ofMarch 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



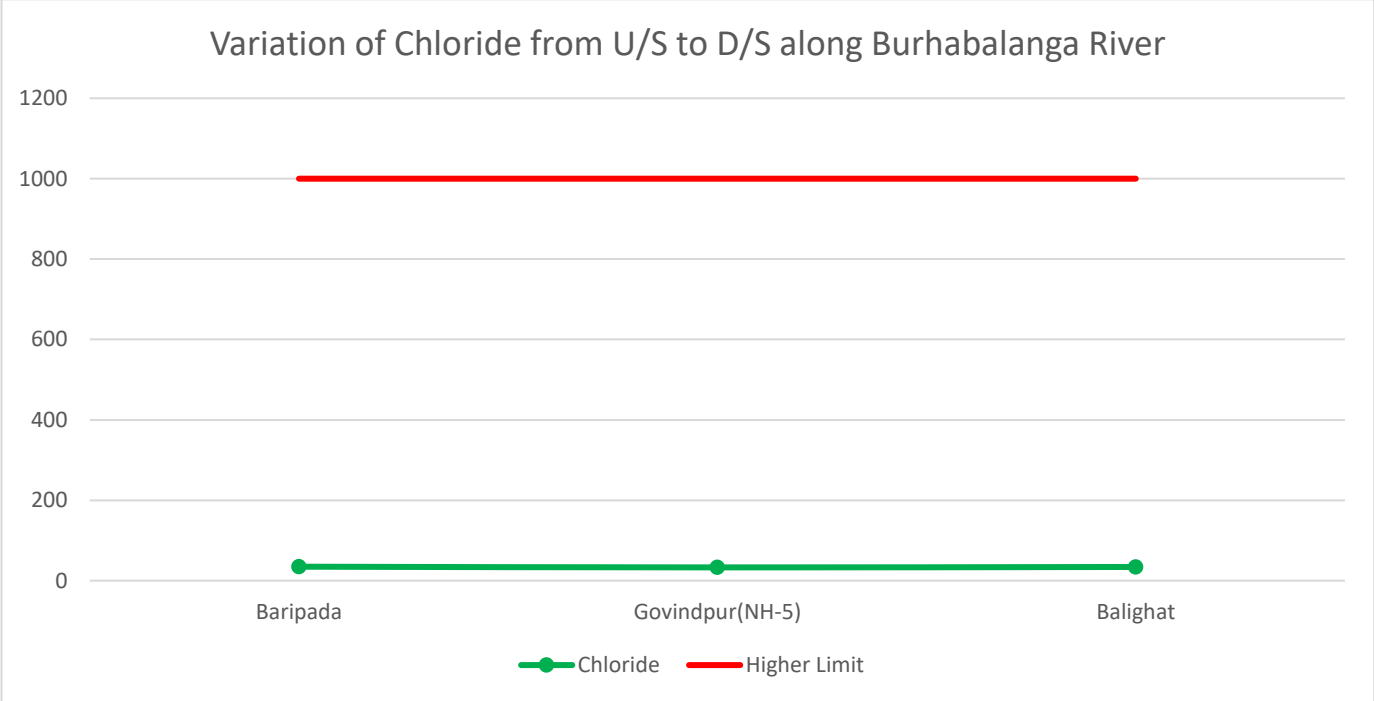
- The value of fluoride of the river Burhabalanga is well within the maximum limit (1.5 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



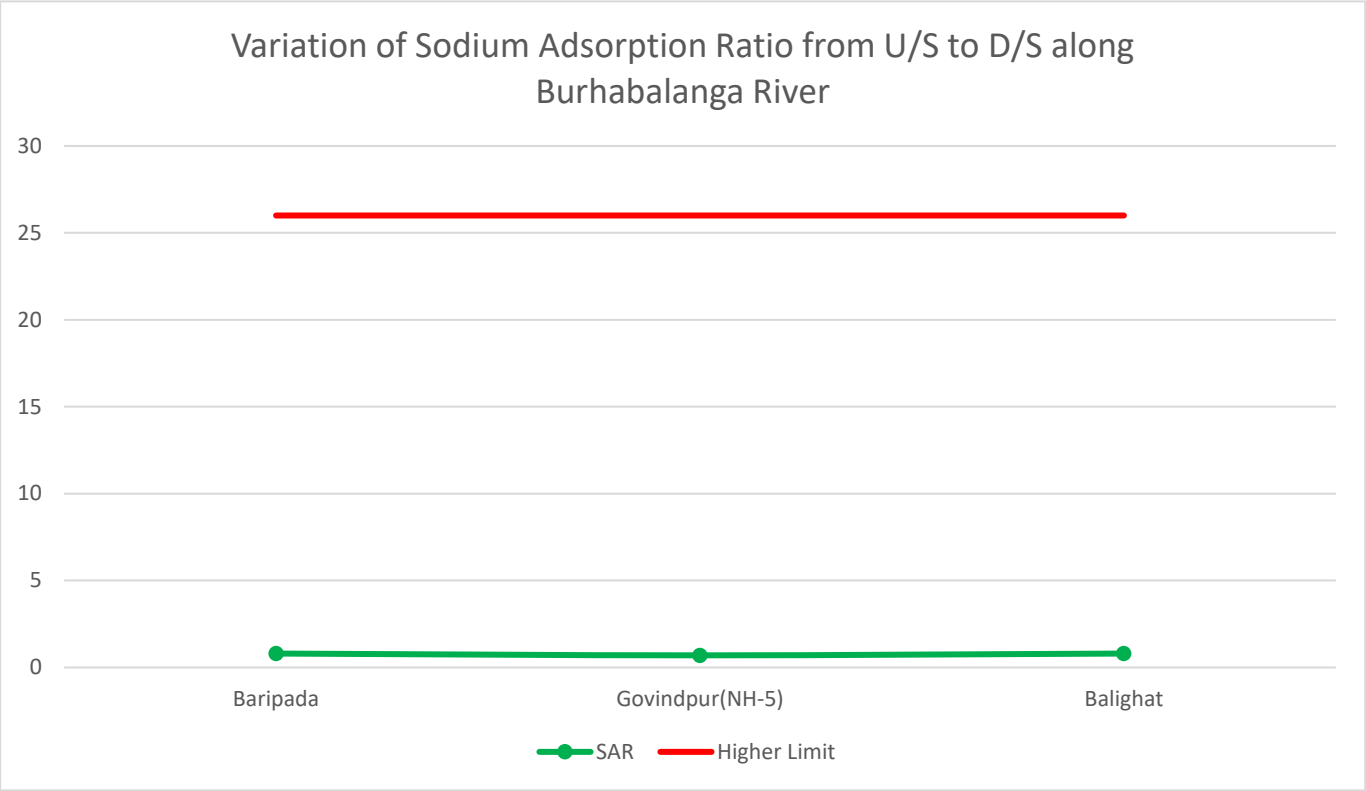
- The value of Ammonia of the river Burhabalanga is well within the maximum limit (1.2 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



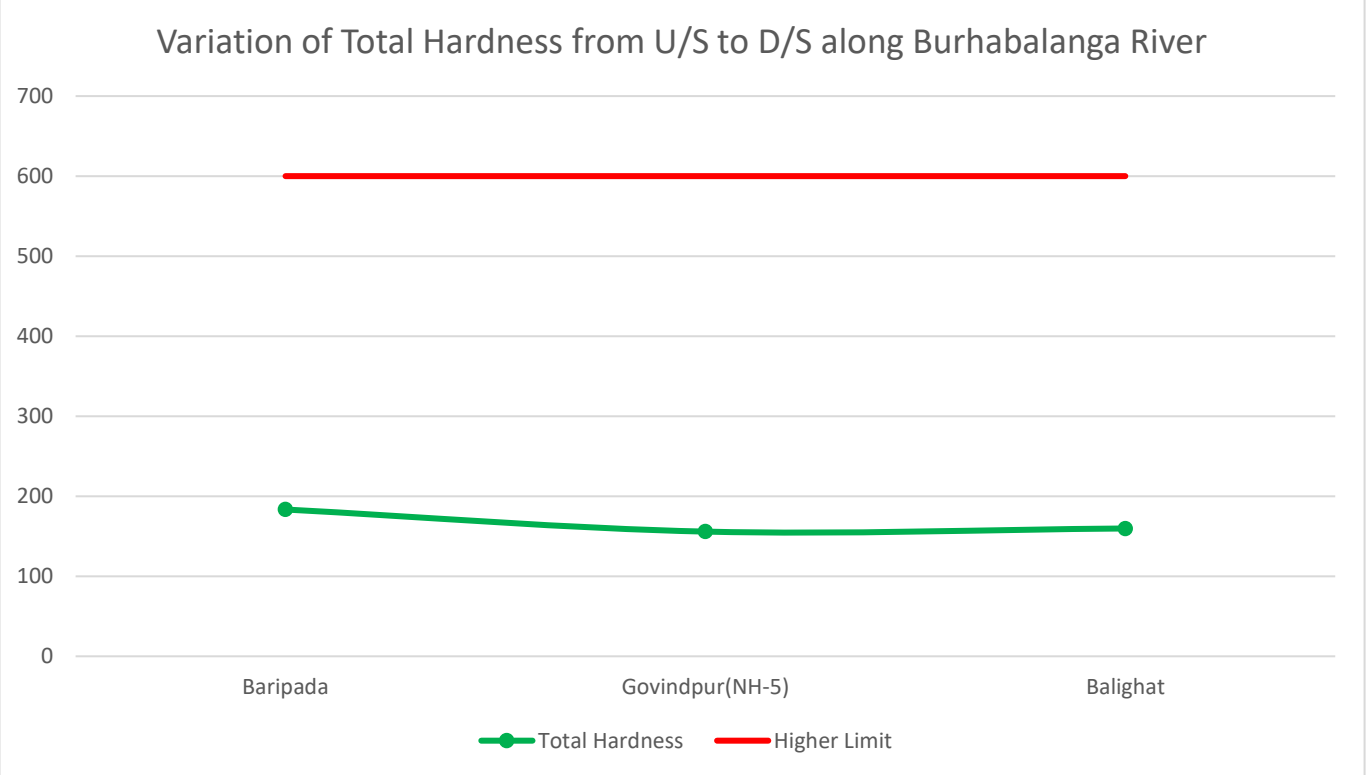
- The value of Nitrate of the river Burhabalanga is well within the maximum limit (10.13 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Chloride of the river Burhabalanga is well within the maximum limit (1000.0 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

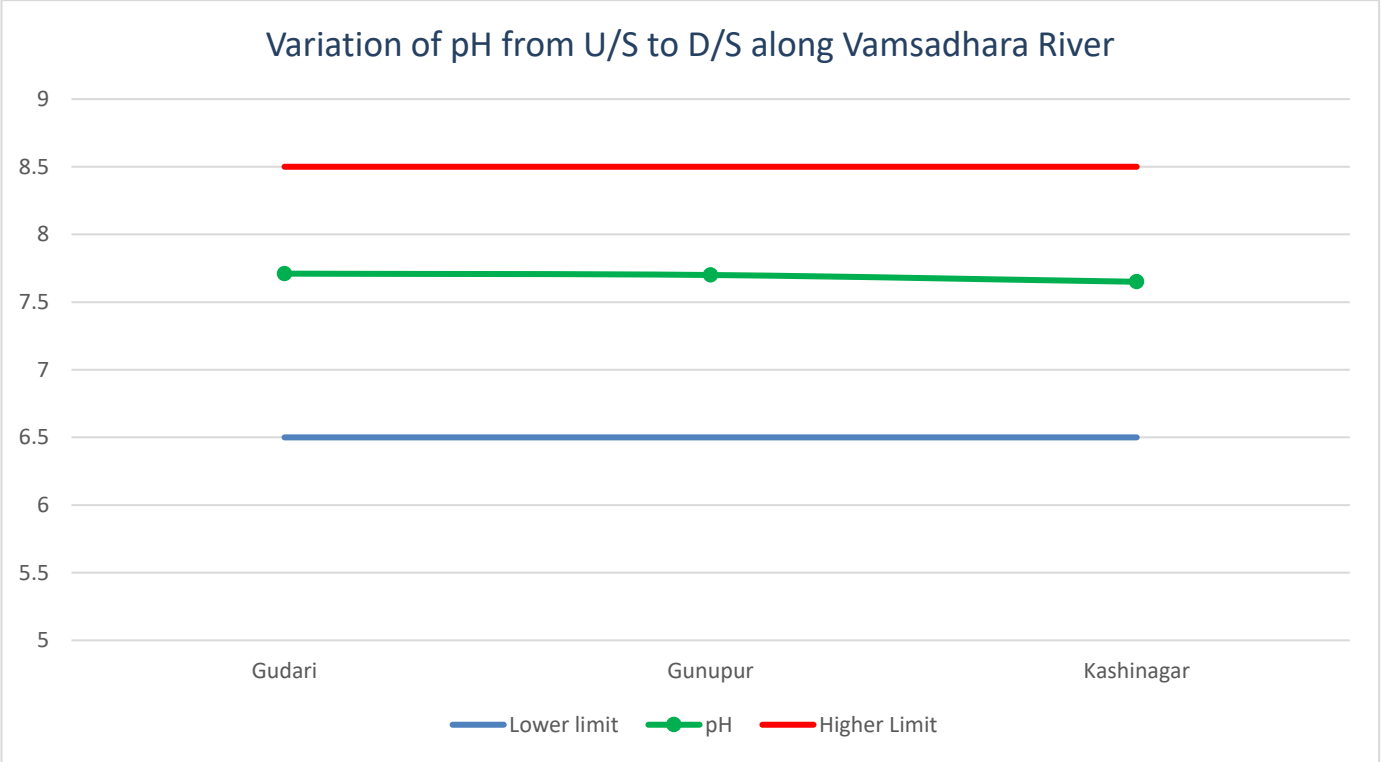


The value of Sodium Absorption Ratio (SAR) of the river Burhabalanga is well within the maximum limit (26.0) as per BIS 10500:2012 for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar.

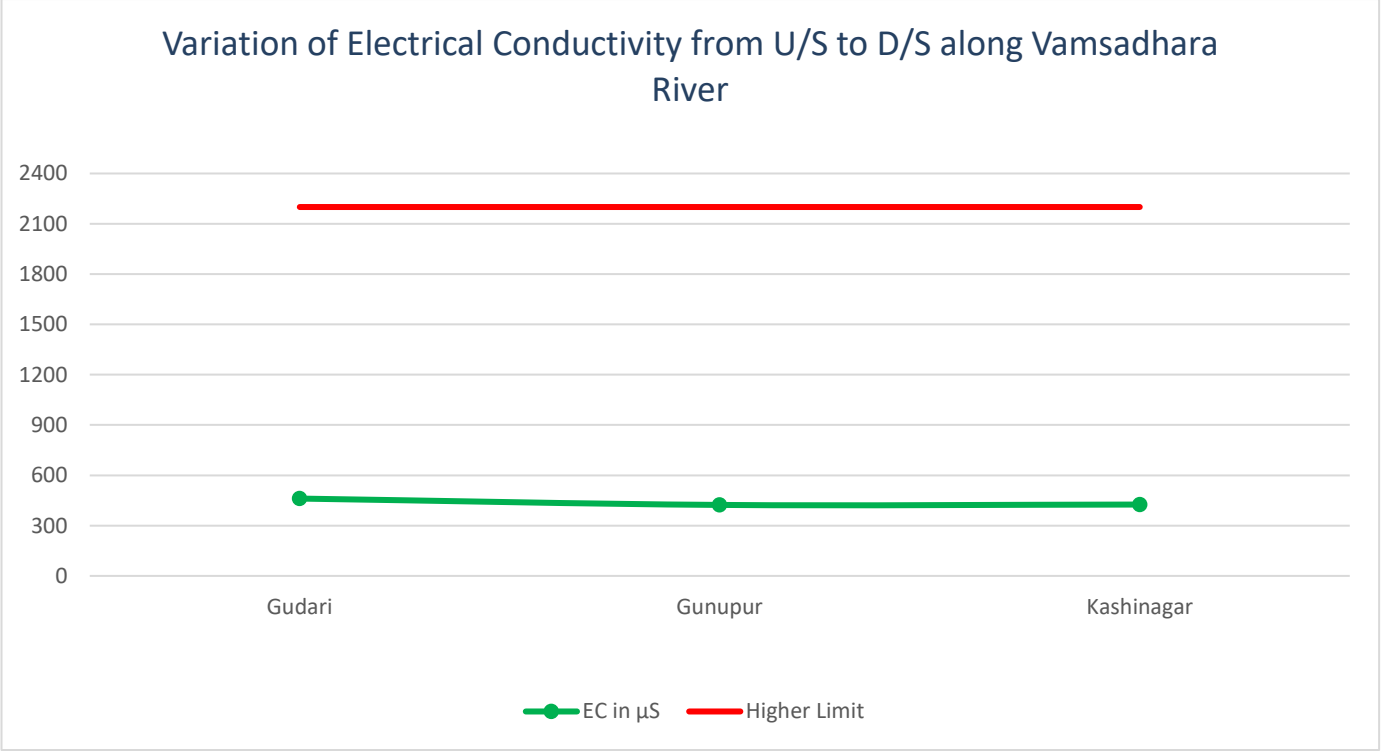


The value of Total Hardness of the river Burhabalanga is well within the maximum limit (600 Mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

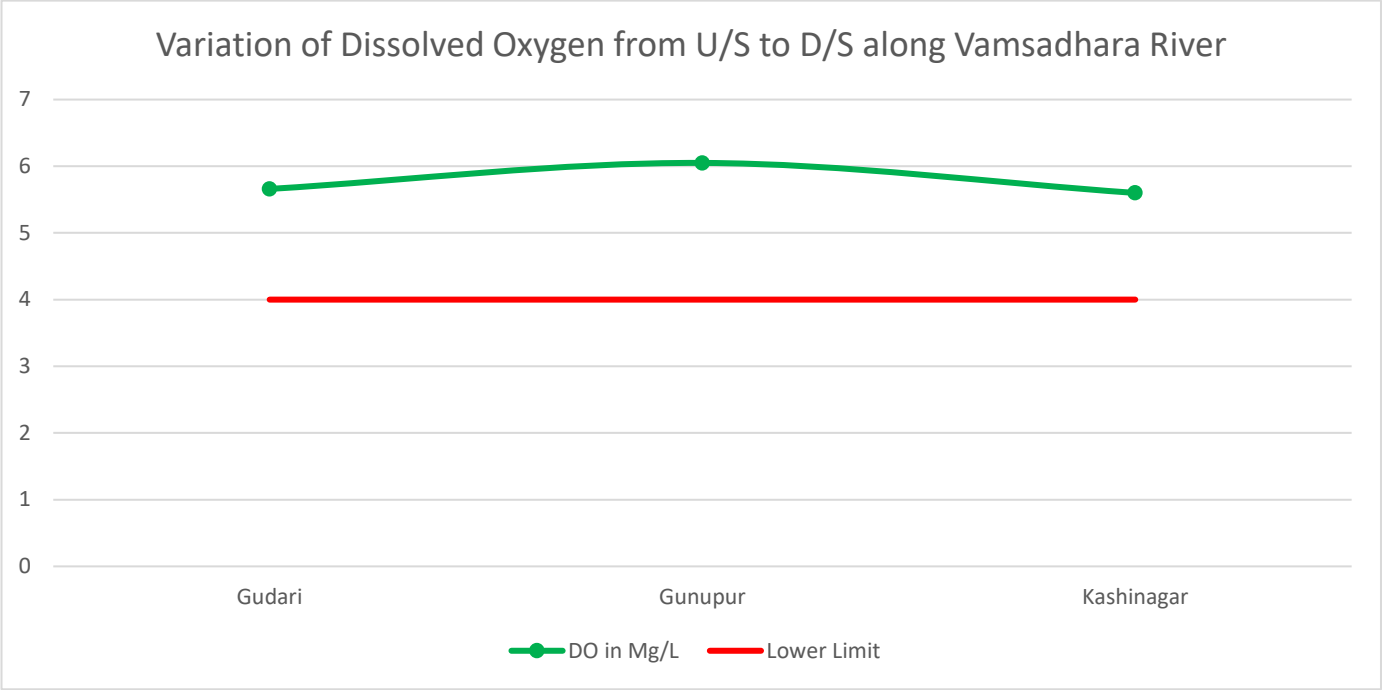
5.6 Vamsadhara Basin



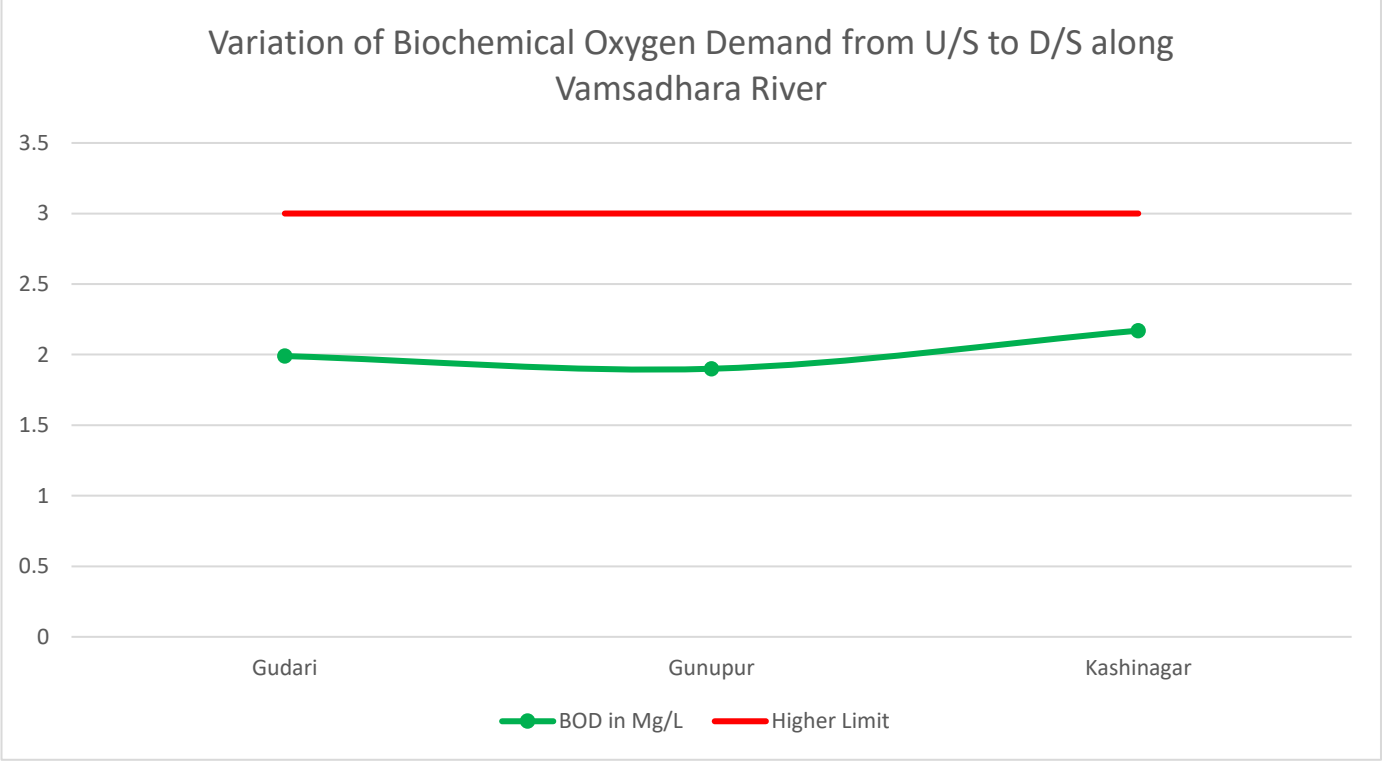
- The pH of the river Vamsadhara is well within the limit (6.5 to 8.5) as per CPCB for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



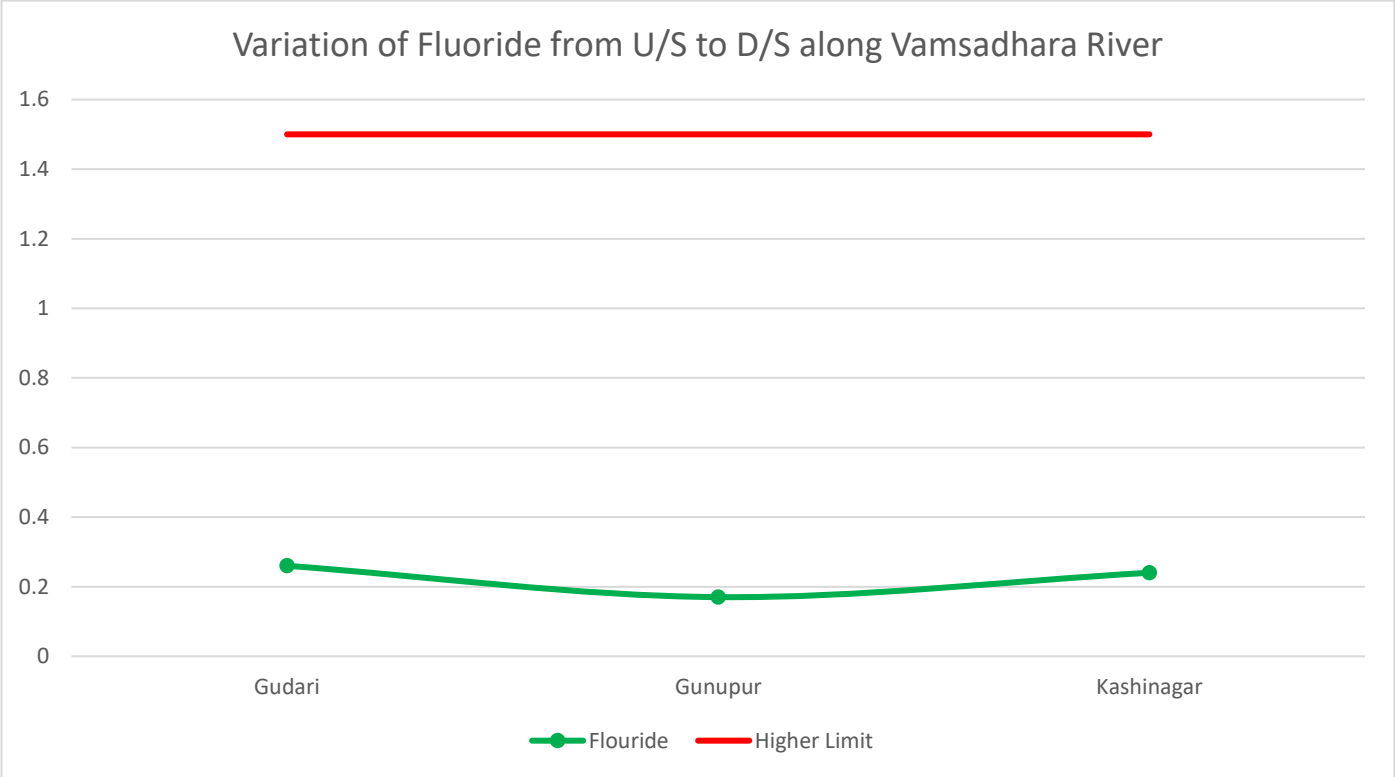
- The Electrical Conductivity of the river Vamsadhara is well within the maximum limit (2250 µS/cm) as per CPCB Class E for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



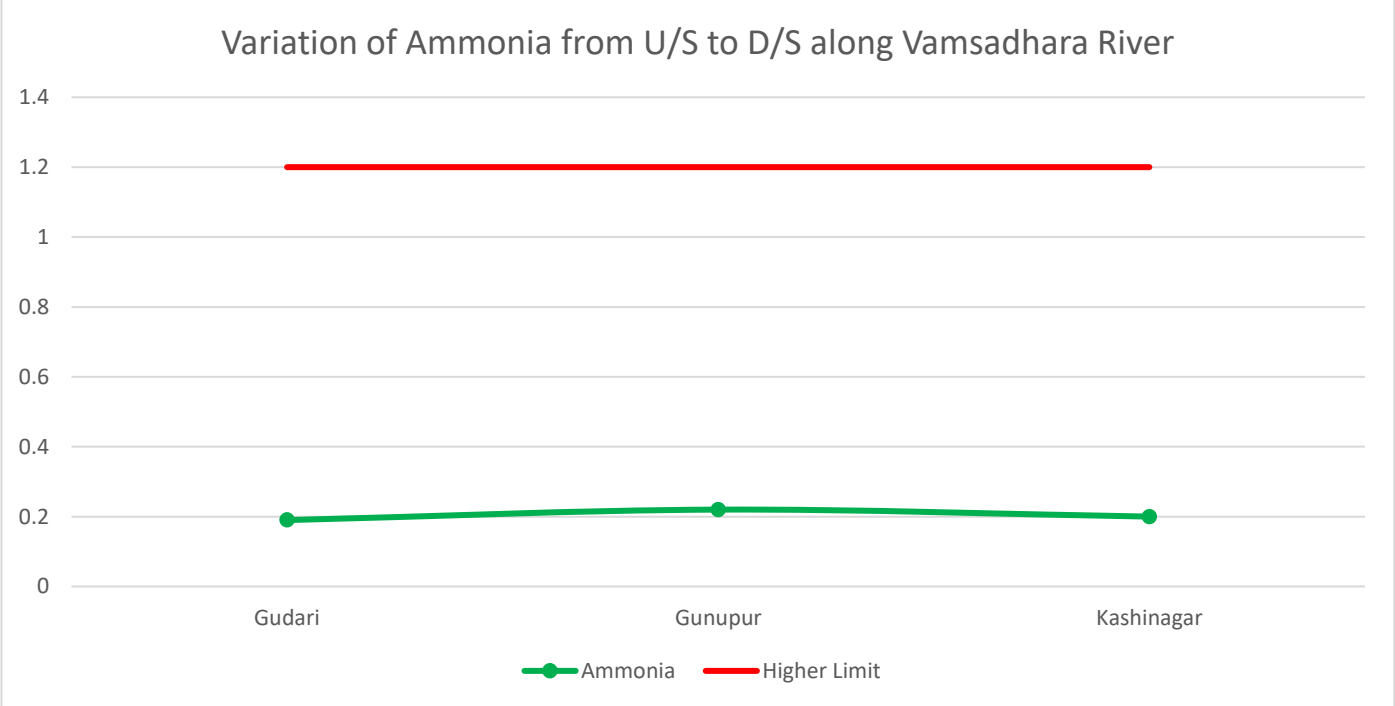
- The Dissolved Oxygen (DO) of the river Vamsadhara is Well abovethe minimum limit (4.0 mg/L) as per CPCB Class C for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



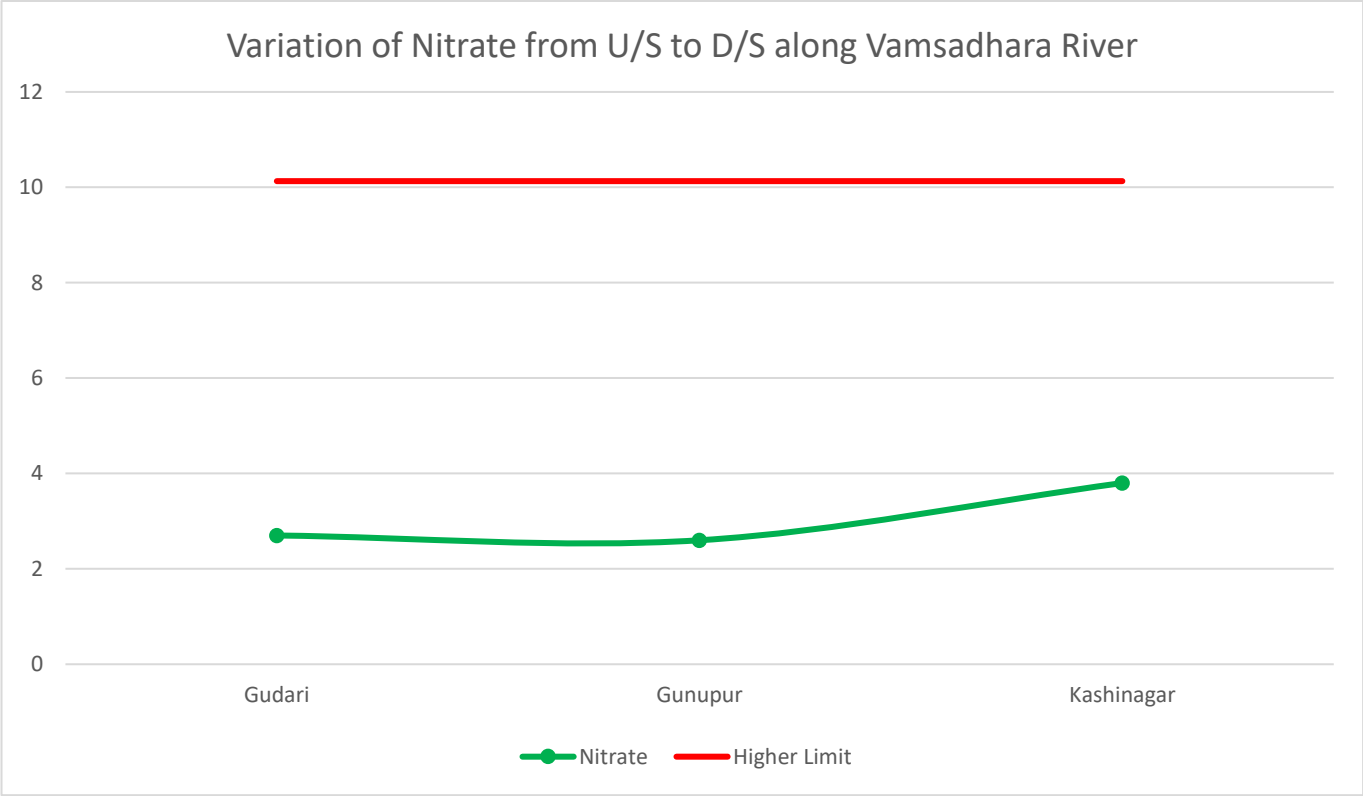
- The Biochemical Chemical Oxygen Demand (BOD) of the river Vamsadhara is well within the maximum limit (3.0 mg/L) as per CPCB Class C for the month of March 2025 at all water quality Stationsof ERD, CWC, Bhubaneswar.



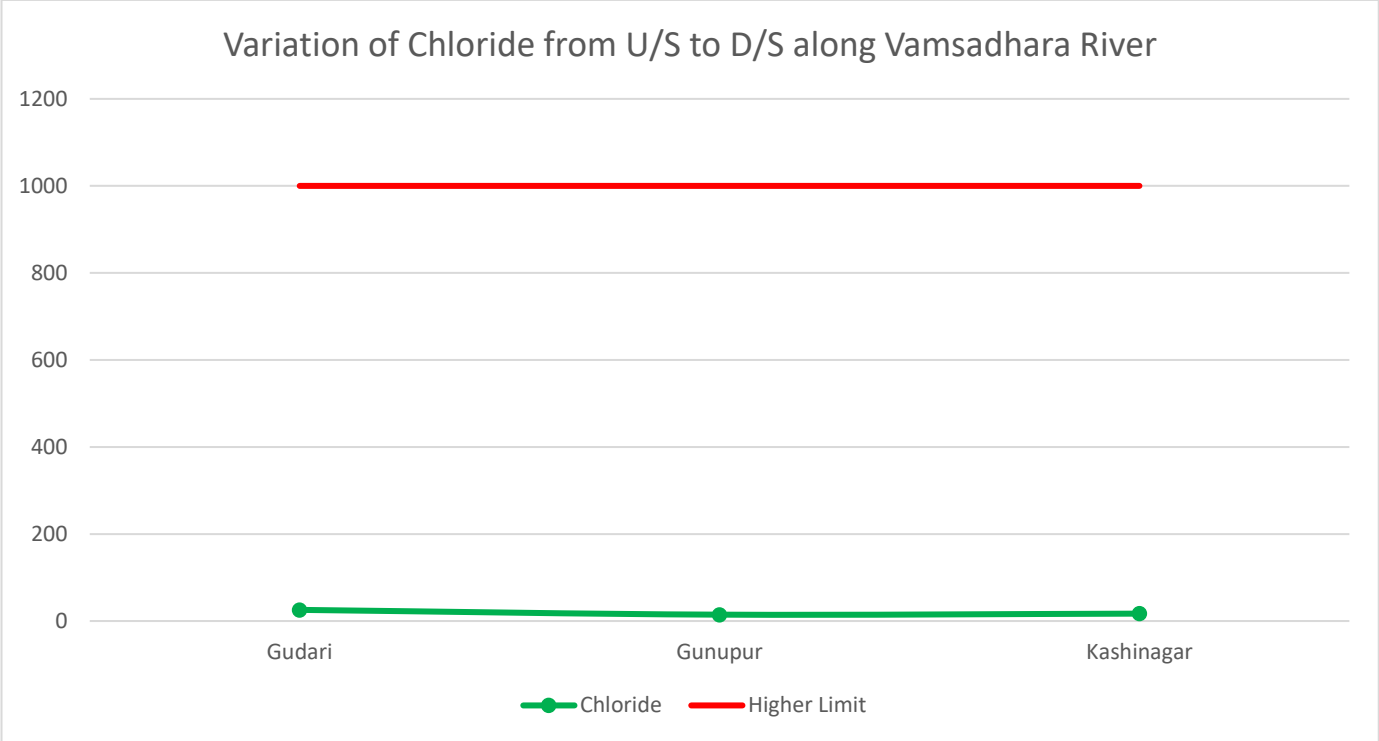
- The value of fluoride of the river Vamsadhara is well within the maximum limit (1.5 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



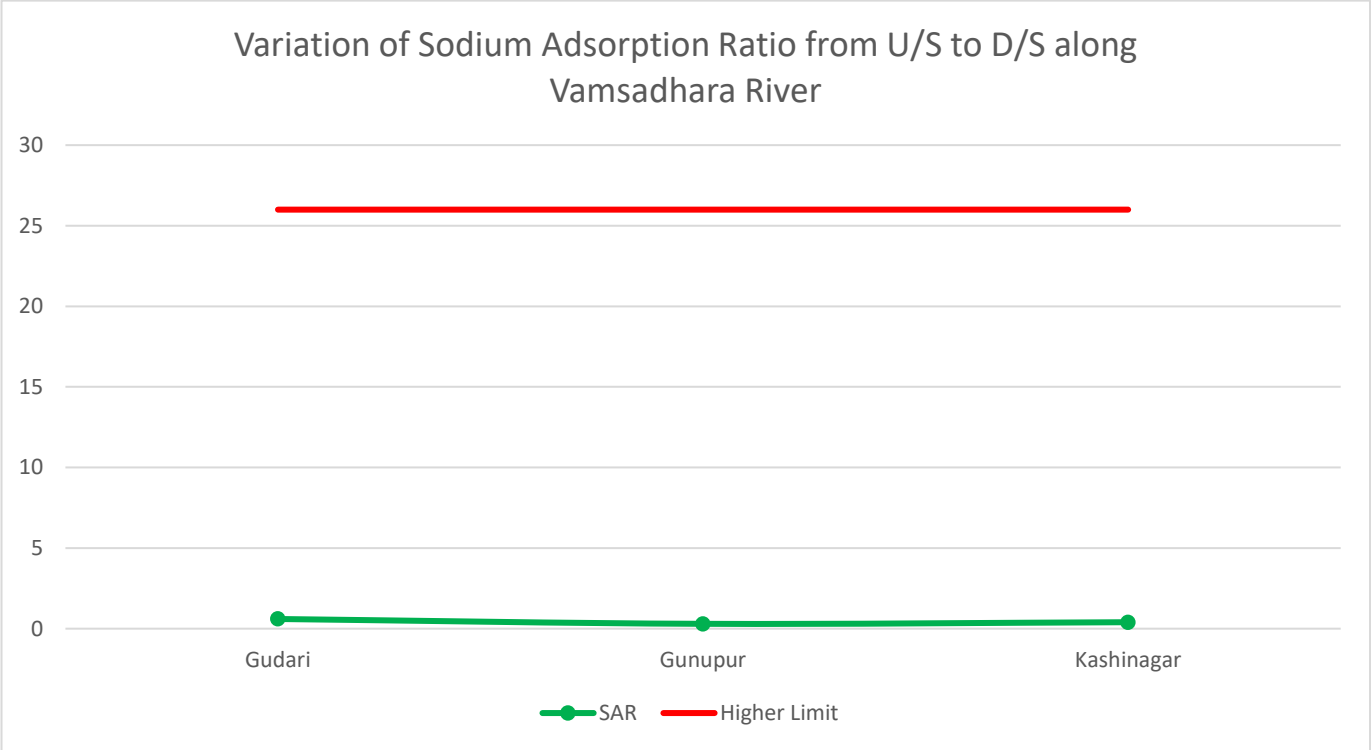
- The value of Ammonia of the river Vamsadhara is well within the maximum limit (1.2 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



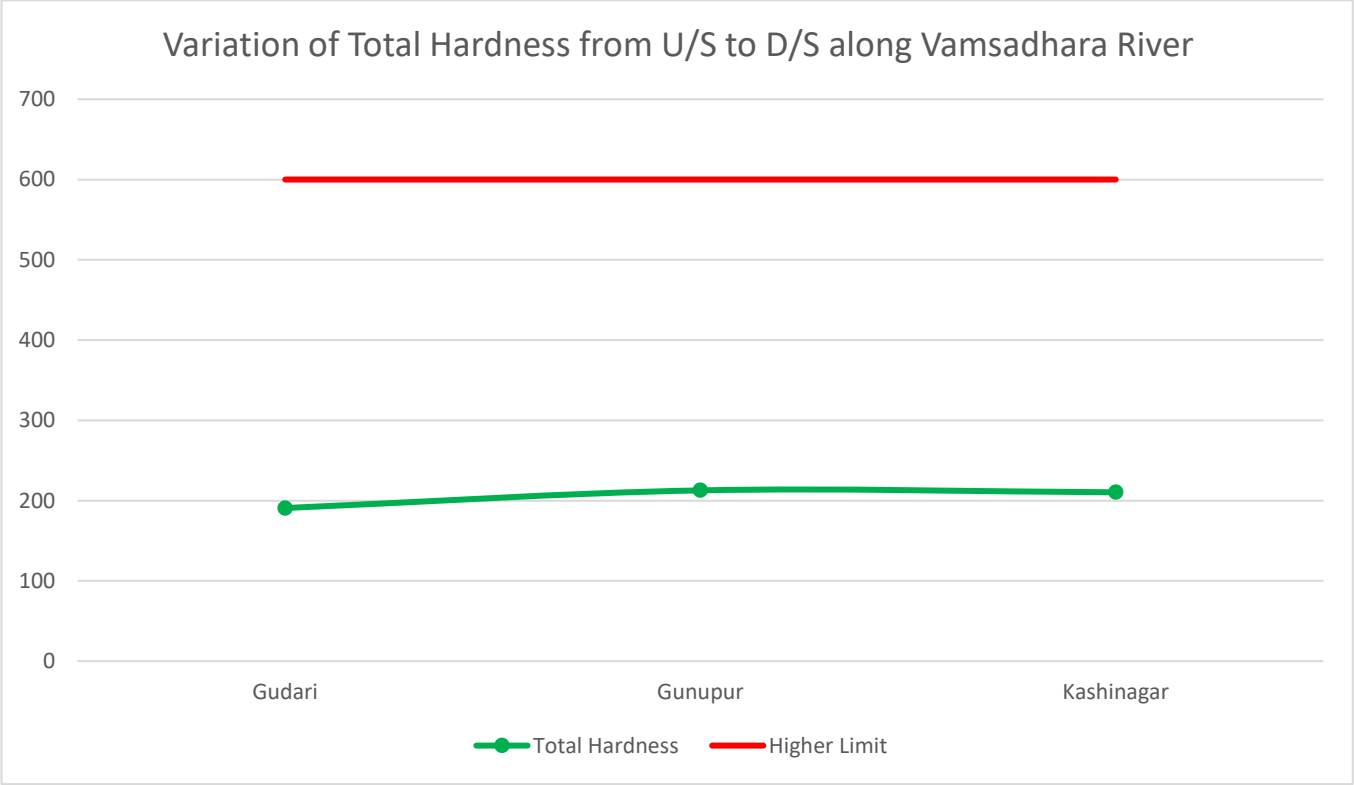
- The value of Nitrate as N of the river Vamsadhara is well within the limit (10.13 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Chloride of the river Vamsadhara is well within the maximum limit (1000.0 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



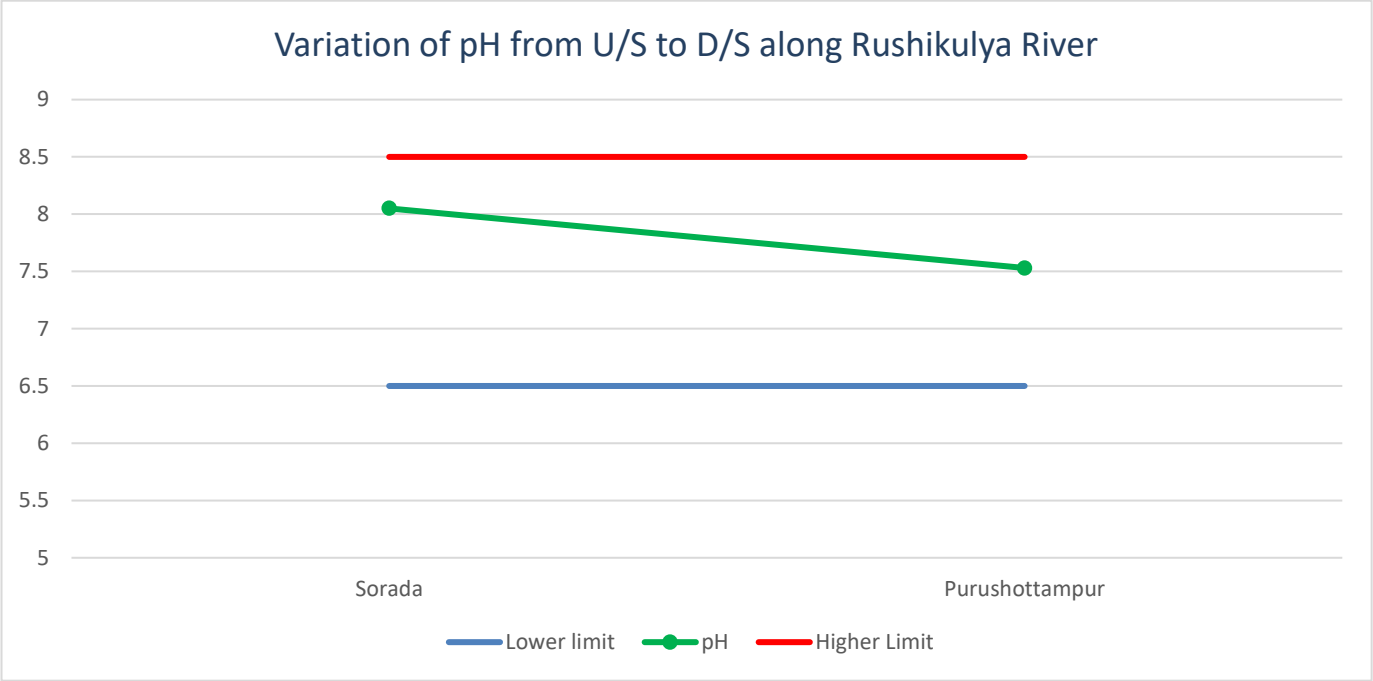
- The value of Sodium Absorption Ratio (SAR) of the river Vamsadhara is well within the maximum limit (26.0) as per BIS 10500:2012 for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar.



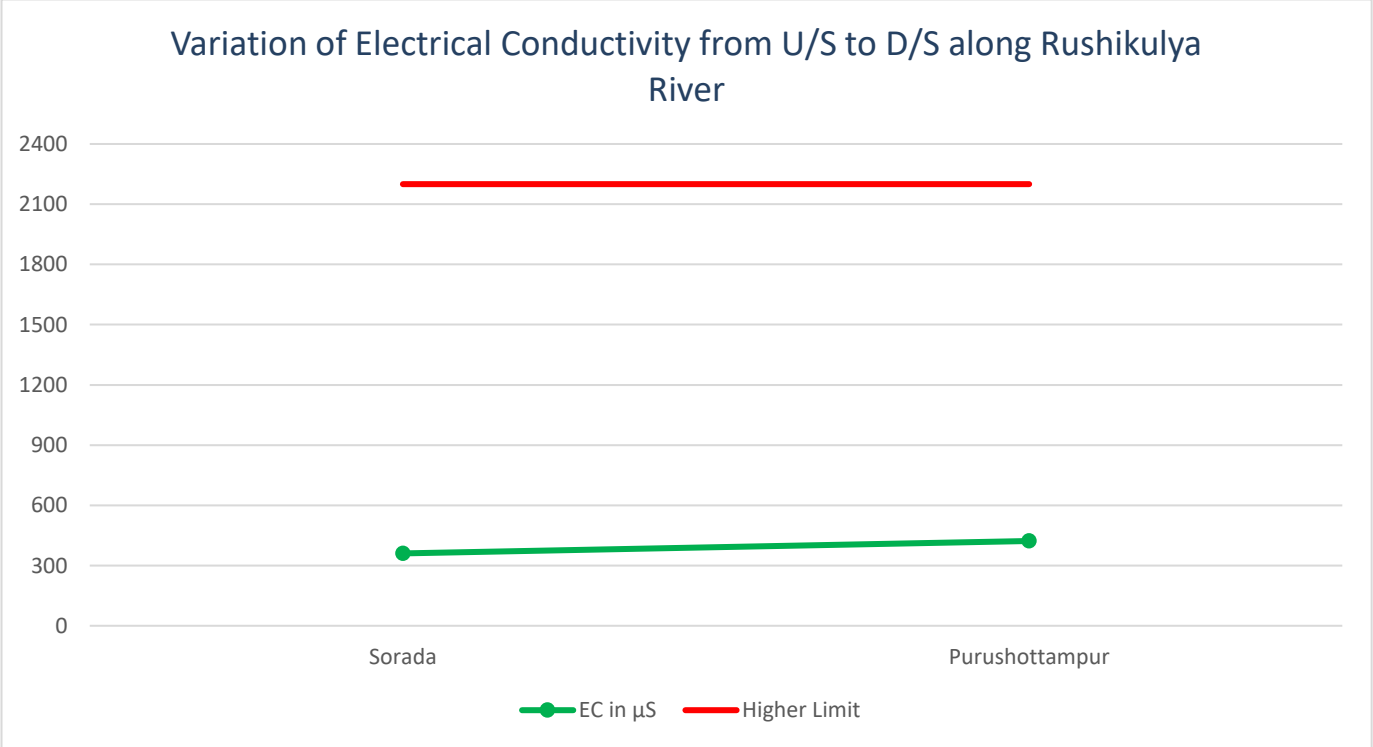
- The value of Total Hardness of the river Vamsadhara is well within the maximum limit (600. Mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

5.7 Rushikulya Basin

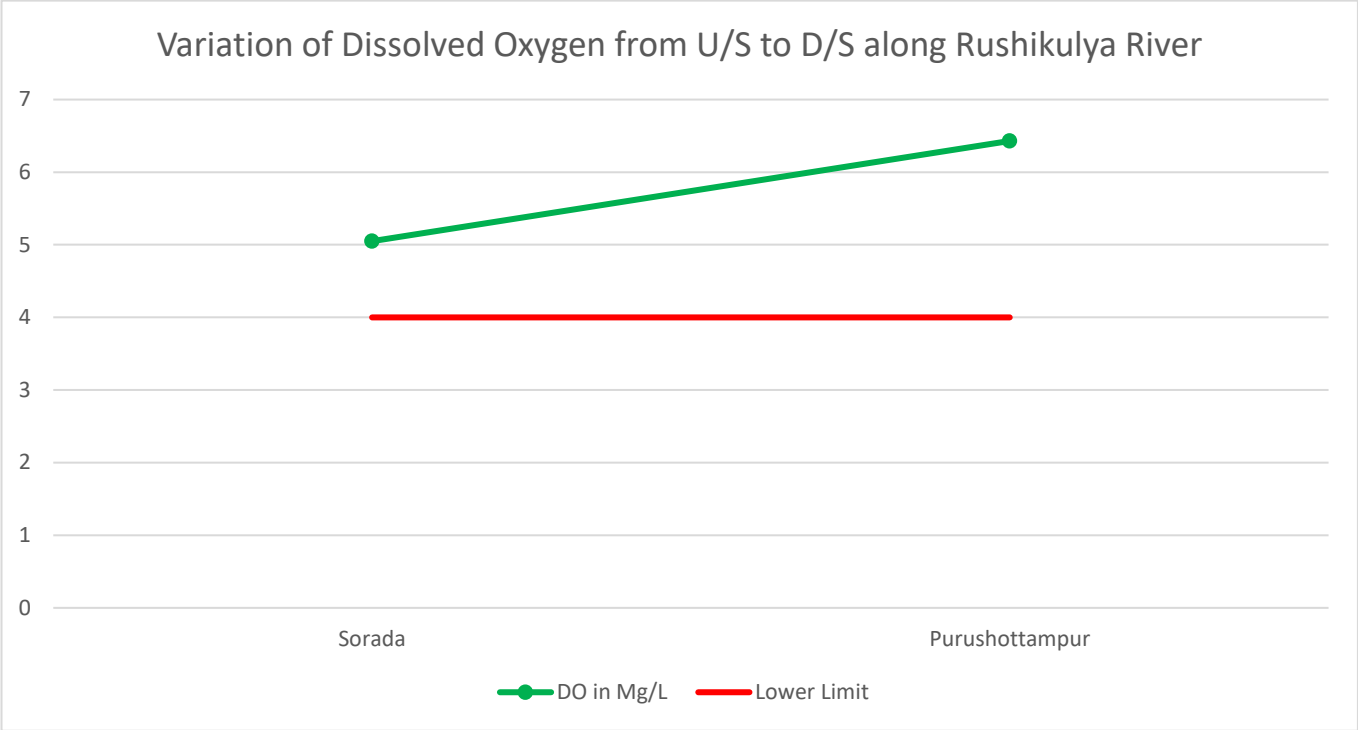
In Rushikulya Basin as the water sample from Madhabarida water quality stationwas not received so the plotting of graphs is done on the basis of the received samples from Sorada&Purushottampur WQ station.



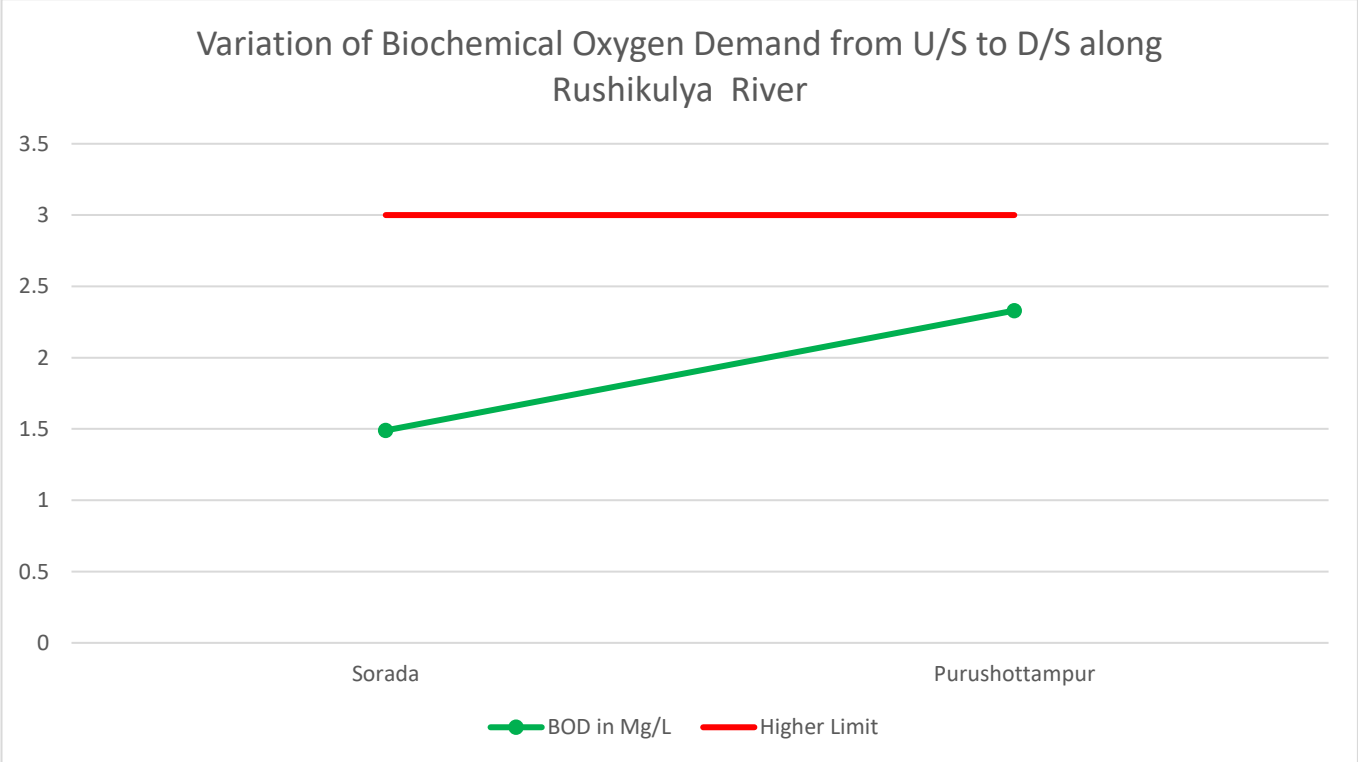
- The pH of the river Rushikulya is well within the limit (6.5 to 8.5) as per CPCB for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



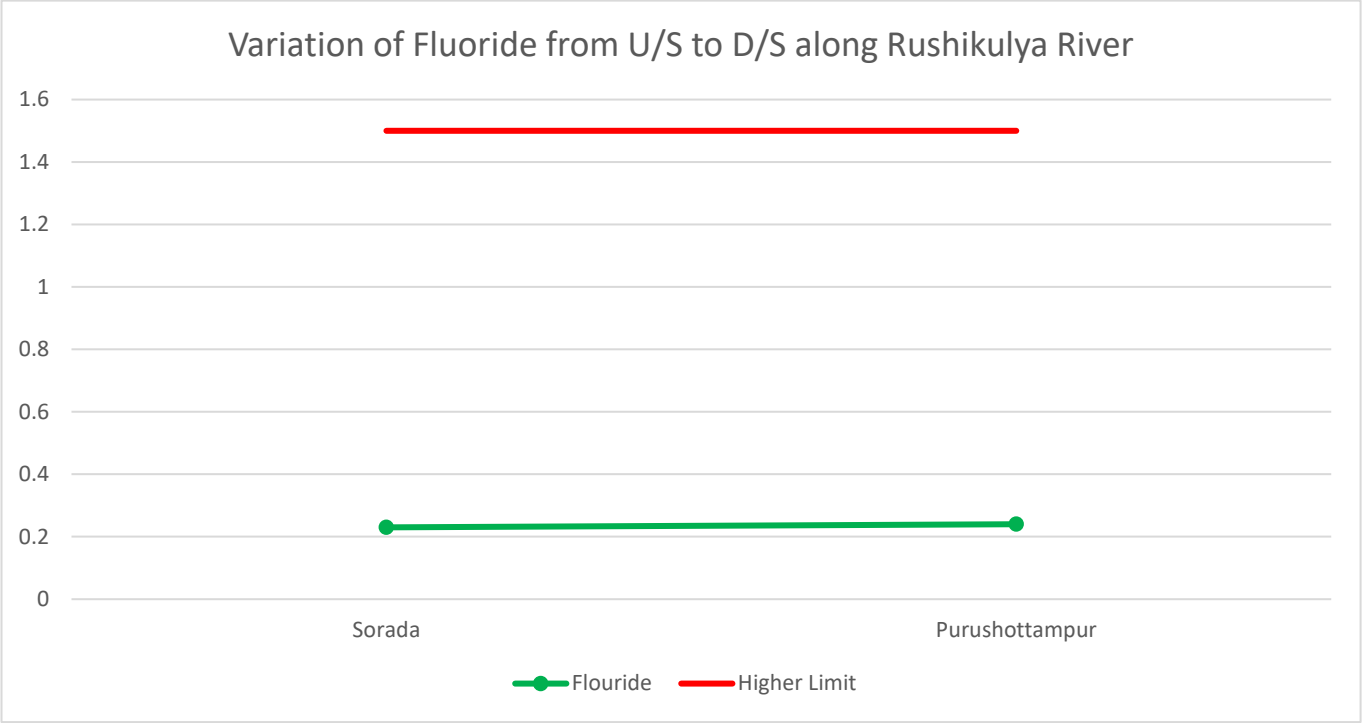
- The Electrical Conductivity of the river Rushikulya is well within the maximum limit (2250 µS/cm) as per CPCB Class E for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



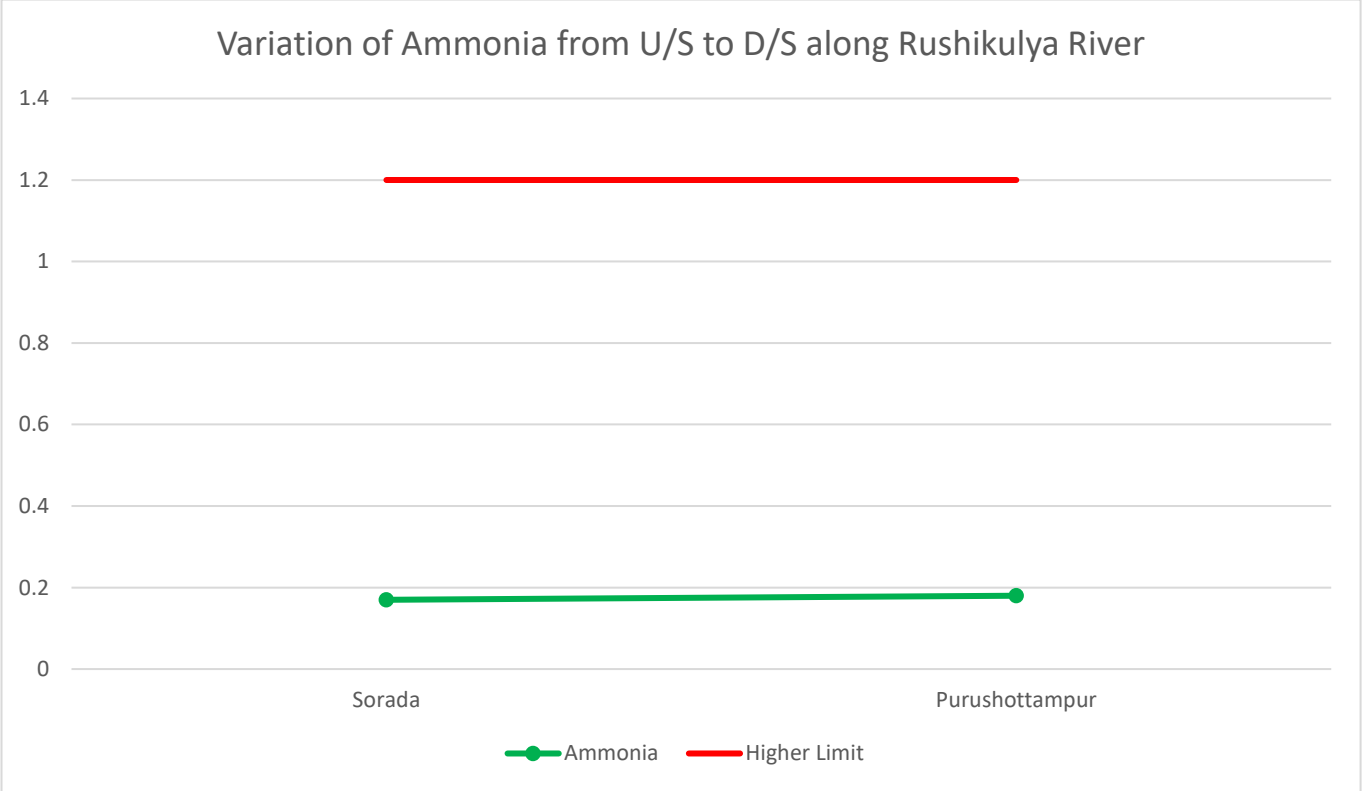
- The Dissolved Oxygen (DO) of the river Rushikulya is above the minimum limit (4.0 mg/L) as per CPCB Class C for the month of March2025 at all water quality stations of ERD, CWC, Bhubaneswar.



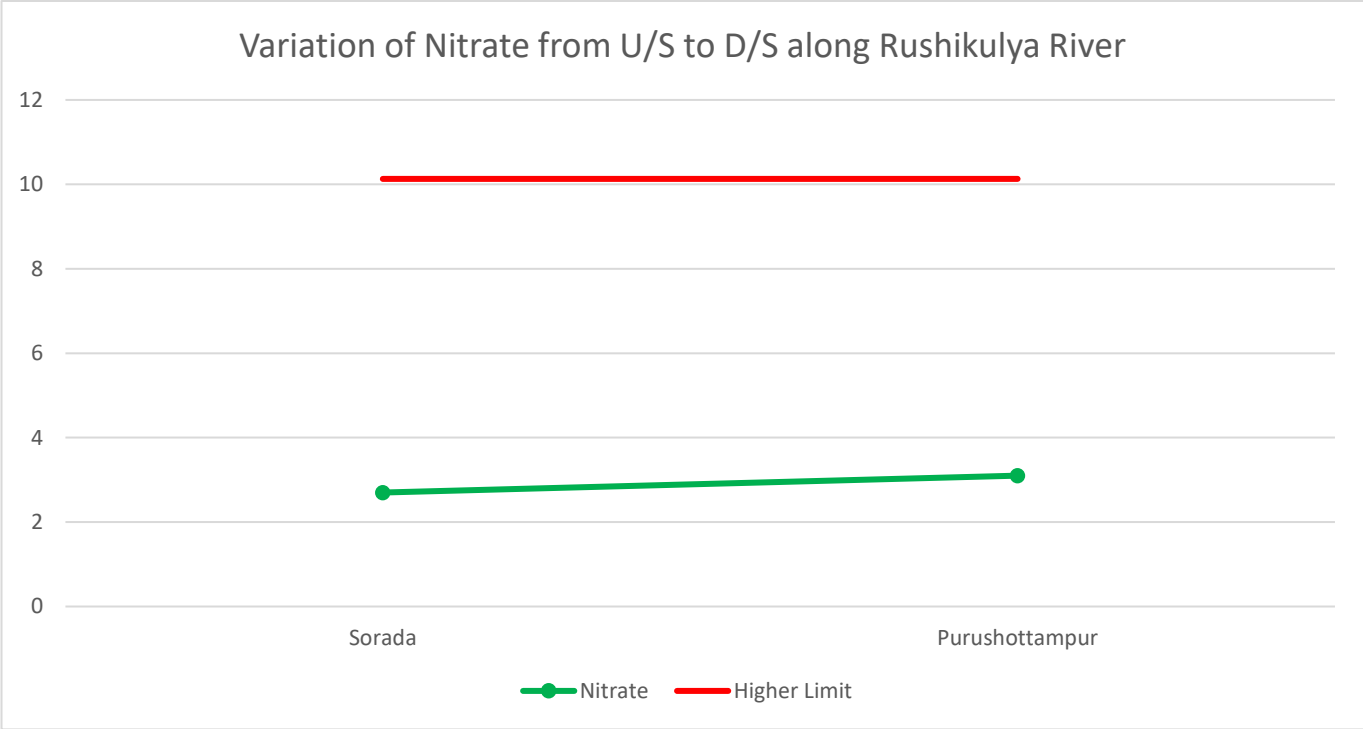
- The Biochemical Chemical Oxygen Demand (BOD) of the river Rushikulya is well within the maximum limit (3.0 mg/L) as per CPCB Class C for the month of March 2025at all water quality stations of ERD, CWC, Bhubaneswar.



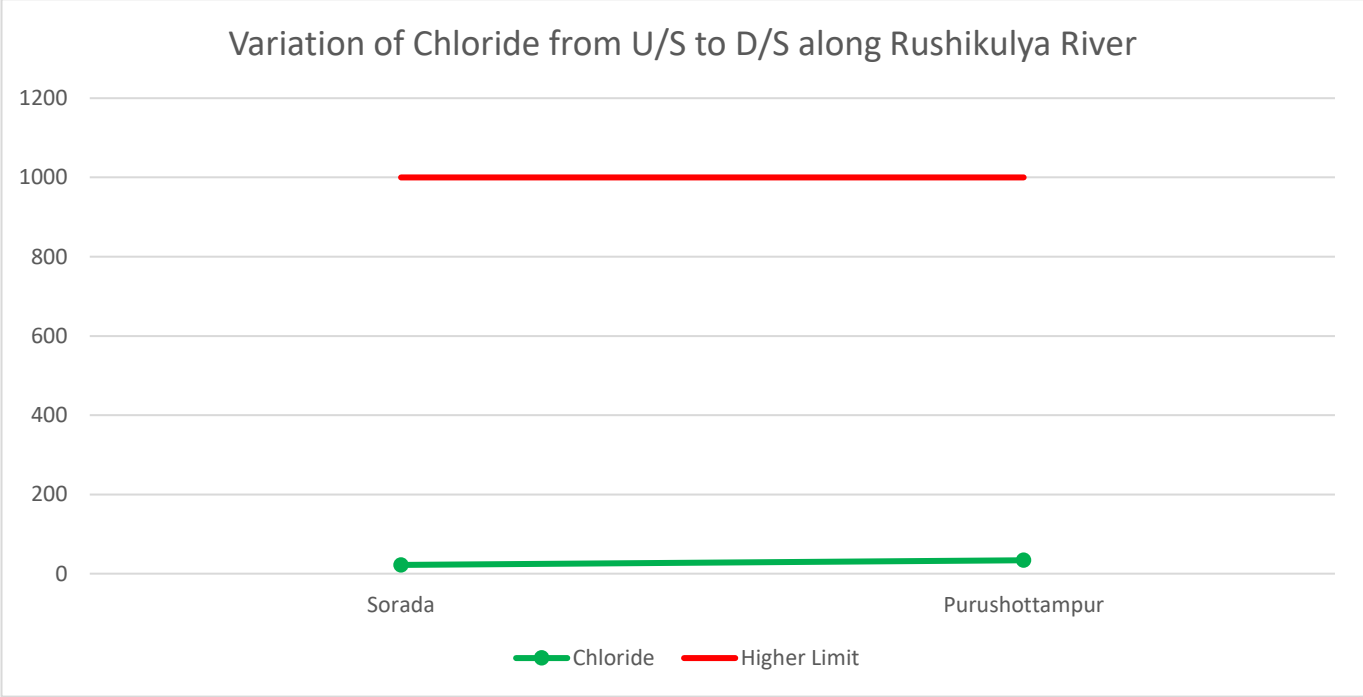
- The value of fluoride of the river Rushikulya is well within the maximum limit (1.5 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



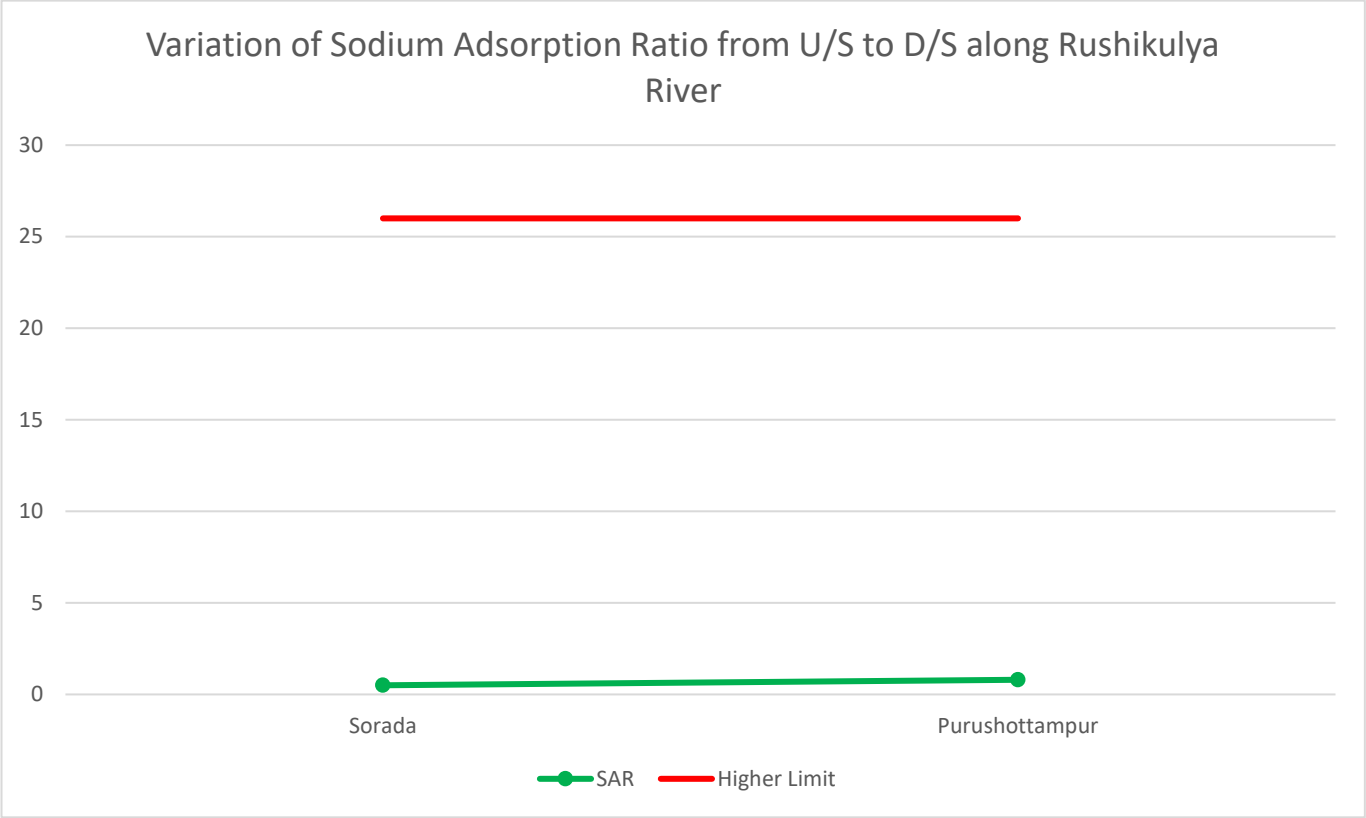
- The value of Ammonia of the river Rushikulya is well within the maximum limit (1.2 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stationsof ERD, CWC, Bhubaneswar.



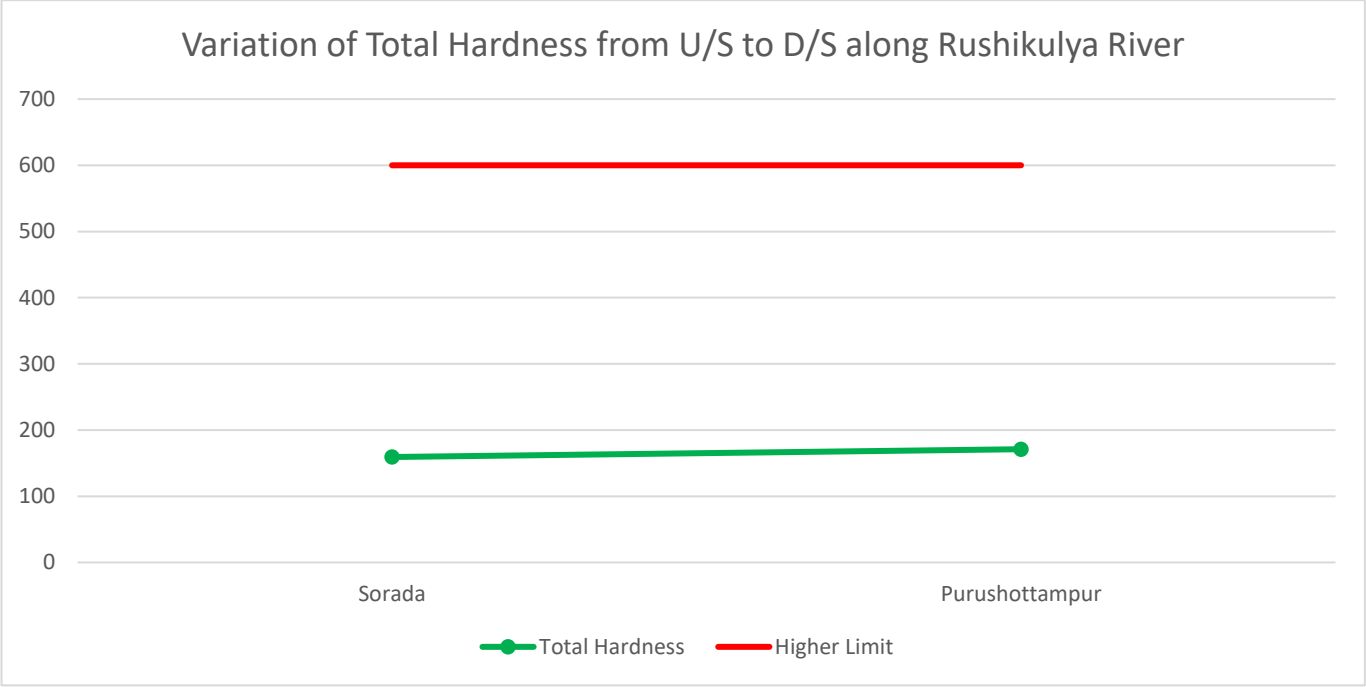
- The value of Nitrate of the river Rushikulya is well within the maximum limit (10.13 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Chloride of the river Rushikulya is well within the limit (1000.0 mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Sodium Absorption Ratio (SAR) of the river Rushikulya is well within the maximum limit (26.0) as per BIS 10500:2012 for the month ofMarch 2025 at all water quality stations of ERD, CWC, Bhubaneswar.



- The value of Total Hardness of the river Rushikulya is well within the maximum limit (600.0mg/L) as per BIS 10500:2012 for the month of March 2025 at all water quality stations of ERD, CWC, Bhubaneswar.

6.0 Conclusion

In the above analysis, important water quality parameters like pH, Electrical Conductivity, Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Fluoride, Chloride, Total Hardness Ammonia as N, Nitrate as N, Sodium Absorption Ratio (SAR), Total Hardness as CaCO3, Calcium as Ca, Magnesium as Mg of the important rivers of Odisha and Chhattisgarh is compared with A, B, C, D and E Surface water classification standards of CPCB and drinking water standard 10500:2012 of BIS. The key findings are as follows :

- During the observation period, for sites on Mahanadi river basin, it is observed that most of the important Water Quality parameters like pH, EC, Total Hardness, Total Alkalinity, Chloride, Fluoride, Ammonia as N, Nitrate as N, Sodium Absorption Ratio (SAR) are within the permissible limit as per both "designated best use" by CPCB standard and BIS drinking water standard IS 10500:2012 and the values do not vary much from upstream to downstream along with the river.
- The observed values of DO in Mahanadi Basin are found to be higher than the minimum permissible limit of 4 mg/L according to "designated best use" by CPCB standard. DO for Rajim, Boudh and Tikarpada was found to be between 5 to 6 mg/L which is within limit with respect to class B, C and D. The maximum average DO value of 6.6 mg/L of river Mahanadi was found at Site Sarangpal and Nawapara and minimum average DO value of 5.5 mg/L of river Mahanadi was found at Site Tikarpada.
- The observed values of BOD in Mahanadi basin are found to be lower than the maximum permissible limit of 3 mg/L according to "designated best use" by CPCB standard. The maximum average BOD value of 1.9 mg/L of river Mahanadi was found at Site Boudh and Tikarpada and minimum average BOD value of 1.3 mg/L of river Mahanadi was found at Site Nawapara.
- River Water of all WQ stations in river Basins of Eastern Rivers Division, Bhubaneswar is slightly alkaline in nature. The observed value of Conductivity of all river water samples is found well within the permissible limit as per class E surface water classification of CPCB.
- Sufficient DO of 4.0 mg/l has been found at all the WQ stations under ERD, Bhubaneswar exceptRourkela Steel Plant (RSP) water quality station of Brahmani basin,so water of all other monitoring stations of ERD, CWC, Bhubaneswaris suitable for fish and aquatic organism populationexcept Rourkela Steel Plant (RSP).
- The observed value of Biochemical Oxygen Demand (BOD) is well within the maximum of3 mg/L limit as per CPCB class C at most of the stations except RSP water quality station of Brahmani Basin. This may be due to mixing of industrial effluent and domestic waste in the river.
- The observed value of Fluoride is well within the tolerance limit (1.5 Mg/L) of BIS drinking water standard 10500:2012 at all the monitoring water quality stations of ERD, CWC, Bhubaneswar.
- The observed value of Ammonia is well within the tolerance limit of CPCB standard except Rourkela Steel Plant (RSP) and RSP-I water quality stations of the Brahmani River, which may be due to industrial leaching process.
- The observed value of Nitrate as N,is well within the tolerance limit(10.13 mg/L) as per BIS 10500:2012 at all the monitoring water quality stations of ERD, CWC, Bhubaneswar.
- The observed value of Chloride and Sodium Absorption Ratio (SAR) of all the stations are within the tolerance limit, as per BIS 10500:2012 of BIS at all water quality Monitoring stations of Eastern Rivers Division,CWC,Bhubaneswar.

7.0 Appendix

7.1 Water Quality Bulletin for the Month of March-2025 of Mahanadi Division, CWC Burla

जल गुणवत्ता बुलेटिन / WATER QUALITY BULLETIN

Month/Year: MARCH/ 2025 — Division: MAHANADI DIVISION, BURLA, ODISHA — (Page-01)

S. No	Water Quality Site	Division of site	River	Type of site (GQ/ GDSQ/ GDQ/ WQSS)	Condition of River (Dry/ No flow, if any)	Date of Sampling	Discharge	Temperature	pH	EC (At 25 °C)	TDS	Turbidity	Major cations				Major Anions								B	SiO_4^{4-}	NH_3-N	DO	BOD	COD	TC	FC
													Ca^{+2}	Mg^{+2}	Na^{+1}	K^{+1}	CO_3^{-2}	HCO_3^{-1}	Cl^{-1}	SO_4^{-2}	F^-	PO_4^{-3}	NO_3^--N	NO_2^--N								
							cumecs	°C		µS/cm	mg/L	NTU	mg/L				mg/L								mg/L	mg/L	mg/L	mg/L			(MPN/100	
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Basantpur	Mahanadi	Mahanadi	GDSQ	FLOW	1-Mar-2025	20.000	26.5	8.40	287.8	192.8	1.9	30.73	5.68	17.12	3.65	8.17	91.84	23.87	20.93	0.37	0.07	0.26	0.009	0.12	12.19	0.100	6.56	1.51	NA	NA	NA
2	Rampur	Mahanadi	Jonk	GDSQ	NO FLOW	1-Mar-2025	NIL	23.0	8.47	274.5	183.9	1.2	23.16	11.71	14.95	1.88	5.77	120.66	18.89	8.56	0.32	0.07	0.20	0.008	0.17	18.73	0.076	6.06	1.84	NA	NA	NA
3	Bamnidih	Mahanadi	Hasdeo	GDSQ	FLOW	1-Mar-2025	19.000	21.0	8.35	246.2	164.9	4.3	27.61	9.82	11.16	4.00	4.80	99.14	15.57	24.56	0.34	0.07	0.29	0.036	0.26	8.39	0.065	5.75	1.74	NA	NA	NA
4	Rajim	Mahanadi	Mahanadi	GDSQ	NO FLOW	1-Mar-2025	NIL	24.5	7.86	166.9	111.2	1.4	20.93	3.87	10.20	2.80	0.00	87.93	12.63	5.69	0.12	0.06	0.29	0.009	0.27	10.56	0.055	5.67	1.75	NA	NA	NA
5	Simga	Mahanadi	Seonath	GDSQ	NO FLOW	1-Mar-2025	NIL	25.0	7.57	581.2	388.9	1.2	22.27	17.93	68.90	9.66	0.00	151.44	88.46	42.58	0.47	0.05	0.14	0.018	0.34	10.13	0.054	5.78	1.72	NA	NA	NA
6	Andhiyarkhore	Mahanadi	Hamp	GDSQ	NO FLOW	1-Mar-2025	NIL	26.0	8.22	331.3	222.0	1.6	35.58	13.62	16.10	3.43	0.00	153.39	20.89	26.54	0.26	0.06	0.31	0.029	0.30	10.69	0.078	6.08	1.93	NA	NA	NA
7	Baronda	Mahanadi	Pairi	GDSQ	NO FLOW	1-Mar-2025	NIL	24.0	7.40	322.1	215.3	2.1	36.96	10.09	15.15	5.88	0.00	160.52	19.83	15.21	0.44	0.07	0.85	0.021	0.32	15.09	0.066	5.15	2.11	NA	NA	NA
8	Jondhra	Mahanadi	Seonath	GDSQ	NO FLOW	1-Mar-2025	NIL	26.5	8.46	401.2	267.3	2.4	26.97	19.93	21.39	3.85	16.82	118.71	34.52	38.63	0.37	0.06	0.89	0.010	0.28	12.63	0.049	6.83	1.51	NA	NA	NA
9	Gatora	Mahanadi	Arpa	GDSQ	NO FLOW	1-Mar-2025	NIL	23.1	7.66	745.3	499.5	0.9	65.78	24.91	51.16	4.37	0.00	307.54	64.08	35.25	0.30	0.31	2.23	0.166	0.35	15.53	0.062	5.67	1.96	NA	NA	NA
10	Pathardih	Mahanadi	Kharun	GDQ	NO FLOW	1-Mar-2025	NIL	24.0	7.58	577.4	386.8	2.5	48.24	18.02	48.93	9.42	0.00	201.27	62.61	33.65	0.65	0.13	2.90	0.017	0.38	8.86	0.120	5.54	1.98	NA	NA	NA
11	Kurubhata	Mahanadi	Mand	GDSQ	FLOW	1-Mar-2025	2.700	25.5	8.11	388.3	260.1	1.1	36.07	20.63	16.23	5.38	0.00	190.25	20.34	45.24	0.20	0.07	0.09	0.009	0.29	16.15	0.078	6.37	1.61	NA	NA	NA
12	Sundargarh	Mahanadi	Ib	GDSQ	NO FLOW	1-Mar-2025	NIL	22.0	7.89	173.8	116.4	12.8	16.48	7.57	9.93	1.87	0.00	88.75	12.30	5.24	0.22	0.08	0.18	0.011	0.25	11.75	0.070	6.16	1.98	NA	NA	NA
13	Salebhata	Mahanadi	Ong	GDSQ	NO FLOW	1-Mar-2025	NIL	27.8	8.34	395.4	264.9	1.4	38.66	18.03	20.96	3.11	3.84	190.52	26.10	19.25	0.61	0.09	0.30	0.013	0.29	14.78	0.063	6.10	1.71	NA	NA	NA
14	Kantamal	Mahanadi	Tel	GDSQ	FLOW	1-Mar-2025	39.000	24.5	8.01	243.6	163.2	1.6	25.93	13.16	10.26	2.65	0.00	146.56	13.38	5.26	0.29	0.03	0.25	0.009	0.29	13.09	0.071	5.89	1.88	NA	NA	NA
15	Manendragarh	Mahanadi	Hasdeo	GDSQ	NO FLOW	1-Mar-2025	NIL	24.0	7.78	214.3	143.5	3.9	15.29	8.74	15.62	3.49	0.00	83.05	20.69	15.36	0.11	0.06	0.66	0.010	0.25	2.93	0.060	6.61	1.28	NA	NA	NA
16	Kesinga	Mahanadi	Tel	GDSQ	FLOW	1-Mar-2025	30.230	26.0	8.43	220.1	147.5	1.9	26.79	8.21	8.80	2.50	19.22	88.91	11.73	3.88	0.33	0.05	0.49	0.010	0.17	8.22	0.095	6.45	1.62	NA	NA	NA
17	Kotni	Mahanadi	Seonath	GDSQ	NO FLOW	1-Mar-2025	NIL	23.0	8.40	333.6	223.5	2.5	33.58	15.33	13.67	3.44	4.80	157.79	20.75	14.25	0.27	0.06	0.27	0.009	0.26	7.01	0.087	6.53	1.44	NA	NA	NA
18	Seorinarayan	Mahanadi	Mahanadi	GDSQ	NO FLOW	1-Mar-2025	NIL	23.0	8.41	423.9	284.0	1.8	32.95	22.88	25.53	3.16	14.41	142.92	32.07	51.24	0.36	0.09	0.25	0.008	0.30	9.04	0.055	5.88	1.78	NA	NA	NA
19	Gunderdehi	Mahanadi	Tandula	GDSQ	NO FLOW	1-Mar-2025	NIL	25.0	8.01	375.5	251.6	2.6	32.53	18.43	22.13	2.91	0.00	176.84	36.91	14.88	0.32	0.05	0.56	0.010	0.17	1.80	0.062	5.74	1.91	NA	NA	NA
20	Kalma	Mahanadi	Mahanadi	GDSQ	FLOW	1-Mar-2025	23.740	24.8	8.38	305.2	204.5	3.5	30.43	12.43	10.98	4.39	9.61	106.01	17.08	32.58	0.40	0.05	0.24	0.009	0.27	10.50	0.082	6.59	1.56	NA	NA	NA
21	Boudh	Mahanadi	Mahanadi	GDSQ	FLOW	1-Mar-2025	183.830	25.6	8.44	340.2	228.2	2.6	41.27	11.26	18.12	2.49	5.28	142.65	26.26	28.22	0.35	0.05	1.49	0.011	0.54	10.35	0.061	5.97	1.72	NA	NA	NA
22	Padampur	Mahanadi	Ong	GDSQ	-	Not received	-	-																								
23	Champa Road Bridge	Mahanadi	Hasdeo	WQSS	NO FLOW	1-Mar-2025	NA	21.0	8.32	243.6	163.2	2.0	22.12	12.52	10.10	4.57	11.53	85.35	12.49	23.53	0.34	0.06	0.66	0.018	0.56	13.40	0.066	6.20	1.50	NA	NA	NA
24	Madhya Bharat Paper Ltd	Mahanadi	Hasdeo	WQSS	NO FLOW	1-Mar-2025	NA	21.0	8.28	226.2	151.5	3.3	24.64	10.63	11.23	4.32	0.00	103.08	14.93	25.83	0.35	0.12	0.42	0.013	0.35	13.44	0.090	6.39	1.44	NA	NA	NA
25	Nawapara	Mahanadi	Mahanadi	WQSS	NO FLOW	1-Mar-2025	NA	24.0	7.98	144.9	97.7	21.6	18.26	6.04	5.20	1.92	0.00	81.58	6.94	5.25	0.16	0.07	0.18	0.020	0.51	13.70	0.081	6.60	1.26	NA	NA	NA
26	Sarangpal	Mahanadi	Mahanadi	GQ	NO FLOW	1-Mar-2025	NA	25.0	7.89	203.1	136.0	14.2	23.60	7.57	6.19	2.58	0.00	105.43	7.88	7.28	0.33	0.06	0.35	0.010	0.30	14.87	0.050	6.90	1.29	NA	NA	NA
27	Kanker	Mahanadi	Dhudh	WQSS	NO FLOW	1-Mar-2025	NA	25.0	7.52	761.0	509.8	7.8	71.20	23.91	55.69	9.98	0.00	346.36	69.40	8.87	0.44	0.24	3.35	0.144	0.18	31.11	0.088	5.28	2.56	NA	NA	NA
28	Belodi	Mahanadi	Seonath	WQSS	NO FLOW	1-Mar-2025	NA	23.0	8.41	334.4	224.0	5.4	32.47	14.69	15.96	3.47	4.80	160.23	23.13	12.66	0.27	0.05	0.32	0.012	0.35	11.48	0.045	5.80	1.79	NA	NA	NA
29	Parmanpur	Mahanadi	Bheden	GD(S)Q	-	Not received	-																									
30	Kelo	Mahanadi	Kelo	GD(S)Q	-	Not received	-																									
31	Sundargarh(Town)	Mahanadi	Ib	WQSS	FLOW	1-Mar-2025	NA	22.0	7.86	177.5	118.9	8.0	20.70	7.33	9.00	1.88	0.00	103.57	11.18	4.12	0.21	0.05	0.11	0.014	0.22	9.53	0.130	6.11	1.92	NA	NA	NA
32	Khairmal	Mahanadi	Mahanadi	GQ	FLOW	1-Mar-2025	NA	25.5	7.64	617.1	413.4	3.7	68.83	28.32	25.93	1.46	0.00	350.76	32.30	4.89	0.60	0.08	0.05	0.008	0.31	24.39	0.071	5.81	1.94	NA	NA	NA
33	Prakash Industries Ltd	Mahanadi	Hasdeo	WQSS	NO FLOW	1-Mar-2025	NA	21.2	8.34	250.6	167.5	6.0	26.27	11.26	12.00	4.55	3.84	102.89	15.75	28.21	0.34	0.07	0.50	0.016	0.49	8.95	0.078	6.62	1.56	NA	NA	NA
34	Gatora-1	Mahanadi	Arpa	WQSS	NO FLOW	1-Mar-2025	NA	23.9	7.71	289.7	194.0	20.3	28.11	14.96	12.90	3.78	0.00	149.49	20.56	8.14	0.30	0.12	1.08	0.032	0.28	2.67	0.120	5.49	2.28	NA	NA	NA
35	Gatora-2	Mahanadi	Arpa	WQSS	NO FLOW	1-Mar-2025	NA	24.1	7.29	978.2	650.2	9.1	82.49	38.05	68.89	11.53	0.00	434.78	87.95	35.98	0.29	1.10	1.62	0.185	0.79	14.65	2.300	5.28	2.45	NA	NA	NA
36	Korba	Mahanadi	Hasdeo	GQ	FLOW	1-Mar-2025	NA	19.5	8.35	185.3	124.5	10.3	14.48	10.53	10.46	2.24	12.49	55.01	13.38	14.58	0.31	0.07	0.20	0.010	0.23	7.96	0.095	6.16	1.61	NA	NA	NA
37	Korba-1	Mahanadi	Hasdeo	WQSS	FLOW	1-Mar-2025	NA	20.5	7.60	186.1	124.5	10.7	14.70	12.70	9.93	2.25	0.00	95.54	12.33	15.99	0.18	0.06	0.28	0.011	0.36	10.36	0.110	5.93	1.82	NA	NA	NA
38	Budha Talab, Raipur	Mahanadi	Pond	W.BODY	NA	1-Mar-2025	NA	25.0	7.67	637.3	426.9	152.6	28.95	22.07	78.84	30.10	0.00	239.37	99.31	8.96	0.50	0.11	2.60	0.078	0.56	24.81	0.140	2.14	10.43	NA	NA	NA
39	Bandhwa Talab, Bilaspur	Mahanadi	Pond	W.BODY	NA	1-Mar-2025	NA	24.7	7.72	835.2	559.4	11.2	44.09	28.29	77.90	8.88	0.00	190.03	98.19	121.54	0.30	0.15	1.42	0.055	0.42	11.93	0.110	1.71	12.52	NA	NA	NA
40	Bandha Talab, Durg	Mahanadi	Pond	W.BODY	NA	1-Mar-2025	NA	22.5	7.84	482.0	323.0	13.0	36.96	17.51	35.29	28.39	0.00	214.95	49.02	22.36	0.29	0.07	0.75	0.025	0.36	3.34	0.120	3.65	8.51	NA	NA	NA
41	Sadeipali Talab, Burla	Mahanadi	Pond	W.BODY	NA	1-Mar-2025	NA	25.0	8.23	394.4	263.9	15.1	43.94	7.57	28.12	6.60	0.00	155.35	42.23	12.33	0.37	0.28	0.70	0.011	0.33	13.51	0.087	4.78	2.24	NA	NA	NA

Month/Year: MARCH/ 2025 | Division: MAHANADI DIVISION, BURLA, ODISHA | (Page-02)

S. No	Water Quality Site	Division of site	River	Type of site (GQ/ GDSQ/ GDQ/ WQSS)	Condition of River (Dry/ No flow, if any)	Date of Sampling	Discharge	Temperature	pH	EC (At 25 °C)	TDS	Turbidity	Major cations				Major Anions								B	SiO_4^{4-}	NH_3-N	DO	BOD	COD	TC	FC
													Ca^{+2}	Mg^{+2}	Na^{+1}	K^{+1}	CO_3^{-2}	HCO_3^{-1}	Cl^{-1}	SO_4^{-2}	F^-	PO_4^{-3}	NO_3^--N	NO_2^--N								
							cumecs	°C		µS/cm	mg/L	NTU	mg/L				mg/L								mg/L	mg/L	mg/L	mg/L			(MPN/100	
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
42	Basantpur	Mahanadi	Mahanadi	GDSQ	FLOW	11-Mar-2025	15.000	24.0	8.37	283.0	190.9	2.3	24.46	12.13	15.02	2.75	8.85	96.53	18.57	22.13	0.35	0.05	0.40	0.018	0.05	9.75	0.079	6.17	1.75	NA	NA	NA
43	Rampur	Mahanadi	Jonk	GDSQ	NO FLOW	11-Mar-2025	NIL	23.0	8.41	274.0	184.3	1.1	25.63	13.40	16.19	1.81	7.87	124.03	20.92	12.36	0.30	0.10	0.36	0.012	0.00	14.86	0.075	5.33	1.96	NA	NA	NA
44	Bamnidih	Mahanadi	Hasdeo	GDSQ	FLOW	11-Mar-2025	19.000	18.5	8.37	214.2	144.3	2.8	20.73	9.78	10.10	3.30	4.92	87.02	13.22	18.66	0.35	0.04	0.46	0.017	0.06	11.30	0.010	5.31	1.95	NA	NA	NA
45	Rajim	Mahanadi	Mahanadi	GDSQ	NO FLOW	11-Mar-2025	NIL	25.3	8.17	172.3	115.3	1.8	14.02	9.50	12.12	2.66	0.00	85.02	15.71	4.81	0.10	0.04	0.33	0.015	0.00	9.50	0.059	5.72	1.62	NA	NA	NA
46	Simga	Mahanadi	Seonath	GDSQ	NO FLOW	11-Mar-2025	NIL	25.0	7.54	623.9	420.5	2.0	37.88	17.29	62.69	10.24	0.00	172.55	87.13	44.12	0.51	0.07	0.92	0.024	0.23	10.60	0.094	5.48	2.05	NA	NA	NA
47	Andhiyarkhore	Mahanadi	Hamp	GDSQ	NO FLOW	11-Mar-2025	NIL	21.8	8.40	620.1	415.8	28.0	50.02	35.13	40.16	10.03	8.36	291.25	52.55	36.15	0.28	0.13	3.39	0.026	0.07	21.84	0.900	5.48	2.04	NA	NA	NA
48	Baronda	Mahanadi	Pairi	GDSQ	NO FLOW	11-Mar-2025	NIL	25.5	7.33	385.4	260.1	2.2	43.41	16.67	17.19	7.12	0.00	218.56	22.48	16.17	0.42	0.07	0.87	0.017	0.14	15.82	0.055	5.66	1.88	NA	NA	NA
49	Jondhra	Mahanadi	Seonath	GDSQ	NO FLOW	11-Mar-2025	NIL	25.5	8.42	468.4	315.9	2.1	38.52	24.55	30.70	3.61	4.92	176.55	38.81	61.28	0.36	0.05	0.38	0.009	0.11	11.50	0.085	5.81	1.63	NA	NA	NA
50	Gatora	Mahanadi	Arpa	GDSQ	NO FLOW	11-Mar-2025	NIL	24.8	7.55	863.8	581.8	9.7	72.57	38.59	55.90	7.63	0.00	388.61	81.36	44.56	0.48	0.40	2.38	0.142	0.17	18.55	0.088	5.23	2.35	NA	NA	NA
51	Pathardih	Mahanadi	Kharun	GDQ	NO FLOW	11-Mar-2025	NIL	25.0	7.42	666.6	448.7	3.1	62.53	12.43	59.10	8.26	0.00	240.57	80.43	32.81	0.62	0.10	1.44	0.013	0.09	9.71	0.092	5.77	1.67	NA	NA	NA
52	Kurubhata	Mahanadi	Mand	GDSQ	FLOW	11-Mar-2025	1.700	27.2	8.27	389.0	262.1	2.3	34.45	19.82	15.01	8.67	0.00	155.04	20.06	60.29	0.18	0.06	0.14	0.014	0.29	11.83	0.082	6.70	1.52	NA	NA	NA
53	Sundargarh	Mahanadi	Ib	GDSQ	NO FLOW	11-Mar-2025	NIL	22.0	7.68	200.1	133.2	9.4	15.36	11.40	14.90	1.81	0.00	104.03	19.27	7.14	0.21	0.13	0.14	0.011	0.10	10.80	0.067	6.21	1.75	NA	NA	NA
54	Salebhata	Mahanadi	Ong	GDSQ	NO FLOW	11-Mar-2025	NIL	29.0	7.90	401.0	270.2	4.5	39.36	22.18	21.23	3.14	0.00	229.06	27.90	19.29	0.57	0.13	0.63	0.011	0.13	15.33	0.056	6.39	1.49	NA	NA	NA
55	Kantamal	Mahanadi	Tel	GDSQ	FLOW	11-Mar-2025	30.000	26.5	8.48	230.1	154.4	5.6	19.39	12.58	13.86	2.28	13.28	97.03	17.96	6.23	0.27	0.11	0.30	0.020	0.18	10.79	0.075	6.77	1.38	NA	NA	NA
56	Manendragarh	Mahanadi	Hasdeo	GDSQ	NO FLOW	11-Mar-2025	NIL	25.0	7.61	224.8	150.2	15.0	25.98	6.52	15.62	3.30	0.00	103.03	20.24	17.68	0.10	0.11	0.66	0.016	0.13	8.09	0.070	6.86	1.19	NA	NA	NA
57	Kesinga	Mahanadi	Tel	GDSQ	FLOW	11-Mar-2025	21.000	26.0	8.13	220.0	148.3	24.4	25.12	12.77	8.96	2.09	0.00	142.04	11.56	4.12	0.35	0.12	0.56	0.020	0.07	8.73	0.084	6.29	1.61	NA	NA	NA
58	Kotni	Mahanadi	Seonath	GDSQ	NO FLOW	11-Mar-2025	NIL	23.0	8.44	327.0	220.4	12.5	25.20	14.48	25.80	3.31	17.71	114.53	32.25	15.21	0.30	0.08	0.38	0.016	0.17	10.00	0.045	6.35	1.55	NA	NA	NA
59	Seorinarayan	Mahanadi	Mahanadi	GDSQ	NO FLOW	11-Mar-2025	NIL	26.0	8.46	443.3	298.2	4.5	29.83	21.99	25.50	3.09	16.23	123.53	32.41	50.46	0.35	0.10	0.41	0.018	0.14	11.14	0.086	6.21	1.35	NA	NA	NA
60	Gunderdehi	Mahanadi	Tandula	GDSQ	NO FLOW	11-Mar-2025	NIL	26.0	7.94	385.8	259.6	3.2	35.88	11.77	31.02	3.08	0.00	161.04	40.40	17.96	0.33	0.07	0.69	0.019	0.09	3.35	0.091	5.26	2.22	NA	NA	NA
61	Kalma	Mahanadi	Mahanadi	GDSQ	FLOW	11-Mar-2025	30.500	26.0	8.36	301.2	201.2	6.7	28.04	15.48	15.18	3.88	7.38	115.21	19.69	35.09	0.52	0.07	0.20	0.016	0.20	12.41	0.130	5.80	1.74	NA	NA	NA
62	Boudh	Mahanadi	Mahanadi	GDSQ	FLOW	11-Mar-2025	173.804	22.0	8.01	231.1	154.3	5.5	25.20	12.31	8.80	2.13	0.00	118.54	11.43	25.33	0.34	0.12	0.44	0.021	0.10	10.57	0.036	5.70	2.11	NA	NA	NA
63	Padampur	Mahanadi	Ong	GDSQ	NO FLOW	11-Mar-2025	NIL	24.4	7.92	323.0	217.5	9.8	24.91	18.53	20.21	2.30	0.00	159.32	26.54	22.14	0.29	0.09	0.43	0.032	0.15	15.07	0.052	5.96	1.76	NA	NA	NA
64	Champa Road Bridge	Mahanadi	Hasdeo	WQSS	NO FLOW	11-Mar-2025	NA	18.0	8.19	238.5	160.3	6.9	24.01	12.69	10.30	3.43	0.00	108.53	14.34	26.59	0.34	0.09	0.58	0.011	0.12	12.53	0.075	6.58	1.21	NA	NA	NA
65	Madhya Bharat Paper Ltd	Mahanadi	Hasdeo	WQSS	NO FLOW	11-Mar-2025	NA	18.5	8.20	254.6	171.3	30.6	23.71	13.57	15.42	3.53	0.00	115.03	19.87	25.07	0.36	0.08	0.41	0.021	0.10	11.96	0.077	6.19	1.77	NA	NA	NA
66	Nawapara	Mahanadi	Mahanadi	WQSS	NO FLOW	11-Mar-2025	NA	24.5	8.24	200.6	135.1	7.5	24.91	9.41	10.16	1.83	0.00	113.03	14.15	7.11	0.15	0.10	0.32	0.006	0.11	6.95	0.044	6.35	1.52	NA	NA	NA
67	Sarangpal	Mahanadi	Mahanadi	GQ	FLOW	11-Mar-2025	NA	21.0	8.25	207.3	139.5	15.4	16.70	12.22	9.92	2.15	0.00	108.53	12.87	8.19	0.32	0.08	0.27	0.007	0.17	13.85	0.053	6.78	1.35	NA	NA	NA
68	Kanker	Mahanadi	Dhudh	WQSS	FLOW	11-Mar-2025	NA	21.0	7.54	756.7	509.8	10.7	61.01	38.40	55.59	9.80	0.00	372.60	70.56	8.79	0.52	0.34	2.51	0.213	0.06	25.87	1.100	4.60	3.09	NA	NA	NA
69	Belodi	Mahanadi	Seonath	WQSS	NO FLOW	11-Mar-2025	NA	23.0	8.41	324.4	218.5	25.5	27.74	15.28	21.20	3.14	9.35	132.53	27.69	13.13	0.29	0.13	0.36	0.012	0.17	16.73	0.069	6.29	1.42	NA	NA	NA
70	Parmanpur	Mahanadi	Bheden	GD(S)Q	-	Not received																										
71	Kelo	Mahanadi	Kelo	GD(S)Q	-	Not received																										
72	Sundargarh(Town)	Mahanadi	Ib	WQSS	FLOW	11-Mar-2025	NA	22.0	7.72	187.8	126.6	7.2	28.34	4.52	10.12	1.75	0.00	105.53	13.12	4.58	0.20	0.10	0.18	0.011	0.22	12.10	0.089	5.99	2.02	NA	NA	NA
73	Khairmal	Mahanadi	Mahanadi	GQ	FLOW	11-Mar-2025	NA	26.0	8.20	239.0	160.7	2.5	25.40	15.07	9.92	2.49	0.00	150.04	12.88	5.62	0.48	0.12	0.23	0.009	0.26	11.35	0.077	6.21	1.64	NA	NA	NA
74	Prakash Industries Ltd	Mahanadi	Hasdeo	WQSS	NO FLOW	11-Mar-2025	NA	18.0	8.38	249.8	168.3	13.2	28.48	9.41	12.59	4.58	4.92	99.03	16.20	28.87	0.35	0.11	0.45	0.023	0.12	9.84	0.055	5.82	2.07	NA	NA	NA
75	Gatora-1	Mahanadi	Arpa	WQSS	NO FLOW	11-Mar-2025	NA	26.2	7.78	421.2	283.5	14.8	35.79	17.12	30.91	6.26	0.00	201.55	39.65	9.12	0.32	0.14	1.35	0.033	0.08	3.25	0.080	5.33	2.35	NA	NA	NA
76	Gatora-2	Mahanadi	Arpa	WQSS	NO FLOW	11-Mar-2025	NA	25.3	7.19	1057.0	711.9	44.1	82.79	50.05	65.98	11.95	0.00	495.64	91.97	33.59	0.41	0.96	2.56	0.233	0.11	23.10	2.300	5.35	2.39	NA	NA	NA
77	Korba	Mahanadi	Hasdeo	GQ	FLOW	11-Mar-2025	NA	21.5	7.56	172.1	115.2	4.7	15.45	10.21	10.00	2.17	0.00	85.02	12.66	13.59	0.28	0.08	0.48	0.013	0.14	6.99	0.068	6.68	1.29	NA	NA	NA
78	Korba-1	Mahanadi	Hasdeo	WQSS	FLOW	11-Mar-2025	NA	22.0	7.57	170.2	114.6	10.7	14.47	9.77	9.92	2.07	0.00	80.02	12.98	16.07	0.20	0.05	0.38	0.011	0.10	7.79	0.081	6.65	1.16	NA	NA	NA
79	Budha Talab, Raipur	Mahanadi	Pond	W.BODY	NA	11-Mar-2025	NA	24.0	8.42	674.1	453.8	184.8	33.02	22.46	68.30	28.11	7.38	247.57	96.44	9.12	0.45	0.17	3.11	0.083	0.28	15.28	0.310	2.06	11.36	NA	NA	NA
80	Bandhwa Talab, Bilaspur	Mahanadi	Pond	W.BODY	NA	11-Mar-2025	NA	26.3	7.35	867.3	584.5	19.0	45.16	35.58	70.42	9.24	0.00	183.05	103.14	123.68	0.28	0.15	1.96	0.051	0.11	8.98	0.120	2.88	6.15	NA	NA	NA
81	Bandha Talab, Durg	Mahanadi	Pond	W.BODY	NA	11-Mar-2025	NA	23.5	7.72	481.4	324.5	14.7	34.30	18.01	35.16	24.02	0.00	207.56	47.85	25.63	0.30	0.11	1.16	0.024	0.15	8.00	0.075	3.42	9.07	NA	NA	NA
82	Sadeipali Talab, Burla	Mahanadi	Pond	W.BODY	NA	11-Mar-2025	NA	25.0	7.84	394.0	265.1	12.6	44.14	18.96	17.10	6.42	0.00	211.56	32.02	14.25	0.34	0.17	0.78	0.076	0.14	7.86	0.089	3.80	7.98	NA	NA	NA

S. No	Water Quality Site	Division of site	River	Type of site (GQ/ GDSQ/ GDQ/ WQSS)	Condition of River (Dry/ No flow, if any)	Date of Sampling	Discharge	Temperature	pH	EC (At 25 °C)	TDS	Turbidity	Major cations				Major Anions								B	SiO_4^{4-}	NH_3-N	DO	BOD	COD	TC	FC
													Ca^{+2}	Mg^{+2}	Na^{+1}	K^{+1}	CO_3^{-2}	HCO_3^{-1}	Cl^{-1}	SO_4^{-2}	F^-	PO_4^{-3}	NO_3^--N	NO_2^--N								
							cumecs	°C		µS/cm	mg/L	NTU	mg/L				mg/L								mg/L	mg/L	mg/L	mg/L			(MPN/100	
							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
83	Basantpur	Mahanadi	Mahanadi	GDSQ	FLOW	21-Mar-2025	6.000	26.5	8.48	265.6	174.2	2.6	25.89	14.43	10.50	3.50	6.75	107.82	13.82	28.14	0.32	0.06	0.30	0.023	0.09	6.48	0.057	6.53	1.44	NA	NA	NA
84	Rampur	Mahanadi	Jonk	GDSQ	NO FLOW	21-Mar-2025	NIL	25.5	8.47	265.3	175.6	1.3	18.06	15.53	15.10	2.57	13.01	94.59	18.86	13.14	0.28	0.06	0.29	0.000	0.05	11.39	0.066	5.50	1.88	NA	NA	NA
85	Bamnidih	Mahanadi	Hasdeo	GDSQ	FLOW	21-Mar-2025	19.000	25.0	8.28	230.0	153.6	3.8	26.04	12.15	8.16	4.54	0.00	112.92	10.64	26.01	0.25	0.08	0.43	0.000	0.12	7.24	0.070	6.08	1.38	NA	NA	NA
86	Rajim	Mahanadi	Mahanadi	GDSQ	NO FLOW	21-Mar-2025	NIL	28.6	7.48	228.2	152.3	2.0	38.08	4.02	9.92	4.00	0.00	133.30	12.45	5.67	0.15	0.06	0.46	0.000	0.11	8.73	0.061	5.28	2.15	NA	NA	NA
87	Simga	Mahanadi	Seonath	GDSQ	NO FLOW	21-Mar-2025	NIL	27.0	7.45	605.2	401.5	1.1	40.34	21.28	66.12	11.97	0.00	193.69	90.12	48.17	0.37	0.06	0.68	0.045	0.29	12.65	0.067	5.58	1.98	NA	NA	NA
88	Andhiyarkhore	Mahanadi	Hamp	GDSQ	NO FLOW	Dry Bed	-																									
89	Baronda	Mahanadi	Pairi	GDSQ	NO FLOW	21-Mar-2025	NIL	28.0	7.10	351.4	238.0	3.0	31.90	17.68	11.69	7.27	0.00	177.02	15.68	22.16	0.26	0.08	0.58	0.007	0.18	16.75	0.059	5.65	1.78	NA	NA	NA
90	Jondhra	Mahanadi	Seonath	GDSQ	NO FLOW	21-Mar-2025	NIL	28.5	8.49	410.2	270.5	2.8	41.55	13.88	18.18	4.42	4.82	146.34	23.80	52.18	0.24	0.08	0.26	0.000	0.16	12.63	0.053	6.03	1.55	NA	NA	NA
91	Gatora	Mahanadi	Arpa	GDSQ	NO FLOW	21-Mar-2025	NIL	25.9	7.37	875.0	583.0	1.5	54.34	38.82	69.25	7.08	0.00	362.56	86.81	42.68	0.20	0.29	2.38	0.000	0.23	13.44	0.055	5.18	2.48	NA	NA	NA
92	Pathardih	Mahanadi	Kharun	GDQ	NO FLOW	21-Mar-2025	NIL	27.5	7.44	572.0	381.0	2.8	53.59	17.72	47.40	9.47	0.00	218.29	64.03	36.68	0.41	0.14	1.54	0.006	0.22	9.92	0.047	4.95	3.45	NA	NA	NA
93	Kurubhata	Mahanadi	Mand	GDSQ	FLOW	21-Mar-2025	0.900	27.8	8.18	370.0	246.0	1.7	40.49	19.64	10.19	7.27	0.00	142.14	13.44	68.25	0.15	0.09	0.12	0.016	0.30	10.12	0.049	6.47	1.53	NA	NA	NA
94	Sundargarh	Mahanadi	Ib	GDSQ	NO FLOW	21-Mar-2025	NIL	24.0	7.86	210.0	139.0	1.0	19.12	14.80	9.00	2.49	0.00	126.64	11.20	8.14	0.18	0.09	0.24	0.008	0.15	7.26	0.056	6.08	1.88	NA	NA	NA
95	Salebhata	Mahanadi	Ong	GDSQ	NO FLOW	21-Mar-2025	NIL	26.0	8.48	347.0	231.0	1.9	36.07	16.16	14.90	2.70	4.34	168.28	18.87	21.06	0.51	0.09	0.62	0.000	0.21	6.99	0.050	5.95	1.65	NA	NA	NA
96	Kantamal	Mahanadi	Tel	GDSQ	FLOW	21-Mar-2025	29.000	25.0	8.43	227.1	150.1	1.1	22.73	13.16	10.10	2.65	7.23	114.19	13.08	7.23	0.24	0.04	0.30	0.000	0.23	5.17	0.047	6.86	1.17	NA	NA	NA
97	Manendragarh	Mahanadi	Hasdeo	GDSQ	NO FLOW	21-Mar-2025	NIL	26.0	7.87	215.2	141.5	4.5	19.47	13.89	9.16	3.80	0.00	106.35	13.07	19.24	0.12	0.07	0.40	0.000	0.17	3.20	0.063	5.84	1.74	NA	NA	NA
98	Kesinga	Mahanadi	Tel	GDSQ	FLOW	21-Mar-2025	22.500	28.0	8.44	210.1	139.5	8.9	22.09	11.59	10.12	2.31	4.82	109.29	13.33	3.61	0.36	0.07	0.40	0.001	0.12	6.02	0.059	6.28	1.65	NA	NA	NA
99	Kotni	Mahanadi	Seonath	GDSQ	NO FLOW	21-Mar-2025	NIL	25.0	8.15	311.0	208.0	11.2	21.83	18.00	22.23	3.92	0.00	155.85	28.70	16.04	0.41	0.08	0.05	0.010	0.23	8.75	0.051	5.92	1.84	NA	NA	NA
100	Seorinarayan	Mahanadi	Mahanadi	GDSQ	NO FLOW	21-Mar-2025	NIL	26.5	8.48	402.0	267.0	3.8	28.30	25.39	21.29	3.70	9.64	135.26	27.20	53.28	0.33	0.06	0.33	0.020	0.25	13.72	0.047	6.66	1.10	NA	NA	NA
101	Gunderdehi	Mahanadi	Tandula	GDSQ	NO FLOW	21-Mar-2025	NIL	27.0	7.70	401.0	265.5	3.6	32.73	18.73	31.30	4.75	0.00	185.74	44.43	16.65	0.29	0.06	0.70	0.005	0.12	5.44	0.044	5.56	2.04	NA	NA	NA
102	Kalma	Mahanadi	Mahanadi	GDSQ	FLOW	21-Mar-2025	4.660	27.3	8.47	310.2	206.5	5.7	28.15	16.81	13.92	4.44	7.23	125.76	17.24	36.25	0.30	0.06	0.27	0.001	0.23	11.19	0.048	5.69	2.13	NA	NA	NA
103	Boudh	Mahanadi	Mahanadi	GDSQ	FLOW	21-Mar-2025	191.000	26.0	8.42	310.1	207.5	3.1	20.62	15.99	20.43	3.55	19.28	80.37	26.54	32.88	0.41	0.04	0.47	0.004	0.23	8.26	0.054	5.88	1.92	NA	NA	NA
104	Padampur	Mahanadi	Ong	GDSQ	NO FLOW	21-Mar-2025	NIL	24.5	7.86	341.2	228.9	8.4	21.53	18.27	29.00	3.64	0.00	149.88	37.54	22.98	0.39	0.08	0.52	0.028	0.15	7.11	0.049	5.69	2.03	NA	NA	NA
105	Champa Road Bridge	Mahanadi	Hasdeo	WQSS	NO FLOW	21-Mar-2025	NA	25.0	8.00	281.2	188.1	7.3	21.83	14.80	17.80	5.13	0.00	109.78	23.21	34.56	0.33	0.06	0.48	0.010	0.24	4.67	0.051	6.10	1.78	NA	NA	NA
106	Madhya Bharat Paper Ltd	Mahanadi	Hasdeo	WQSS	NO FLOW	21-Mar-2025	NA	25.2	7.76	263.2	175.2	10.6	21.53	13.08	18.00	4.98	0.00	103.90	23.65	26.58	0.29	0.07	0.56	0.008	0.32	4.38	0.068	6.37	1.64	NA	NA	NA
107	Nawapara	Mahanadi	Mahanadi	WQSS	NO FLOW	21-Mar-2025	NA	28.4	7.12	282.0	188.9	18.1	27.85	13.43	19.16	4.72	0.00	155.02	23.80	8.12	0.11	0.08	0.52	0.006	0.25	4.65	0.190	6.84	1.21	NA	NA	NA
108	Sarangpal	Mahanadi	Mahanadi	GQ	NO FLOW	21-Mar-2025	NA	25.0	7.88	205.0	137.8	20.2	20.77	11.97	10.21	2.78	0.00	118.41	13.57	7.84	0.19	0.06	0.46	0.016	0.24	6.64	0.061	6.18	1.82	NA	NA	NA
109	Kanker	Mahanadi	Dhudh	WQSS	NO FLOW	21-Mar-2025	NA	25.0	7.56	809.0	535.0	14.4	59.16	44.30	65.51	14.08	0.00	402.56	88.64	9.14	0.36	0.23	1.31	0.624	0.13	24.37	0.088	5.78	1.01	NA	NA	NA
110	Belodi	Mahanadi	Seonath	WQSS	NO FLOW	21-Mar-2025	NA	25.5	8.16	325.6	214.8	16.0	25.44	17.45	24.23	3.99	0.00	160.75	32.87	13.54	0.20	0.06	0.35	0.086	0.26	7.89	0.044	6.45	1.33	NA	NA	NA
111	Parmanpur	Mahanadi	Bheden	GD(S)Q	-	Not received	-																									
112	Kelo	Mahanadi	Kelo	GD(S)Q	-	Not received	-																									
113	Sundargarh(Town)	Mahanadi	Ib	WQSS	FLOW	21-Mar-2025	NA	24.0	7.95	220.1	146.5	2.0	21.68	10.26	16.32	2.52	0.00	121.05	20.72	5.14	0.16	0.06	0.26	0.018	0.21	9.18	0.058	6.18	1.88	NA	NA	NA
114	Khairmal	Mahanadi	Mahanadi	GQ	FLOW	21-Mar-2025	NA	29.5	8.36	264.1	178.2	4.7	33.27	7.86	14.18	2.88	13.50	113.70	17.62	5.84	0.32	0.09	0.23	0.021	0.29	25.34	0.063	6.45	1.40	NA	NA	NA
115	Prakash Industries Ltd	Mahanadi	Hasdeo	WQSS	NO FLOW	21-Mar-2025	NA	25.0	7.90	267.0	178.9	11.3	22.14	13.34	16.70	5.04	0.00	107.82	21.60	34.51	0.25	0.09	0.41	0.008	0.27	9.24	0.059	6.11	1.71	NA	NA	NA
116	Gatora-1	Mahanadi	Arpa	WQSS	NO FLOW	21-Mar-2025	NA	24.6	7.77	699.0	469.0	13.9	47.95	27.22	66.17	14.22	0.00	311.70	81.88	8.07	0.18	0.12	1.80	0.010	0.17	4.71	0.140	5.55	2.24	NA	NA	NA
117	Gatora-2	Mahanadi	Arpa	WQSS	NO FLOW	21-Mar-2025	NA	25.4	7.02	1035.0	693.0	42.2	88.97	41.24	69.92	12.73	0.00	480.78	98.01	36.25	0.29	1.01	1.36	0.520	0.42	19.05	2.800	5.48	2.33	NA	NA	NA
118	Korba	Mahanadi	Hasdeo	GQ	FLOW	21-Mar-2025	NA	22.5	8.10	191.2	127.5	3.7	18.15	10.31	11.10	2.79	0.00	93.12	14.94	14.05	0.31	0.06	0.23	0.005	0.26	8.30	0.057	6.49	1.47	NA	NA	NA
119	Korba-1	Mahanadi	Hasdeo	WQSS	FLOW	21-Mar-2025	NA	23.0	7.37	140.9	95.5	9.5	21.23	10.23	10.00	2.62	0.00	89.69	13.01	17.21	0.20	0.05	0.42	0.002	0.26	10.82	0.077	6.02	1.69	NA	NA	NA
120	Budha Talab, Raipur	Mahanadi	Pond	W.BODY	NA	21-Mar-2025	NA	27.5	8.33	642.0	425.0	177.2	29.05	25.58	62.25	30.28	7.23	246.52	100.44	8.03	0.39	0.11	2.53	0.088	0.32	24.22	0.280	2.59	8.40	NA	NA	NA
121	Bandhwa Talab, Bilaspur	Mahanadi	Pond	W.BODY	NA	21-Mar-2025	NA	26.8	7.28	826.1	554.0	22.5	42.60	40.10	70.33	11.26	0.00	181.33	105.48	125.66	0.27	0.15	1.51	0.040	0.33	12.42	0.130	2.91	7.12	NA	NA	NA
122	Bandha Talab, Durg	Mahanadi	Pond	W.BODY	NA	21-Mar-2025	NA	26.0	7.63	483.1	328.2	19.8	39.74	13.70	33.46	28.37	0.00	204.37	47.61	23.51	0.24	0.10	1.09	0.016	0.26	4.02	0.100	3.83	7.21	NA	NA	NA
123	Sadeipali Talab, Burla	Mahanadi	Pond	W.BODY	NA	21-Mar-2025	NA	23.5	8.00	389.0	257.0	14.1	40.49	21.83	30.18	7.60	0.00	210.25	36.40	13.52	0.30	0.23	0.85	0.033	0.26	16.70	0.078	3.69	8.77	NA	NA	NA
1	Tikarpada	MD BURLA	Mahanadi	GDSQ	Flow	01.03.2025	196.58	27.0	7.64	382.5	220.3	5.5	49.15	10.23	18.56	3.80	0.00	185.63	25.63	2.29	0.25	0.10	2.30	0.010	NA	3.84	0.190	5.52	1.42	UR	NA	NA
2	Tikarapada	MD BURLA	Mahanadi	GDSQ	Flow	11.03.2025	251.22	27.0	7.26	403.1	222.3	4.6	28.90	14.82	33.21	3.10	0.00	146.52	46.73	1.89	0.23	0.16	2.00	0.020	NA	3.48	0.240	5.12	1.77	UR	NA	NA
3	Tikarapada	MD BURLA	Mahanadi	GDSQ	Flow	21.03.2025	193.50	31.0	7.26	402.3	226.4	4.0	24.08	22.65	23.36	3.90	0.00	180.30	36.60	3.54	0.25	0.12	2.30	0.010	NA	3.44	0.220	6.00	2.45	UR	NA	NA

Note: (1) Water Quality Samples for Tikarpada site are received and analyzed by Eastern Rivers Division, CWC, Bhubaneswar. (2) COD parameter cannot be analyzed due to unavailability of required chemicals.

7.1 Water Quality Bulletin for the Month of March-2025 of Eastern Rivers Division, CWC, Bhubaneswar

WATER QUALITY BULLETIN FOR THE MONTH/YEAR.....MARCH-2025

जल गुणवत्ता बुलेटिन / WATER QUALITY BULLETIN

Month / Year : MARCH/ 2025 — Division: EASTERN RIVERS DIVISION, BHUBANESWAR, ODISHA (Page-01)

Sl.No	Water Quality Site	Division of Site	River	Type of Site (GQ/GDSQ/GDQ/W	Condition of River (Dry/No flow, If Any)	Date of Sampling	Discharge	Temperature	pH	EC	TDS	Turbidity	Major cations																							
							cumecs	°C		µS/cm	mg/L	NTU	Ca^{+2}	Mg^{+2}	Na^{+1}	K^{+1}	CO_3^{-2}	HCO_3^{-1}	Cl^{-1}	SO_4^{-2}	F-	PO_4^{-3}	NO_3^--N	NO_2^--N	B	SiO_4^{4-}	NH_3-N	DO	BOD	COD	TC	FC
													mg/L				mg/L								mg/L				mg/L			(MPN/100 ml)	
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Tilga	ERD BBSR	Sankh	GDSQ	Flow	01.03.2025	Nil	19.5	6.90	216.3	123.3	5.60	18.05	8.53	13.23	2	0	86.94	18.58	4.48	0.2	0.86	1.8	0.01	NA	4.62	0.17	7.35	2.66	UR	NA	NA
2	Jaraikela	ERD BBSR	Koel	GDSQ	Flow	01.03.2025	11.4	25.0	7.30	289.6	165.3	1.20	23.42	17.86	9.7	2.18	0	145.26	16.04	8.49	0.22	0.5	1.9	0.01	NA	3.04	0.12	6.93	1.96	UR	NA	NA
3	Panposh	ERD BBSR	Brahamani	GDSQ	Flow	01.03.2025	Nil	21.0	7.36	292.6	167.5	1.30	27.07	14.63	9.97	3.01	0	132.54	17.99	7.89	0.24	0.63	3.3	0.07	NA	2.46	0.11	5.04	2.54	UR	NA	NA
4	Panposh-I	ERD BBSR	Sankh	WQSS	Flow	01.03.2025	Nil	20.0	7.16	351.2	200.1	2.20	30.34	15.21	18.56	1.81	0	152.26	24.06	10.59	0.23	0.75	3.2	0.03	NA	2.02	0.14	5.88	2.63	UR	NA	NA
5	Panposh-II	ERD BBSR	Koel	WQSS	Flow	01.03.2025	Nil	18.0	7.04	325.1	189.5	1.3	27.65	16.36	10.85	1.38	0	133.25	20.15	17.98	0.22	0.46	4.8	0.03	NA	2.57	0.13	6.64	2.53	UR	NA	NA
6	R.S.P	ERD BBSR	Brahamani	WQSS	Flow	01.03.2025	Nil	22.0	7.32	502.3	289.6	20.1	42.43	20.31	30.28	8.17	0	201.25	40.11	8.25	1.20	0.88	7.5	0.68	NA	3.00	23.00	0.00	42.50	UR	NA	NA
7	R.S.P-I	ERD BBSR	Brahamani	WQSS	Flow	01.03.2025	Nil	21.0	7.19	429.5	255.3	2.00	28.80	27.88	17.96	7.26	0	183.62	24.06	6.66	0.47	0.69	9.9	0.10	NA	2.27	1.40	6.34	2.15	UR	NA	NA
8	R.S.P-II	ERD BBSR	Brahamani	WQSS	Flow	01.03.2025	Nil	21.5	6.90	492.5	272.5	1.20	22.27	32.13	19.56	8.17	0	159.3	25.63	59.98	0.76	1.11	3.7	0.03	NA	3.29	0.20	5.67	2.34	UR	NA	NA
9	Gomlai	ERD BBSR	Brahamani	GDSQ	Flow	01.03.2025	Nil	24.0	7.60	401.2	225.6	1.40	29.18	26.31	12.04	3.72	0	162.31	22.89	21.71	0.41	0.85	4.6	0.25	NA	4.22	0.25	7.27	1.97	UR	NA	NA
10	Talcher	ERD BBSR	Brahamani	GQ	Flow	01.03.2025	Nil	28.0	7.57	372.6	205.6	3.20	16.51	27.99	16.46	2	0	117.95	21.13	38.46	0.26	0.42	3.3	0.01	NA	2.57	0.18	7.54	2.25	UR	NA	NA
11	Nandira	ERD BBSR	Brahamani	WQSS	Flow	01.03.2025	Nil	28.0	7.50	342.6	193.6	2.1	16.90	22.31	17.86	1.93	0	132.15	25.43	21.47	0.35	0.39	3.2	0.01	NA	1.37	0.15	6.15	2.03	UR	NA	NA
12	Kamalanga	ERD BBSR	Brahamani	WQSS	Flow	01.03.2025	Nil	28.0	7.45	312.2	175.6	1.20	21.12	15.23	20.13	2.38	0	110.05	26.61	15.47	0.29	0.46	3.2	0.02	NA	2.15	0.17	7.67	2.43	UR	NA	NA
13	Bido	ERD BBSR	Brahamani	WQSS	Flow	01.03.2025	Nil	28.5	7.85	321.6	186.6	1.80	18.62	16.56	23.32	2.30	0	129.5	32.08	5.15	0.35	0.46	3.4	0.02	NA	2.62	0.15	6.22	2.19	UR	NA	NA
14	Jenapur	ERD BBSR	Brahamani	GDSQ	Flow	01.03.2025	Nil	26.0	7.60	331.2	189.7	2.30	18.24	21.3	16.69	1.72	0	127.68	21.52	24.84	0.22	0.3	2.5	0.02	NA	1.73	0.2	6.85	2.84	UR	NA	NA
15	Altuma	ERD BBSR	Ramial	GDSQ	Flow	01.03.2025	1.6	27.5	7.03	256.3	152.3	2.60	12.67	15.23	16.23	1.69	0	116.13	22.3	8.09	0.16	0.2	1.7	0.02	NA	3.42	0.17	6.45	2.42	UR	NA	NA
16	Bonaigarh	ERD BBSR	Brahamani	GDSQ	Flow	01.03.2025	24.66	23.0	7.06	386.3	225.1	1.00	23.42	21.03	22.30	3.16	0	138.62	30.52	25.20	0.15	0.50	7.6	0.37	NA	2.23	0.15	7.83	2.30	UR	NA	NA
17	Purunagarh	ERD BBSR	Brahamani	GDSQ	Flow	01.03.2025	0.007	22.0	7.02	330.2	191.2	3.00	19.97	22.35	14.26	1.31	0	102.63	22.89	38.54	0.24	0.14	2.1	0.02	NA	2.54	0.16	6.83	1.52	UR	NA	NA
18	Bolani	ERD BBSR	Brahamani	GDSQ	Flow	01.03.2025	37.35	23.0	7.01	416.5	246.5	3.5	26.3	24.1	19.5	3.3	0	143.25	25.24	38.7	0.3	0.1	7.8	0.83	NA	4.54	0.2	6.2	1.9	UR	NA	NA
19	Kulpatanga	ERD BBSR	Kharkai	WQSS	Flow	01.03.2025	Nil	25.0	7.13	501.2	285.6	2.90	42.13	25.63	21.35	4.27	0	201.13	35.26	25.24	0.52	0.38	8.3	0.10	NA	1.40	2.20	0.00	41.00	UR	NA	NA
20	Adityapur	ERD BBSR	Kharkai	GDQ	Flow	01.03.2025	3	23.0	7.10	601.2	342.2	2.30	31.49	40.78	33.74	3.41	0	273.65	45.2	19.17	0.42	0.21	6.8	0.10	NA	3.07	1.70	0.00	35.50	UR	NA	NA
21	Muri	ERD BBSR	Subarnarekha	GDSQ	Flow	01.03.2025	2.0	22.0	7.38	420.3	261.3	2.3	24	25.13	24.3	5.03	0	165.64	37.76	20.48	0.27	0.18	5.8	0.04	NA	2.53	0.33	6.38	2.6	UR	NA	NA
22	Jamshedpur	ERD BBSR	Subarnarekha	GDSQ	Flow	01.03.2025	14.8	24.0	7.22	368.4	208.5	1.60	21.70	20.35	21.23	3.37	0	125.63	30.91	22.06	0.22	0.24	7.2	0.11	NA	4.13	0.2	5.50	1.22	UR	NA	NA
23	Baridhi	ERD BBSR	Subarnarekha	WQSS	Flow	01.03.2025	Nil	24.0	7.17	345.6	201.3	1.2	20.74	21.66	15.89	3.26	0	131.25	23.87	21.35	0.24	0.18	6.9	0.19	NA	3.40	0.22	5.31	1.46	UR	NA	NA
24	Lupungdhi	ERD BBSR	Subarnarekha	WQSS	Flow	01.03.2025	Nil	24.0	7.15	443.6	256.3	1.8	24.77	26.38	23.63	3.39	0	152.61	31.11	40.37	0.25	0.14	7.2	0.13	NA	3.89	0.19	5.61	1.51	UR	NA	NA
25	Domuhani	ERD BBSR	Subarnarekha	WQSS	Flow	01.03.2025	Nil	24.0	7.23	456.3	265.4	1.3	32.26	27.65	15.03	3.18	0	151.26	30.91	44.97	0.61	0.16	7.4	0.14	NA	4.11	0.18	5.4	2.23	UR	NA	NA
26	GH.Rd.Bridge	ERD BBSR	Subarnarekha	WQSS	Flow	01.03.2025	Nil	24.0	7.92	505.2	280.6	1.3	29.57	25.63	30	4.39	0	162.35	48.52	36.75	0.57	0.33	4.1	0.06	NA	4.20	0.19	6.11	2.53	UR	NA	NA
27	Ghatshila	ERD BBSR	Subarnarekha	GDSQ	Flow	01.03.2025	27.54	24.0	7.74	548.5	310.5	1.3	31.49	30.21	32	4.19	0	183.62	46.76	33.42	0.6	0.1	7.1	0.04	NA	4.31	0.2	6.93	2.77	UR	NA	NA
28	Jamsolaghat	ERD BBSR	Subarnarekha	GDSQ	Flow	01.03.2025	5.22	25.5	7.6	501.2	287.6	1.5	25.73	30.13	26.49	7.19	0	182.4	37.56	35.2	0.32	0.15	6.6	0.08	NA	3.70	0.18	7.37	2.82	UR	NA	NA
29	Rajghat	ERD BBSR	Subarnarekha	GDQ	Flow	01.03.2025	29.48	25.0	7.45	412.5	230.2	3.80	26.5	22.35	27.29	3.26	0	152.61	42.85	7.61	0.41	0.15	3.1	0.02	NA	3.59	0.15	4.39	2.54	UR	NA	NA
30	Gopiballavpur	ERD BBSR	Subarnarekha	GDSQ	Flow	01.03.2025	22.792	23.0	7.43	462.3	264.5	2.10	27.07	26.13	25.37	5.01	0	185.44	44.22	14.08	0.19	0.14	4.4	0.02	NA	2.67	0.18	6.26	2.07	UR	NA	NA
31	Baripada	ERD BBSR	Burhabalanga	GQ	Flow	01.03.2025	Nil	26.0	7.22	451.2	251.3	1.8	35.33	23.1	23.56	2.9	0	179.97	34.82	14.08	0.18	0.13	3.4	0.01	NA	3.87	0.19	6.34	2.34	UR	NA	NA
32	Balighat	ERD BBSR	Burhabalanga	WQSS	Flow	01.03.2025	Nil	24.5	7.45	422.3	235.6	23.20	27.46	22.13	23.16	7.81	0	180.58	34.12	4.2	0.19	0.15	4.2	0.01	NA	4.03	0.20	4.39	2.36	UR	NA	NA
33	Govindpur(NH-5)	ERD BBSR	Burhabalanga	GDSQ	Flow	01.03.2025	13.13	26.5	7.62	401.6	241.5	8.20	20.16	25.61	21.12	2.17	0	160.23	33.06	22.22	0.17	0.27	4.8	0.01	NA	3.47	0.21	6.03	2.27	UR	NA	NA
34	Anandapur	ERD BBSR	Baitarani	GDSQ	Flow	01.03.2025	22.8	25.0	7.53	331.2	186.5	4.20	23.23	15.16	23.16	1.39	0	139.23	29.34	4.00	0.19	0.09	2.2	0.01	NA	4.19	0.24	5.63	1.92	UR	NA	NA
35	Mushal	ERD BBSR	Baitarani	WQSS	Flow	01.03.2025	Nil	24.5	7.41	321.2	189.5	3.50	23.81	17.05	18.52	2.34	0	156.26	24.65	5.27	0.15	0.13	1.8	0.01	NA	1.29	0.17	5.61	1.79	UR	NA	NA
36	Kusei	ERD BBSR	Baitarani	WQSS	Flow	01.03.2025	Nil	22.5	7.51	235.2	136.5	3.80	19.58	11.23	10.21	1.81	0	110.05	15.65	7.06	0.17	0.21	2.0	0.01	NA	2.18	0.22	5.61	1.67	UR	NA	NA
37	champua	ERD BBSR	Baitarani	GDSQ	Flow	01.03.2025	4.161	21.0	7.30	342.3	206.5	5	48	9	14.5	3	0	154	22	7	0	0	3	0	NA	3	0	6	2	UR	NA	NA
38	Swampatana	ERD BBSR	Baitarani	WQSS	sample not received																.											
39	Kenduapada	ERD BBSR	Kanijhari	WQSS	sample not received																											
40	Aradei	ERD BBSR	Aradei	WQSS	Flow	01.03.2025	Nil	21.5	7.30	288.6	174.5	4.90	40.70	8.10	10.23	2.94	0	144.23	14.86	1.78	0.2	0.09	3.0	0.02	NA	2.87	0.28	5.82	2.38	UR	NA	NA
41	Keonjhar	ERD BBSR	Aradei	GQ	sample not received																											
42	INDUPUR	ERD,BBSR	Brahamani	GQ	sample not received																											
43	Gunupur	ERD BBSR	Vamsadhara	GDSQ	Flow	01.03.2025	4.88	24.0	7.70	423.3	243.3	2.20	35.52	30.12	10.23	3.80	0	245.02	14.67	1.42	0.17	0.14	2.6	0.02	NA	3.42	0.22	6.34	2.54	UR	NA	NA
44	Kashinagar	ERD BBSR	Vamsadhara	GDSQ	Flow	01.03.2025	5.000	24.0	7.65	425.6	246.5	1.90	34.56	30.12	13.21	3.74	0	237.73	17.02	2.02	0.24	0.3	3.8	0.03	NA	3.08	0.2	5.29	1.51	UR	NA	NA
45	Gudari	ERD BBSR	Vamsadhara	GQ	Flow	01.03.2025	Nil	22.0	7.71	461.3	260.3	2.20	39.17	22.58	17.46	4.28	0	203.21	25.63	26.39	0.26	0.22	2.7	0.03	NA	2.18	0.19	5.67	1.84	UR	NA	NA
46	Srikakulam	ERD BBSR	Nagavali	GDSQ	Flow	01.03.2025	376	24.0	7.75	452.3	251.3	1.30	31.10	23.31	21.31	4.26	0	205.64	34.82	11.78	0.25	0.19	2.6	0.02	NA	2.58	0.24	5.78	2.36	UR	NA	NA
47	Meliaputty	ERD BBSR	Mahendratanaya	WQSS	sample not received																											
48	Purashottampur	ERD BBSR	Rushikulya	GDSQ	Flow	01.03.2025	1.200	28.0	7.53	422.3	239.6	1.60	29.57	23.62	24.16	3.14	0	195.63	33.85	2.14	0.24	0.15	3.1	0.02	NA	2.95	0.18	7.18	2.37	UR	NA	NA
49	Sorada	ERD BBSR	Rushikulya	GQ	Flow	01.03.2025	Nil	26.0	8.05	360.5	210.6	2.3	31.87	19.35	15.26	4.26	0	186.35	22.1	5.43	0.23	0.09	2.7	0.01	NA	2.67	0.17	5.9	1.6	UR	NA	NA
50	Madhabarida	ERD BBSR	Badanadi	GQ	sample not received																											
51	Anakapali	ERD BBSR	Sarada	WQSS	Flow	01.03.2025	34.00	25.0	7.45	410.3	240.3	2.20	26.5	25.7	18.96	3.29	0	195.63	24.84	18.02	0.27	0.15	4.2	0.04	NA	2.89	0.23	5.84	1.66	UR	NA	NA
52	Tikarpada	MD BURLA	Mahanadi	GDSQ	Flow	01.03.2025	203.27	27.0	7.64	382.5	220.3	5.50	49.15	10.23	18.56	3.8	0	185.63	25.63	2.29	0.25	0.1	2.3	0.01	NA	3.84	0.19	5.52	1.42	UR	NA	NA

WATER QUALITY BULLETIN FOR THE MONTH/YEAR.....MARCH-2025

जल गुणवत्ता बुलेटिन / WATER QUALITY BULLETIN

Month / Year : MARCH/ 2025

Division: EASTERN RIVERS DIVISION, BHUBANESWAR, ODISHA (Page-02)

Sl.No	Water Quality Site	Division of Site	River	Type of Site (GQ/G DSQ/G	Condition of River (Dry/No flow, if Any)	Date of Sampling	Discharge	Temperature	pH	EC	TDS	Turbidity	Major cations				CO_3^{-2}	HCO_3^{-1}	Cl^{-1}	SO_4^{-2}	F-	PO_4^{-3}	NO_3^--N	NO_2^--N	B	SiO_4^{4-}	NH_3-N	DO	BOD	COD	TC	FC
							cumecs	°C		µS/cm	mg/L	NTU	Ca^{+2}	Mg^{+2}	Na^{+1}	K^{+1}	mg/L									mg/L					(MPN/100 ml)	
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
53	Tilga	ERD BBSR	Sankh	GDSQ	Flow	11.03.2025	3	21.0	7.01	215.3	123.6	5.90	16.8	8.53	13.21	2.17	0	82.31	19.4	5.05	0.19	1	1.7	0.01	NA	4.58	0.19	5.04	2.11	UR	NA	NA
54	Jaraikela	ERD BBSR	Koel	GDSQ	Flow	11.03.2025	7.5	25.0	7.28	321.2	178.9	1.40	17.64	16.83	21.3	3.29	0	133.44	28.01	8.9	0.20	0.49	1.5	0.01	NA	2.58	0.17	5.25	2.15	UR	NA	NA
55	Panposh	ERD BBSR	Brahamani	GDSQ	Flow	11.03.2025	Nil	21.5	7.31	295.6	172.3	1.80	26.88	12.7	14.20	2.17	0	130.3	21.27	8.02	0.23	0.54	3.0	0.05	NA	1.73	0.14	4.87	1.96	UR	NA	NA
56	Panposh-I	ERD BBSR	Sankh	WQSS	Flow	11.03.2025	Nil	21.0	7.20	316.5	182.3	2.00	19.32	18.85	13.56	2.14	0	142.56	19.59	13.72	0.27	0.79	2.8	0.03	NA	1.75	0.17	5.84	1.93	UR	NA	NA
57	Panposh-II	ERD BBSR	Koel	WQSS	Flow	11.03.2025	Nil	20.5	7.01	371.5	205.4	1.60	18.48	20.13	24.15	2.26	0	125.64	38.49	17.89	0.24	0.51	4.3	0.03	NA	2.27	0.14	4.41	1.18	UR	NA	NA
58	R.S.P	ERD BBSR	Brahamani	WQSS	Flow	11.03.2025	Nil	19.5	7.40	459.5	259.4	18.40	18.48	30.64	28.14	7.39	0	173.74	45.79	9.51	1.00	0.75	7.0	0.59	NA	2.54	18.90	0.00	40.50	UR	NA	NA
59	R.S.P-I	ERD BBSR	Brahamani	WQSS	Flow	11.03.2025	Nil	19.0	7.26	314.2	185.6	2.20	19.15	18.24	20.13	2.31	0	125.13	26.33	7.82	0.43	0.56	8.4	0.09	NA	2.59	1.50	5.78	1.70	UR	NA	NA
60	R.S.P-II	ERD BBSR	Brahamani	WQSS	Flow	11.03.2025	Nil	18.5	6.96	396.3	228.5	1.70	34.78	13.32	25.16	2.28	0	112.51	31.19	48.46	0.68	1.01	2.9	0.03	NA	2.96	0.23	6.30	2.05	UR	NA	NA
61	Gomlai	ERD BBSR	Brahamani	GDSQ	Flow	11.03.2025	Nil	24.0	7.49	401.2	231.2	1.90	30.07	23.69	18.56	4.03	0	165.32	24.08	22.06	0.31	0.78	4.1	0.24	NA	3.38	0.22	5.35	1.21	UR	NA	NA
62	Talcher	ERD BBSR	Brahamani	GQ	Flow	11.03.2025	Nil	27.5	7.53	332.3	195.6	3.30	18.65	16.5	22.31	2.26	0	106.23	29.32	33.33	0.25	0.44	3.0	0.02	NA	2.5	0.16	4.89	1.90	UR	NA	NA
63	Nandira	ERD BBSR	Brahamani	WQSS	Flow	11.03.2025	Nil	27.5	7.69	352.3	210.3	2.60	18.48	19.35	23.16	2.80	0	121.41	38.12	25.83	0.31	0.37	2.8	0.01	NA	1.71	0.14	6.30	1.96	UR	NA	NA
64	Kamalanga	ERD BBSR	Brahamani	WQSS	Flow	11.03.2025	Nil	27.5	7.26	285.6	165.3	1.40	17.6	19.45	13.26	3.04	0	109.89	18.46	15.88	0.30	0.34	3.1	0.02	NA	2.08	0.19	4.96	1.78	UR	NA	NA
65	Bido	ERD BBSR	Brahamani	WQSS	Flow	11.03.2025	Nil	28.0	7.76	352.3	198.6	1.90	23.4	16.2	24.13	2.98	0	132.92	35.12	7.22	0.34	0.35	3.0	0.02	NA	2.56	0.17	5.25	1.32	UR	NA	NA
66	Jenapur	ERD BBSR	Brahamani	GDSQ	Flow	11.03.2025	Nil	24.0	7.34	341.2	195.6	2.40	22.7	15.26	23.63	2.29	0	100.47	33.63	23.87	0.26	0.29	2.7	0.02	NA	1.71	0.22	4.64	1.91	UR	NA	NA
67	Altuma	ERD BBSR	Ramial	GDSQ	Flow	11.03.2025	8.29	23.0	7.08	310.2	175.6	2.50	20.2	18.14	15.23	1.74	0	135.26	22.58	10.03	0.19	0.18	1.8	0.02	NA	3.78	0.2	5.65	2.79	UR	NA	NA
68	Bonaigarh	ERD BBSR	Brahamani	GDSQ	Flow	11.03.2025	18.05	24.0	7.09	362.3	213.2	1.10	17.5	21.87	23.32	3.21	0	115.63	35.12	23.99	0.17	0.46	7.3	0.37	NA	2.2	0.15	5.42	1.64	UR	NA	NA
69	Purunagarh	ERD BBSR	Brahamani	GDSQ	Flow	11.03.2025	Nil	26.0	7.11	326.3	196.6	2.60	23.7	13.9	24.63	2.39	0	84.77	31.94	35.62	0.2	0.15	2.2	0.01	NA	2.54	0.19	5.52	2.17	UR	NA	NA
70	Bolani	ERD BBSR	Brahamani	GDSQ	Flow	11.03.2025	30.66	25.0	7.26	405.6	240.3	3.90	22.7	20.6	23.36	7.08	0	125.63	34.19	33.53	0.26	0.17	7.3	0.75	NA	3.89	0.20	5.59	1.96	UR	NA	NA
71	Kulpatanga	ERD BBSR	Kharkai	WQSS	Flow	11.03.2025	Nil	25.0	7.29	445.3	260.5	3.30	18.7	25.91	27.46	5.38	0	152.32	41.25	25.39	0.41	0.4	7.2	0.12	NA	1.42	1.80	0.00	59.00	UR	NA	NA
72	Adityapur	ERD BBSR	Kharkai	GDQ	Flow	11.03.2025	2.0	24.0	7.23	435.6	255.6	2.60	20.3	30.24	24.56	5.88	0	156.32	37.56	20.18	0.48	0.27	6.0	0.01	NA	3.01	1.30	0.00	57.00	UR	NA	NA
73	Muri	ERD BBSR	Subarnarekha	GDSQ	Flow	11.03.2025	Nil	23.5	7.49	451.2	263.3	2.80	21.8	27.32	23.17	7.02	0	177.40	37	23.63	0.24	0.20	5.1	0.03	NA	2.57	0.38	5.08	1.90	UR	NA	NA
74	Jamshedpur	ERD BBSR	Subarnarekha	GDSQ	Flow	11.03.2025	14.8	25.0	7.26	391.2	231.3	1.70	18.1	20.13	27.56	4.13	0	125.63	41.11	21.54	0.2	0.25	6	0.14	NA	4.54	0.22	5.42	1.96	UR	NA	NA
75	Baridhi	ERD BBSR	Subarnarekha	WQSS	Flow	11.03.2025	Nil	25.0	7.19	403.2	241.3	1.40	20.2	20.19	28.56	4.26	0	132.32	42.24	22.42	0.23	0.2	6.1	0.22	NA	3.84	0.26	5.27	1.72	UR	NA	NA
76	Lupungdhi	ERD BBSR	Subarnarekha	WQSS	Flow	11.03.2025	Nil	25.0	7.17	422.3	252.3	2.00	18.5	25	25.63	3.17	0	131.26	38.12	36.46	0.2	0.10	5.9	0.14	NA	3.78	0.23	6.53	2.51	UR	NA	NA
77	Domuhani	ERD BBSR	Subarnarekha	WQSS	Flow	11.03.2025	Nil	25.0	7.24	425.6	256.8	1.20	17.6	24.09	28.56	3.18	0	118.96	45.05	38.79	0.53	0.14	6.3	0.13	NA	4.3	0.2	4.62	1.27	UR	NA	NA
78	GH.Rd.Bridge	ERD BBSR	Subarnarekha	WQSS	Flow	11.03.2025	Nil	23.0	7.81	461.2	274.6	1.60	26.9	23.99	29.28	3.93	0	165.36	41.86	33.57	0.50	0.28	3.3	0.06	NA	4.26	0.17	4.81	1.20	UR	NA	NA
79	Ghatshila	ERD BBSR	Subarnarekha	GDSQ	Flow	11.03.2025	25.8	23.0	7.63	421.3	245.6	1.90	19.3	25.23	25.09	6.18	0	139.2	42.42	19.61	0.54	0.14	6.0	0.06	NA	5.13	0.24	6.15	1.90	UR	NA	NA
80	Jamsolaghat	ERD BBSR	Subarnarekha	GDSQ	Flow	11.03.2025	5.26	26.0	7.59	416.5	243.3	1.70	22.0	23.32	24.77	6.05	0	143.21	33.81	31.65	0.29	0.17	5.8	0.08	NA	3.77	0.23	5.44	1.25	UR	NA	NA
81	Rajghat	ERD BBSR	Subarnarekha	GDQ	Flow	11.03.2025	16.3310	25.0	7.44	395.6	225.6	3.00	19.2	20.13	28.36	7.17	0	147.56	39.63	13.52	0.35	0.15	2.6	0.02	NA	3.4	0.17	4.93	2.35	UR	NA	NA
82	Gopiballavpur	ERD BBSR	Subarnarekha	GDSQ	Flow	11.03.2025	17.456	23.0	7.29	388.5	230.1	2.20	24.0	18.96	24.29	5.28	0	151.23	36.23	17.89	0.23	0.15	4.1	0.02	NA	2.96	0.2	4.47	1.41	UR	NA	NA
83	Baripada	ERD BBSR	Burhabalanga	GQ	Flow	11.03.2025	Nil	26.0	7.18	401.2	226.5	1.70	25.2	20.13	23.31	6.23	0	145.85	32.69	21.38	0.2	0.16	3	0.01	NA	3.87	0.24	5.92	1.6	UR	NA	NA
84	Balighat	ERD BBSR	Burhabalanga	WQSS	Flow	11.03.2025	Nil	26.5	7.38	405.6	231.5	20.60	22.9	19.96	26.63	5.93	0	156.99	39.06	9.51	0.18	0.14	3.5	0.01	NA	3.47	0.21	4.96	2.78	UR	NA	NA
85	Govindpur(NH-5)	ERD BBSR	Burhabalanga	GDSQ	Flow	11.03.2025	5.12	27.0	7.44	416.5	238.5	7.30	32.4	20.13	22.31	2.65	0	144.95	36.06	27.4	0.16	0.25	2.1	0.02	NA	3.28	0.23	4.35	1.36	UR	NA	NA
86	Anandapur	ERD BBSR	Baitarani	GDSQ	Flow	11.03.2025	20.06	23.5	7.58	341.2	204.6	5.80	22.3	17.35	22.31	2.26	0	145.26	28.95	13.92	0.22	0.15	1.8	0.01	NA	3.86	0.28	6.68	2.34	UR	NA	NA
87	Mushal	ERD BBSR	Baitarani	WQSS	Flow	11.03.2025	Nil	23.5	7.29	275.6	164.5	3.90	18.5	15.62	14.23	1.94	0	112.32	19.4	21.38	0.17	0.14	1.9	0.01	NA	1.40	0.19	6.62	2.37	UR	NA	NA
88	Kusei	ERD BBSR	Baitarani	WQSS	Flow	11.03.2025	Nil	24.0	7.38	407.5	224.5	4.00	20.3	17.54	35.63	1.68	0	142.31	46.73	9.99	0.19	0.23	2.1	0.01	NA	2.12	0.24	5.73	1.41	UR	NA	NA
89	champua	ERD BBSR	Baitarani	GDSQ	Flow	11.03.2025	3.648	23.0	7.29	289.5	164.5	4.10	17.0	15.65	18.56	2	0	123.32	23.14	9.51	0.2	0.19	2.3	0.02	NA	3.01	0.2	5.44	2.30	UR	NA	NA
90	Swampatana	ERD BBSR	Baitarani	WQSS	sample not received																											
91	Kenduapada	ERD BBSR	Kanijhari	WQSS	sample not received																											
92	Aradei	ERD BBSR	Aradei	WQSS	Flow	11.03.2025	Nil	23.5	7.14	361.2	201.3	4.30	20.3	20.56	21.52	2.09	0	152.63	34	3.69	0.23	0.15	2.4	0.02	NA	2.61	0.25	6.17	1.79	UR	NA	NA
93	Keonjhar	ERD BBSR	Aradei	GQ	sample not received																											
94	INDUPUR	ERD,BBSR	Brahamani	GQ	sample not received																											
95	Gunupur	ERD BBSR	Vamsadhara	GDSQ	Flow	11.03.2025	3.743	22.0	7.38	421.3	238.6	2.00	19.7	30.12	25.63	3.07	0	185.64	37.45	3.21	0.18	0.18	2.3	0.02	NA	3.12	0.21	5.23	1.68	UR	NA	NA
96	Kashinagar	ERD BBSR	Vamsadhara	GDSQ	Flow	11.03.2025	2.000	27.0	7.29	384.6	212.3	2.10	22.7	22.18	19.03	3.02	0	176.88	32.13	1.93	0.23	0.29	2.9	0.03	NA	3.29	0.19	5.56	2.21	UR	NA	NA
97	Gudari	ERD BBSR	Vamsadhara	GQ	Flow	11.03.2025	Nil	25.0	7.14	361.2	206.4	2.00	22.9	21.07	15.12	2.13	0	142.16	25.76	27.76	0.22	0.29	2.5	0.03	NA	1.45	0.23	5.88	1.80	UR	NA	NA
98	Srikakulam	ERD BBSR	Nagavali	GDSQ	Flow	11.03.2025	6.36	24.0	7.38	520.3	289.6	1.70	31.9	31.75	30.17	2.59	0	240.72	37.93	12.72	0.24	0.21	2.1	0.02	NA	2.04	0.21	5.94	2.39	UR	NA	NA
99	Meliaputty	ERD BBSR	Mahendratanaya	WQSS	sample not received																											
100	Purashottampur	ERD BBSR	Rushikulya	GDSQ	Flow	11.03.2025	1.000	26.0	7.59	401.2	225.6	1.30	20.7	27.82	18.96	4.96	0	201.36	25.2	3.65	0.23	0.13	2.8	0.04	NA	3.01	0.2	6.30	2.09	UR	NA	NA
101	Sorada	ERD BBSR	Rushikulya	GQ	Flow	11.03.2025	Nil	29.0	7.52	328.6	197.4	2.00	30.9	12.4	18.56	3.14	0	153.85	28.38	5.33	0.19	0.15	2.6	0.01	NA	2.96	0.15	4.79	1.11	UR	NA	NA
102	Madhabarida	ERD BBSR	Badanadi	GQ	sample not received																											
103	Anakapali	ERD BBSR	Sarada	WQSS	Flow	11.03.2025	28.00	25.0	7.48	488.5	276.5	2.10	35.3	22.13	26.72	5.03	0	206.18	42.01	15.8	0.27	0.2	3.5	0.05	NA	2.6	0.22	5.38	2.17	UR	NA	NA
104	Tikarapada	MD BURLA	Mahanadi	GDSQ	Flow	11.03.2025	144.5	27.0	7.26	403.1	222.3	4.60	28.9	14.82	33.21	3.1	0	146.52	46.73	1.89	0.23	0.16	2.0	0.02	NA	3.48	0.24	5.12	1.77	UR	NA	NA

WATER QUALITY BULLETIN FOR THE MONTH/YEAR.....MARCH-2025

जल गुणवत्ता बुलेटिन / WATER QUALITY BULLETIN

Month / Year :MARCH/2025

Division: EASTERN RIVERS DIVISION, BHUBANESWAR, ODISHA (Page-03)

Sl.No	Water Quality Site	Division of Site	River	Type of Site (GQ/GDSQ/GDO/W	Condition of River (Dry/No flow, if Any)	Date of Sampling	Discharge	Temperature	pH	EC	TDS	Turbidity	Ca^{+2}	Mg^{+2}	Na^{+1}	K^{+1}	CO_3^{-2}	HCO_3^{-1}	Cl^{-1}	SO_4^{-2}	F-	PO_4^{-3}	NO_3^- N	NO_2^-N	B	SiO_4^{4-}	NH_3-N	DO	BOD	COD	TC	FC
							cumecs	°C		µS/cm	mg/L	NTU	mg/L												mg/L	mg/L	mg/L		mg/L		(MPN/100 ml)	
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
105	Tilga	ERD BBSR	Sankh	GDSQ	Flow	21.03.2025	2	21.0	7.13	235.6	135.6	6.30	18.24	10.23	12.3	2.81	0	91.93	20.81	5.83	0.21	0.91	2.0	0.02	NA	5.11	0.23	6.50	1.97	UR	NA	NA
106	Jaraikela	ERD BBSR	Koel	GDSQ	Flow	21.03.2025	4.50	27.0	7.26	352.3	205.6	1.90	20.98	15.62	25.63	3.34	0	146.5	34.56	8.63	0.22	0.51	1.7	0.02	NA	3.01	0.18	5.72	2.37	UR	NA	NA
107	Panposh	ERD BBSR	Brahamani	GDSQ	Flow	21.03.2025	Nil	21.0	7.34	347.8	201.3	1.30	27.36	20.028	14.23	2.28	0	165.32	21.92	10.44	0.24	0.57	2.9	0.06	NA	2.19	0.16	5.78	1.64	UR	NA	NA
108	Panposh-I	ERD BBSR	Sankh	WQSS	Flow	21.03.2025	Nil	19.5	7.28	372.3	210.6	2.30	24.62	20.028	21.30	2.31	0	159.46	30.47	11.70	0.29	0.76	2.4	0.03	NA	2.62	0.19	6.64	1.79	UR	NA	NA
109	Panposh-II	ERD BBSR	Koel	WQSS	Flow	21.03.2025	Nil	20.0	7.11	472.3	272.3	1.70	36.48	22.31	27.59	2.41	0	189.54	38.65	17.78	0.26	0.53	5.0	0.03	NA	2.55	0.15	5.86	2.57	UR	NA	NA
110	R.S.P	ERD BBSR	Brahamani	WQSS	Flow	21.03.2025	Nil	22.5	7.38	465.3	275.6	19.80	41.04	20.465	25.03	7.21	0	193.35	39.39	9.22	0.98	0.74	6.8	0.54	NA	2.47	19.30	5.52	2.07	UR	NA	NA
111	R.S.P-I	ERD BBSR	Brahamani	WQSS	Flow	21.03.2025	Nil	21.0	7.31	415.6	241.3	2.40	25.54	22.30	26.54	2.44	0	172	39.02	7.76	0.44	0.50	7.1	0.17	NA	2.97	1.30	4.70	2.20	UR	NA	NA
112	R.S.P-II	ERD BBSR	Brahamani	WQSS	Flow	21.03.2025	Nil	22.0	7.81	481.6	265.9	1.90	34.47	27.142	21.02	2.36	0	145.9	29.54	56.74	0.73	0.96	3.3	0.03	NA	3.08	0.27	6.60	2.68	UR	NA	NA
113	Gomlai	ERD BBSR	Brahamani	GDSQ	Flow	21.03.2025	Nil	25.0	7.56	457.8	261.3	1.80	36.664	23.201	23.56	4.17	0	169.63	32.52	22.82	0.36	0.74	4.6	0.22	NA	3.71	0.24	5.72	2.55	UR	NA	NA
114	Talcher	ERD BBSR	Brahamani	GQ	Flow	21.03.2025	Nil	31.0	7.66	358.1	208.5	3.00	22.44	18.95	20.34	2.35	0	119.21	28.98	35.44	0.28	0.42	2.5	0.01	NA	2.22	0.19	6.96	2.70	UR	NA	NA
115	Nandira	ERD BBSR	Brahamani	WQSS	Flow	21.03.2025	Nil	31.0	7.71	401.2	231.5	2.90	40.68	10.16	27.13	2.79	0	131.08	39.95	22.23	0.33	0.4	2.6	0.01	NA	1.74	0.17	6.28	2.46	UR	NA	NA
116	Kamalanga	ERD BBSR	Brahamani	WQSS	Flow	21.03.2025	Nil	31.0	7.39	350.1	203.6	1.30	28.088	14.77	19.45	3.09	0	135.46	26.01	18.41	0.38	0.32	3.3	0.02	NA	2.13	0.21	4.16	1.20	UR	NA	NA
117	Bido	ERD BBSR	Brahamani	WQSS	Flow	21.03.2025	Nil	31.5	7.75	322.1	184.6	1.40	26.45	15.87	18.13	3.17	0	132.85	26.94	7.52	0.39	0.29	2.9	0.03	NA	2.87	0.18	4.36	1.78	UR	NA	NA
118	Jenapur	ERD BBSR	Brahamani	GDSQ	Flow	21.03.2025	Nil	26.0	7.31	421.3	241.3	2.00	39.216	14.06	26.15	3.11	0	145.26	39.02	24.72	0.30	0.31	2.8	0.02	NA	1.81	0.23	5.42	2.74	UR	NA	NA
119	Altuma	ERD BBSR	Ramial	GDSQ	Flow	21.03.2025	5.83	25.0	7.11	336.1	194.5	2.30	36.48	8.56	21.21	1.81	0	132.56	29.54	9.06	0.2	0.21	1.7	0.02	NA	3.26	0.26	6.20	1.69	UR	NA	NA
120	Bonaigarh	ERD BBSR	Brahamani	GDSQ	Flow	21.03.2025	17.13	26.0	7.17	417.4	251.6	1.30	37.39	15.2	24.16	3.29	0	154.12	31.96	25.39	0.18	0.45	6.4	0.31	NA	2.3	0.17	4.94	1.79	UR	NA	NA
121	Purunagarh	ERD BBSR	Brahamani	GDSQ	Flow	21.03.2025	Nil	28.0	7.28	432.5	256.3	2.40	36.844	18.276	22.03	2.41	0	157.17	29.54	35.8	0.26	0.18	3.0	0.02	NA	2.64	0.22	6.64	2.23	UR	NA	NA
122	Bolani	ERD BBSR	Brahamani	GDSQ	Flow	21.03.2025	27.51	27.0	7.31	455.3	274.6	3.3	34.66	16.963	27.46	6.04	0	151.24	39.02	35.52	0.28	0.2	5.9	0.73	NA	3.5	0.18	6.02	2.47	UR	NA	NA
123	Kulpatanga	ERD BBSR	Kharkai	WQSS	Flow	21.03.2025	Nil	27.0	7.3	580.3	330.1	3.20	45.60	24.51	35.26	5.43	0	213.31	48.12	24.83	0.40	0.39	7.1	0.14	NA	1.74	1.40	5.08	2.07	UR	NA	NA
124	Adityapur	ERD BBSR	Kharkai	GDQ	Flow	21.03.2025	2.00	26.0	7.38	485.4	276.4	2.00	33.56	20.21	32.31	4.17	0	185.62	42.92	21.17	0.42	0.31	5.3	0.02	NA	2.67	1.20	5.06	1.85	UR	NA	NA
125	Muri	ERD BBSR	Subarnarekha	GDSQ	Flow	21.03.2025	0.0	24.0	7.59	479.5	277.6	2.10	44.14	17.729	28.95	6.16	0	165.47	46.26	20.54	0.30	0.20	4.9	0.03	NA	2.23	0.41	5.84	2.69	UR	NA	NA
126	Jamshedpur	ERD BBSR	Subarnarekha	GDSQ	Flow	21.03.2025	14.8	25.0	7.31	481.6	281.6	1.80	36.48	22.654	26.53	3.19	0	171.41	44.41	22.23	0.28	0.24	7.3	0.14	NA	3.91	0.2	6.24	1.98	UR	NA	NA
127	Baridhi	ERD BBSR	Subarnarekha	WQSS	Flow	21.03.2025	Nil	25.0	7.26	406.5	235.6	1.30	18.968	23.51	25.16	4.02	0	135.62	41.25	20.02	0.24	0.21	5.8	0.21	NA	3.38	0.23	6.92	2.39	UR	NA	NA
128	Lupungdhi	ERD BBSR	Subarnarekha	WQSS	Flow	21.03.2025	Nil	25.0	7.25	426.5	256.3	1.90	25.54	21.341	25.69	2.81	0	138.19	37.16	39.27	0.22	0.14	5.2	0.14	NA	3.47	0.21	5.28	1.58	UR	NA	NA
129	Domuhani	ERD BBSR	Subarnarekha	WQSS	Flow	21.03.2025	Nil	25.0	7.28	471.2	268.9	1.40	32.468	22.31	25.61	3.17	0	145.62	36.32	47.67	0.46	0.15	5.9	0.12	NA	3.79	0.18	6.20	1.16	UR	NA	NA
130	GH.Rd.Bridge	ERD BBSR	Subarnarekha	WQSS	Flow	21.03.2025	Nil	24.0	7.73	425.6	241.3	1.30	22.8	18.93	33.11	3.19	0	118.62	43.11	36.31	0.48	0.29	3.6	0.07	NA	4.54	0.19	5.64	2.45	UR	NA	NA
131	Ghatshila	ERD BBSR	Subarnarekha	GDSQ	Flow	21.03.2025	14.91	24.0	7.74	501.3	284.6	1.70	32.28	25.83	32.13	5.14	0	162.36	43.29	34.38	0.68	0.16	5.1	0.06	NA	4.23	0.22	5.96	2.26	UR	NA	NA
132	Jamsolaghat	ERD BBSR	Subarnarekha	GDSQ	Flow	21.03.2025	5.46	27.0	7.61	478.5	275.6	1.60	57.092	12.36	23.17	5.19	0	165.31	31.32	34.57	0.30	0.13	5.2	0.07	NA	4.03	0.20	5.06	1.51	UR	NA	NA
133	Rajghat	ERD BBSR	Subarnarekha	GDQ	Flow	21.03.2025	14.703	28.0	7.42	413.3	231.6	2.80	31.92	20.794	21.32	6.53	0	176.74	30.12	10.28	0.3	0.14	2.3	0.02	NA	3.28	0.19	6.02	2.81	UR	NA	NA
134	Gopiballavpur	ERD BBSR	Subarnarekha	GDSQ	Flow	21.03.2025	14.862	27.0	7.31	444.51	250.6	2.00	54.72	12.31	21.09	5.49	0	182.36	29.56	14.98	0.27	0.18	3.5	0.02	NA	2.95	0.23	7.16	2.77	UR	NA	NA
135	Baripada	ERD BBSR	Burhabalanga	GQ	Flow	21.03.2025	Nil	25.0	7.35	437.5	249.5	1.90	43.412	14.59	21.3	5.69	0	201.16	28.49	15.45	0.21	0.17	2.9	0.01	NA	3.63	0.21	5.52	1.15	UR	NA	NA
136	Balighat	ERD BBSR	Burhabalanga	WQSS	Flow	21.03.2025	Nil	27.5	7.29	441.02	256.1	18.30	47.79	14.59	21.62	7.39	0	183.86	33.12	6.06	0.19	0.12	3.8	0.01	NA	3.46	0.19	6.50	2.66	UR	NA	NA
137	Govindpur(NH-5)	ERD BBSR	Burhabalanga	GDSQ	Flow	21.03.2025	6.72	28.0	7.36	501.2	281.6	8.40	54.90	16.46	24.58	2.73	0	203.12	38.65	19.75	0.19	0.29	2.3	0.02	NA	3.08	0.2	4.86	1.83	UR	NA	NA
138	Anandapur	ERD BBSR	Baitarani	GDSQ	Flow	21.03.2025	14.12	28.0	7.66	387.4	220.3	6.30	36.48	14.774	21.3	1.94	0	179.12	28.16	6.70	0.27	0.1	2.1	0.01	NA	3.91	0.24	5.24	2.11	UR	NA	NA
139	Mushal	ERD BBSR	Baitarani	WQSS	Flow	21.03.2025	Nil	27.5	7.38	428.7	238.4	4.00	46.876	10.26	26.32	1.73	0	176.74	39.39	7.44	0.19	0.14	1.7	0.01	NA	1.32	0.21	5.78	1.96	UR	NA	NA
140	Kusei	ERD BBSR	Baitarani	WQSS	Flow	21.03.2025	Nil	28.5	7.44	401.6	221.3	5.10	25.9	18.386	28.49	1.85	0	156.33	42.36	7.92	0.20	0.22	2.0	0.01	NA	2.05	0.23	6.40	2.91	UR	NA	NA
141	champua	ERD BBSR	Baitarani	GDSQ	Flow	21.03.2025	3.35	24.5	7.31	374.1	214.5	3.30	39.03	13.79	21.03	1.98	0	162.19	27.68	9.57	0.23	0.08	2.4	0.01	NA	3.34	0.24	6.06	2.69	UR	NA	NA
142	Swampatana	ERD BBSR	Baitarani	WQSS	sample not received																											
143	Kenduapada	ERD BBSR	Kanijhari	WQSS	sample not received																											
144	Aradei	ERD BBSR	Aradei	WQSS	Flow	21.03.2025	Nil	25.0	7.26	371.5	210.3	4.60	33.93	12.26	24.16	2.17	0	166.07	34.16	3.90	0..21	0.09	2.0	0.02	NA	3.32	0.27	6.02	2.34	UR	NA	NA
145	Keonjhar	ERD BBSR	Aradei	GQ	sample not received																											
146	INDUPUR	ERD,BBSR	Brahamani	GQ	sample not received																											
147	Gunupur	ERD BBSR	Vamsadhara	GDSQ	Flow	21.03.2025	2.572	25.0	7.44	502.3	276.9	3.10	52.532	20.902	24.16	2.93	0	237.83	36.79	2.56	0.2	0.14	2.1	0	NA	3.13	0.20	6.58	1.48	UR	NA	NA
148	Kashinagar	ERD BBSR	Vamsadhara	GDSQ	Flow	21.03.2025	Nil	25.0	7.61	455.6	251.6	2.80	38.49	20.136	25.61	3.08	0	201.36	39.2	3.15	0.24	0.30	2.5	0.03	NA	3.2	0.21	5.96	2.79	UR	NA	NA
149	Gudari	ERD BBSR	Vamsadhara	GQ	Flow	21.03.2025	Nil	24.0	7.4	461.8	266.3	2.20	30.28	26.484	21.30	2.26	0	203.21	32.12	26.37	0.27	0.25	2.4	0.03	NA	2.13	0.28	5.42	2.33	UR	NA	NA
150	Srikakulam	ERD BBSR	Nagavali	GDSQ	Flow	21.03.2025	4.62	27.0	7.36	463.3	264.5	1.90	60.74	12.32	21.03	2.93	0	210.32	30.12	12.49	0.25	0.19	2.3	0.02	NA	2.23	0.22	6.56	2.66	UR	NA	NA
151	Meliaputty	ERD BBSR	Mahendratanaya	WQSS	sample not received																											
152	Purashottampur	ERD BBSR	Rushikulya	GDSQ	Flow	21.03.2025	1.000	29.0	7.31	471.2	266.4	1.60	48.88	15.23	29.09	5.17	0	213.03	39.2	2.67	0.21	0.15	2.4	0.02	NA	2.54	0.23	5.80	2.53	UR	NA	NA
153	Sorada	ERD BBSR	Rushikulya	GQ	Flow	21.03.2025	Nil	27.0	7.94	388.5	222.3	2.20	24.44	21.233	22.06	3.38	0	196.91	28.51	6.34	0.2	0.12	2.1	0.01	NA	3.02	0.19	4.46	1.76	UR	NA	NA
154	Madhabarida	ERD BBSR	Badanadi	GQ	sample not received																											
155	Anakapali	ERD BBSR	Sarada	WQSS	Flow	21.03.2025		23.0	7.2	453.3	255.3	2.40	36.48	20.683	21.30	6.14	0	203.21	29.73	17.93	0.23	0.18	3.0	0.03	NA	2.9	0.26	4.92	1.49	UR	NA	NA
156	Tikarapada	MD BURLA	Mahanadi	GDSQ	Flow	21.03.2025	190.81	31.0	7.26	402.3	226.4	4.00	24.08	22.654	23.36	3.9	0	180.3	36.6	3.54	0.25	0.12	2.3	0.01	NA	3.44	0.22	6.00	2.45	UR	NA	NA

UR- Under Range NA- Not Analysed
SNR-SAMPLE NOT RECEIVED

.....The end of the report.....