सत्यमेव जयते

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जल वैज्ञानीकीय आँकड़ा (अवर्गीकृत) पुस्तक–2021

HYDROLOGICAL DATA (UNCLASSIFIED) BOOK-2021

(Data Reference Period: 2019-20)



सूचना प्रणाली संगठन
केन्द्रीय जल आयोग
जल संसाधन, नदी विकास एवं
गंगा संरक्षण विभाग
जल शक्ति मंत्रालय

INFORMATION SYSTEM ORGANIZATION
CENTRAL WATER COMMISSION
DEPARTMENT OF WATER RESOURCES, RIVER
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MINISTRY OF JAL SHAKTI

अक्टूबर, 2021

October, 2021

Cover Page Photo: Nagarjuna Sagar Dam, Krishna River (Unclassified).

जल वैज्ञानीकीय आँकड़ा (अवर्गीकृत) पुस्तक

Hydrological Data (Unclassified) Book

HYDROLOGICAL DATA DIRECTORATE
INFORMATION SYSTEM ORGANISATION
WATER PLANNING & PROJECTS WING
CENTRAL WATER COMMISSION

New Delhi
October, 2021

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Central Water Commission

FOREWORD



Central Water Commission is the premier technical organisation of India in the field of water resources and is an attached office to the Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India. The mandate of the Central Water Commission is to promote integrated and sustainable development and management of India's water resources by using state-of-the-art technology and competency by coordinating with all stakeholders

In order to cater to the ever-growing needs of data on water resources and related aspects, CWC brings out various publications at regular intervals. The present publication titled *"Hydrological Data (Unclassified) Book 2021"* gives an overview of the Hydrological Data in the Unclassified River Basins of our Country.

The present issue provides updated basin/site wise data covering all unclassified basins aspects such as location, drainage area, Population, temperature, average runoff, seasonal water flow, historical water levels, average sediment load, water quality parameters and land use statistics.

I take this opportunity to congratulate all the stakeholders involved, especially the team of ISO for their meticulous work in compiling such a large database and bringing out this publication in time. I hope, this publication would be of great interest and will meet the expectations of the policymakers, planners, researchers and various government organization / agencies associated with data related statistics.

(S. K. Haldar)

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MESSAGE



Water resources' planning requires time series data on Hydrological aspects. The hydrological observation stations of Central Water Commission are located on different river basins of the country to collect and process the basic hydrological data on gauge, discharge, silt sedimentation and water quality on a regular basis and documents these data in the form of Water Year Book, Sediment Year Book and Water Quality Year Book. Hydrological Data (Unclassified) Book is a compendium of important hydrological information of all basins pertaining to Region-III, consolidated at the National Level.

This publication presents salient features of all basins of Region-III relating to location, draining area, soil characteristics, types of industries, principal minerals, rainfalls, temperature, type of climate, average annual run-off, seasonal water flow, historical water levels, live storage capacity, annual water flow into river basins, dependable flow of water in different river basins, ten daily and monthly sediment load for different river basins, critical absolute values of water quality parameter, land use statistics etc.

The Committee set up for the improvement of this publication under the Chief Engineer (P&D), Shri Reading Shimray has made appreciable efforts in finalization of the publication. I also appreciate the work done by the officers/officials of Hydrological Data Directorate of Information System Organization, WP&P wing, CWC etc., in this regard. Lot of efforts have been put in by Shri S.C. Malik, Advisor (ISO) in order to give final shape to the publication, which are praise worthy.

While due care has been taken to ensure the accuracy of data, the possibility of some errors and omissions in the publication can't altogether be ruled out. Suggestions/comments, if any, for further improvement of the publication will be highly appreciated.

(Kushvinder Vohra)

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PREFACE



Water resource challenges faced by India are considerable and can only be addressed by adopting an integrated approach that considers all uses and sources of water (surface water, ground water, etc) from the river basin/hydrological perspective. This requires sound information and knowledge on the water resource base and its uses, coupled with the availability of appropriate tools for collection, compilation, analysis and decision making. Central Water Commission is the nodal agency in the water resources sector for promoting the integrated and sustainable development and management of India's water resources by using state-of-the-art technology and competency. To cater to the ever-growing needs of data on water resources and related aspects, ISO brings out various publications at regular intervals.

The present publication 'Hydrological Data (Unclassified) Book-2021' is an annual publication to cater to provide updated basin/site-wise data of river basins (Region-III) covering aspects such as location, drainage area, temperature, average run-off, seasonal water-flow, historical water levels, average sediment load, water quality parameters and land use statistics.

I would like to express my deep gratitude to Shri. S.K. Haldar, Chairman, CWC and Shri Kushvinder Vohra, Member (WP&P), CWC for their continuous support, guidance and encouragement to bring out this publication in time. I am also very much thankful to all the Committee members and the data source agencies mainly various Directorates of CWC and D/o Water Resources, RD & GR, M/o Jal Shakti; Central Ground Water Board; Field offices of CWC, Directorate of Economics & Statistics; etc. for their cooperation and support.

I would like to place on my deep appreciation for the sincere efforts made by Shri Jawaid Alam Khan, Joint Director; Shri Sanjeev Sharan Pandey, Deputy Director; Shri Roshan Lal Meena, Assistant Director, Shri Keshav Singh, SSO; Ms. Sarita, JSO and Ms. Jasmeet Kaur, JSO of ISO in bringing out this publication.

I hope the publication will prove to be a useful document to policymakers, planners, academicians and researchers. It shall be an endeavor on part of ISO to continuously improve the publication both in content and design with the help of users' feedback.

(Subash Chandra Malik)

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ABBREVIATIONS AND SYMBOLS

-	:	Anion
+	:	Cation
^{0}C	:	Degree Centigrade
BCM	:	Billion Cubic Meter
BOD	:	Bio-Chemical Oxygen Demand
cumec	:	Cubic Meter per Second
CWC	:	Central Water Commission
DO	:	Dissolved Oxygen
G	:	Gauge Sites
GD	:	Gauge & Discharge Sites
GDQ	:	Gauge,Discharge and Water Quality Sites
GDS	:	Gauge, Discharge & Sediment Sites
GDSQ	:	Gauge, Discharge , Sediment and Water Quality Sites
GSC	:	Gross Storage capacity
HAM	:	Hectare-meter
IC	:	Installed Capacity (Mega Watt)
LSC	:	Live Storage capacity
m	:	Meter
max	:	Maximum
MCM	:	Million Cubic Meter
mg/l	:	Milligram per Litre
min	:	Minimum
Mm	:	Millimeters
Msl	:	Mean Sea Level
MPN	:	Most Probable Number
N.A.	:	Not Applicable
pH	:	Negative logarithm of hydrogen-ion concentration
ppm	:	Part per million
PSS	:	Pumped Storage Schemes
R. L.		Reservoir Level
RSC	:	Residual Sodium Carbonate
SAR	:	Sodium Absorption Ratio
SqKm	:	Square Kilometers
WQ	:	Water Quality
NA	:	Data not available
	:	Under Construction Structures (In the River Flow Line Diagram)
	:	Operational Structures (In the River Flow Line Diagram)

ABBREVIATIONS AND SYMBOLS

pH_Gen	:	Negative logarithm of hydrogen -ion concentration- General
B	:	Boron
Ca	:	Calcium
Cl	:	Chloride
CO_3	:	Carbonate
F	:	Fluoride
Fe	:	Iron
HCO_3	:	Bicarbonate
K	:	Potassium
Mg	:	Magnesium
Na	:	Sodium
NH_3-N	:	Ammonia Nitrogen
NO_2-N	:	Nitrite Nitrogen
NO_3-N	:	Nitrate Nitrogen
SiO_2	:	Silica
SO_4	:	Sulphate
As	:	Arsenic
Cd	:	Cadmium
Cr	:	Chromium
Cu	:	Copper
Hg	:	Mercury
Ni	:	Nickel
Pb	:	Lead
Zn	:	Zinc
%	:	Percentage

Contents

Particulars	Page No.
Foreword by Chairman, CWC	i
Message by Member (WP &P), CWC	ii
Preface by Advisor (ISO), CWC	iii
Composition of the Committee for Improvement of the Publication	iv
List of Officers/Officials Associated with the Publication	v
Abbreviations & Symbols	vii
Executive Summary	xii
Chapter 1: Introduction	3
Chapter 2: Overview of the River Basins (Region – III)	7
2.1: Mahanadi Basin	8
2.2: Subernarekha Basin	23
2.3: Brahamani& Baitarani Basin	36
2.4: Godavari Basin	50
2.5: Krishna Basin	64
2.6: Cauvery Basin	76
2.7: Pennar Basin	90
2.8: EFR between Mahanadi and Pennar Basin	98
2.9: EFR between Pennar and Kanyakumari Basin	106
2.10: Narmada Basin	115
2.11: Tapi Basin	128
2.12: WFR from Tapi to Tadri Basin	139
2.13: WFR from Tadri to Kanyakumari Basin	147

Particulars **Page no.**

2.14: Mahi Basin 157
2.15: Sabarmati Basin 170
2.16: WFR Kutch, Saurashtra including LuniBasin 177
2.17: LUS Graphs of the Basins (Region – III) 186

Appendix : Tables on Hydrology , Land Use Statistics and Ground Water Resources of the River Basins (Region-III)

Table No.	Description of Tables	Page no.
1	Average Annual Flow & Live Storage Capacity by River Basin (including Classified and Unclassified Basin)	1.1
2	Salient Features of Different River Basins during 2019-2020	2.1
3	Basin-wise Details of Hydrological Observations Sites as on September 2020.	3.1
4	Important Historical / Hydrological Observations by sites and River Basin during 2019-20	4.1
5	Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020	5.1
6	Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20	6.1
7	Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)	7.1
8	Monthly average flow per unit drainage area by site and river basin during 2019-20	8.1
9	Time series of Sediment load by site in River Basin during 2010-11 to 2019-2020	9.1
10	Ten daily and monthly average Sediment Load by site and river basin during 2019-20	10.1
11	(A) Tolerance limit of Water and Classification (B) Water Quality Standards in India	11.1
12	Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020	12.1
13	Maximum and Minimum values of water quality parameters by site and river basin during 2019-20	13.1
14	Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18	14.1
15	Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18	15.1
16	Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18	16.1

17 Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020 17.1
18 **Glossary of Terms** 18.1
19 **References** 19.1

Executive Summary

Water has been recognized as being vital to India's economic growth, well being of its people, and the sustainability of ecosystems. In India, the annual precipitation including snowfall is the main source of water and the average is 3880 BCM. The total average water resource potential of the country, which occurs as natural runoff in the rivers is estimated at 1,999 BCM considering both surface and groundwater into account. Due to various constraints of topography, uneven distribution of resource over space and time, it has been estimated that 1126 BCM is the total annual utilizable water resources out of which estimated utilization surface water resources is 690 BCM. The total annual ground water recources is 436 BCM.

The nation is divided into the following three regions; (a) Region-I: Indus basin & other rivers and their tributaries discharging into Pakistan; (b) Region-II: Ganga-Brahmaputra-Meghna basin & other rivers and their tributaries discharging into Bangladesh/ Myanmar; and (c) Region-III: Other remaining rivers and their tributaries. The data of Region-I and II are Classified, whereas the data of Region-III is Unclassified. The reservoir water level, live storage position, water quality, groundwater and meteorological data for all regions are also Unclassified.

The introductory chapter describes the scope of this publication and gives a complete list of the region - III basins. It also briefly gives an assessment of the available water resources and an account of the per capita availability of water. The chapter "Overview of the River basins (Region – III)" covers 16 basins. It describes salient features of each basin like geographical location, topology, topography, major tributaries, soil characteristics, availability of minerals, major industries, urban centers and important irrigation projects. Further, it gives an account of average annual flow, estimated utilizable flow and total storage capacity in different river basins. Besides this chapters include s state-wise basin area in pie-chart, flow line Diagram, Basin Map,Index map and water quality graphs.

It also covers drainage area, Hydrological Observation Sites and peak water level in different basins. The annual dependable flow of water at terminal sites of all river basins covered in the publication has been described for the last ten years. As per CPCB(Central Pollution Control Board) codes, the tolerance limits of parameters of all tolerance factors of water have been indicated in respect of five classes that have been put to various uses

of water. The five classes are as follows: Class A - Drinking water source without conventional treatment but after disinfection, Class B - Outdoor bathing, Class C - Drinking water source with conventional treatment followed by disinfection, Class D - Fish culture and wildlife propagation, Class E - Irrigation, industrial cooling or controlled wastes or controlled waste disposal. Season-wise and site-wise detailed information on critical absolute values that decides the range of tolerance limits of water quality for Class A has been presented. Also, site-wise information of maximum and minimum values of water quality parameters during the year 2019-20 and temporal trends of water quality parameters have been presented for pH, Biological Oxygen Demand, Dissolved Oxygen and Total Hardness. Land use statistics have been presented in the form of land utilization pattern of the River Basins (Region - III), gross and net area irrigated by sources and by River Basins.

The Appendix contains the tables on Average Annual Flow and Live Storage capacity by River Basin (including classified and unclassified), Salient features of different River Basins, Basin-wise details of Hydrological Observation Sites (Region - III), Important Historical / Hydrological Observation by sites and River Basin, Sitewise Mansoon, Non-mansoon and annual flow of water for 10 years by River Basin, Maximum and Minimum observed water levels and discharges by site and River Basin, Annual dependable flow of water by Site and River Basin for last thirty years, Monthly average flow per unit drainage area by Site and River Basin, Time series of Sediment load by Site in River Basin for ten years, Ten-daily and monthly average sediment load by site and River Basin, Tolerance limits of selected water quality parameters for inland surface water by its use in India, Critical absolute values of water quality parameters crossing tolerance limits by season, Maximum and Minimum values of water quality parameters by Site and River Basin, Land utilization pattern in State-wise and District-wise area covered in River Basin, Gross Area irrigated (source wise) by River Basin, State-wise & District-wise, Net Area Irrigated (Source-wise) by River Basin. State-wise and District-wise, and Dynamic Ground Water Resources of Unclassified Basins in India.

Chapter 1

Introduction

Chapter 1

Introduction

1.0 Background:

1.0.1 Information System Organisation (ISO) of Water Planning & Projects Wing (WP&P) in CWC is the statistical unit of CWC entrusted with the task of compiling data collected by CWC field offices and bringing out publications for backing up data for planning and policy formulation and researchers relating to water resources. Among these publications, the present one is on hydrological data titled "Hydrological Data (Unclassified) Book- 2021" (Reference Period :- 2019-20).

1.0.2 River management is one of the key issues for the political and economic affairs of the country. Planners and policy makers require comprehensive and reliable time series data on hydrological aspects. The primary objective of this publication is to provide data that will help in designing and executing water resource projects in the country.

1.0.3 In India there are 20 River Basins, out of which 04 falls in the category of Classified and 16 in Unclassified category. From the point of view of data dissemination, the Nation is divided into the following three regions; (a) Region-I: Indus basin & other rivers and their tributaries discharging into Pakistan; (b) Region-II: Ganga-Brahmaputra-Meghna basin & other rivers and their tributaries discharging into Bangladesh/Myanmar; and (c) Region-III: Remaining other rivers and their tributaries.

The data of Region-I and II are classified, whereas the data of Region-III is Unclassified. The scope of this publication is limited to data (unclassified) pertaining to the region-III basins only. The river basins (Region – III) for the purpose of this publication are listed below.

Sl. No.	River Basin
1	Mahanadi
2	Subernarekha
3	Brahmani and Baitarani
4	Godavari
5	Krishna
6	Cauvery
7	Pennar
8	East flowing rivers between Mahanadi to Pennar
9	East flowing rivers between Pennar to Kanyakumari
10	Narmada
11	Tapi
12	West flowing rivers from Tapi to Tadri
13	West flowing rivers from Tadri to Kanyakumari
14	Mahi
15	Sabarmati
16	West flowing rivers of Kutch, Saurashtra including Luni

The description of these river basins (Region-III) is given in Chapter 2.

1.0.4 The nationwide data collection network of CWC is spread over 1774 Hydrological Observation (H.O) stations 1018 in Classified and 756 in Unclassified river basins (as per "Water Resources at a Glance 2021", Source: RDC-II Dte, CWC). Out of these operational sites in Unclassified, 185 sites are for measuring Gauge(G) only, 194 sites for Gauge & Discharge (GD), 82 sites for Gauge, Discharge & Quality(GDQ), 01 sites for Gauge, Discharge & Sediment (GDS), and 192 sites for Gauge, Discharge, Sediment & Quality (GDSQ) and 09 sites for Gauge & Water Quality (GQ), 65 sites for Snow Gauge(SG) & Meteorological sites and 28 Water Quality Sampling Stations. The distribution of sites by river basin (Region-III) has been presented in Table 3 for the year 2019-20. In these sites, hydrological data on gauge, discharge, silt, sedimentation, water quality, and water flow are collected regularly.

1.0.5 Based on the data collected in the field, three water year books for gauge and discharge, sediment and water quality are prepared by CWC field offices at the Divisional level. All these books along with some relevant land use statistics collected by the Ministry of Agriculture & Farmers Welfare are integrated in this publication.

1.1 Assessment of Water Resources

1.1.1 The annual precipitation including snowfall is the main source of water in India and the average is 3880 BCM. The total average water resource potential of the country, which occurs as natural runoff in the rivers is estimated at 1,999 BCM considering both surface and groundwater into account. Due to various constraints of topography, uneven distribution of resource over space and time, it has been estimated that 1126 BCM is the total annual utilizable water resources out of which estimated utilization surface water resources is 690 BCM. The total annual ground water recources is 436 BCM.

1.2 Per Capita Availability of Water

1.2.1 As per the distribution of water resources potential in the country, the national per capita annual availability of water is 1,545 Cubic Meter (m^3/year) (Census 2011). The average availability during the year 2019 in Brahmaputra (**Classified**) system was 527.28 BCM while it was as low as 11.02 BCM in Pennar basin during the same period. The estimated per capita average water availability will be 20,294 cu meter during the year 2025 in Ganga-Brahmaputra-Meghna system (**Classified**) while it will be as low as 360 cu meter in East flowing rivers between Pennar and Kanyakumari. The per capita water availability of water in the country will be 1219 cu meter in the year 2050 against 1434 cu meter during 2025. Any situation of availability of less than 1000 cu meter per capita per year is considered as scarcity conditions. Krishna, Cauvery, Subernarekha, Pennar, Mahi, Sabarmati, Tapi, East Flowing Rivers and West Flowing Rivers of Kutch and Saurashtra including Luni are some of the basins, which fall into this category- out of which Cauvery, Pennar, Sabarmati and East Flowing rivers and West Flowing Rivers of Kutch and Saurashtra including Luni facing more acute water scarcity.

Source: B.P. Directorate, CWC

Chapter 2

Overview of the River Basins (Region-III)

Chapter 2

Overview of the River Basins (Region-III)

This chapter gives a detailed account of all the river basins pertaining to Region-III only. The Indus basin & other rivers and their tributaries discharging into Pakistan pertain to Region-I; Ganga-Brahmaputra-Meghna basin & other rivers and their tributaries discharging into Bangladesh/Myanmar pertain to Region-II. Other rremaining rivers and their tributaries pertain to Region-III. This chapter covers the following features:

- Salient features like geographical location, topology, topography, major tributaries, soil characteristics, availability of minerals, major industries, urban centres and important irrigation projects including observation sites. Basin-wise detailed information is presented in Table 2 of the Appendix.

- Flow line diagram of the basin which gives a fair idea about the major projects, hydrological observation sites and tributaries of the main river.

- Annual dependable flow of water (10%, 25%, 50%, 75%, 90%) at terminal sites of the basin. Basin-wise detailed information is presented in Table 7 of Appendix.

- Season-wise (monsoon, winter, summer) temporal trends of water quality parameters viz. pH, BOD (Biological Oxygen Demand and DO (Dissolved Oxygen) of selected sites of the basins are given in Table-12. Basin-wise detailed information in respect of Water Quality Parameters is presented in Table 13 of Appendix.

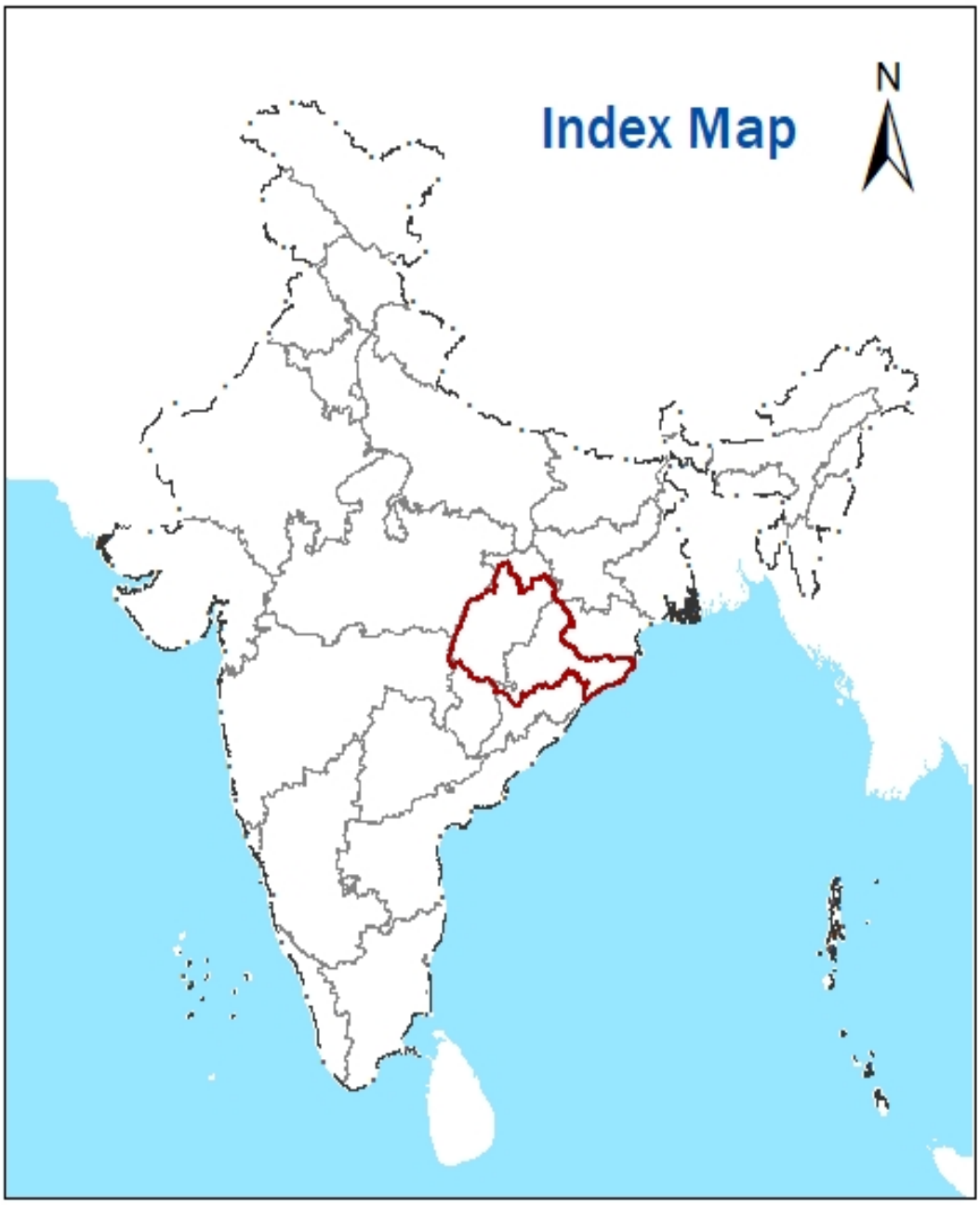
- This chapter provides information on land use statistics viz. land utilisation pattern (forest, fallow land, cropped area etc.), Gross and Net area irrigated of the basin are presented in Table 14, Table 15 and Table 16 respectively in Appendix.

2.1 MAHANADI BASIN

Location: The basin is physically bound 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 Mahanadi basin lies encompassed within geographical co-ordinates of $80^0$30' to $86^0$50' east longitudes and $19^0$20' to $23^0$35' of north latitudes running a total length of about 851 km. The total catchment area of the basin is 141600 sq km which is nearly 4.3% of the total geographical area of the country. The basin extends over Chhattisgarh and Odisha and comparatively smaller portions of Madhya Pradesh, Jharkhand and Maharashtra.

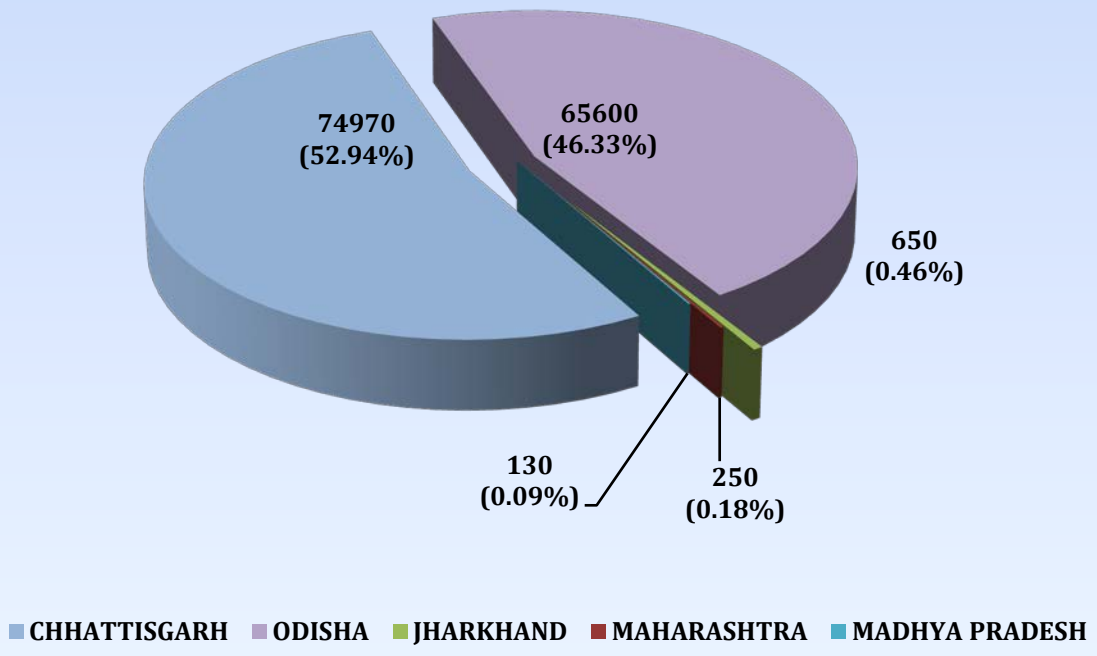
The river Mahanadi is one of the major inter-state east flowing rivers in peninsular India. It originates at an elevation of about 442 metres above Mean Sea Level (msl) near Farsiya village near Nagri town in Dhamtari district of Chhattisgarh. The total length of the river from its origin to the confluence at the Bay of Bengal is about 851 km, 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. There are 14 major tributaries of which 12 join upstream of Hirakud reservoir and 2 downstream of it.

On the left bank, six tributaries namely the Seonath, the Hasdeo, the Mand, the Ib, the Kelo and Borai drain into the main channel upstream of Hirakud reservoir. On the right bank , six tributaries namely the Pairi, the Jonk, the Sukha, Kanji, the Lilar and the Lath join upstream of Hirakud reservoir and two tributaries namely Tel and Ong join downstream of it. The three major tributaries namely the Seonath and the Ib on the Left Bank and the Tel on the Right Bank together constitute nearly 46.63% of the total catchment area of the river Mahanadi. The Seonath, which is the largest tributary of Mahanadi, rises from an elevation of 533 metres in village Kotgai, District Durg (Chhattisgarh) and drains three districts of Chhattisgarh namely Durg, Rajnandgaon and Bilaspur. The Tel, which is the second largest tributary of Mahanadi River, rises from an elevation of 700 metres in village Jorigam of Nabarangpur district of Odisha and drains five districts of Odisha namely Nabarangpur, Kalahandi, Bolangir, Boudh and Kandhamal. The Ib, which is the third largest tributary of Mahanadi, rises from an elevation of 762 metres in village Pandrapat, District Raigarh (Chhattisgarh) and drains Raigarhand Jashpurdistricts of Chhattisgarh, along with two districts of Odisha, namely Sundergarh and Sambalpur. The monsoon is the principal rainy season, when over 75% of the annual rainfall is received over a major portion of the basin with July/August as the rainiest month. The average annual rainfall of the basin is of the order of 1400 mm.

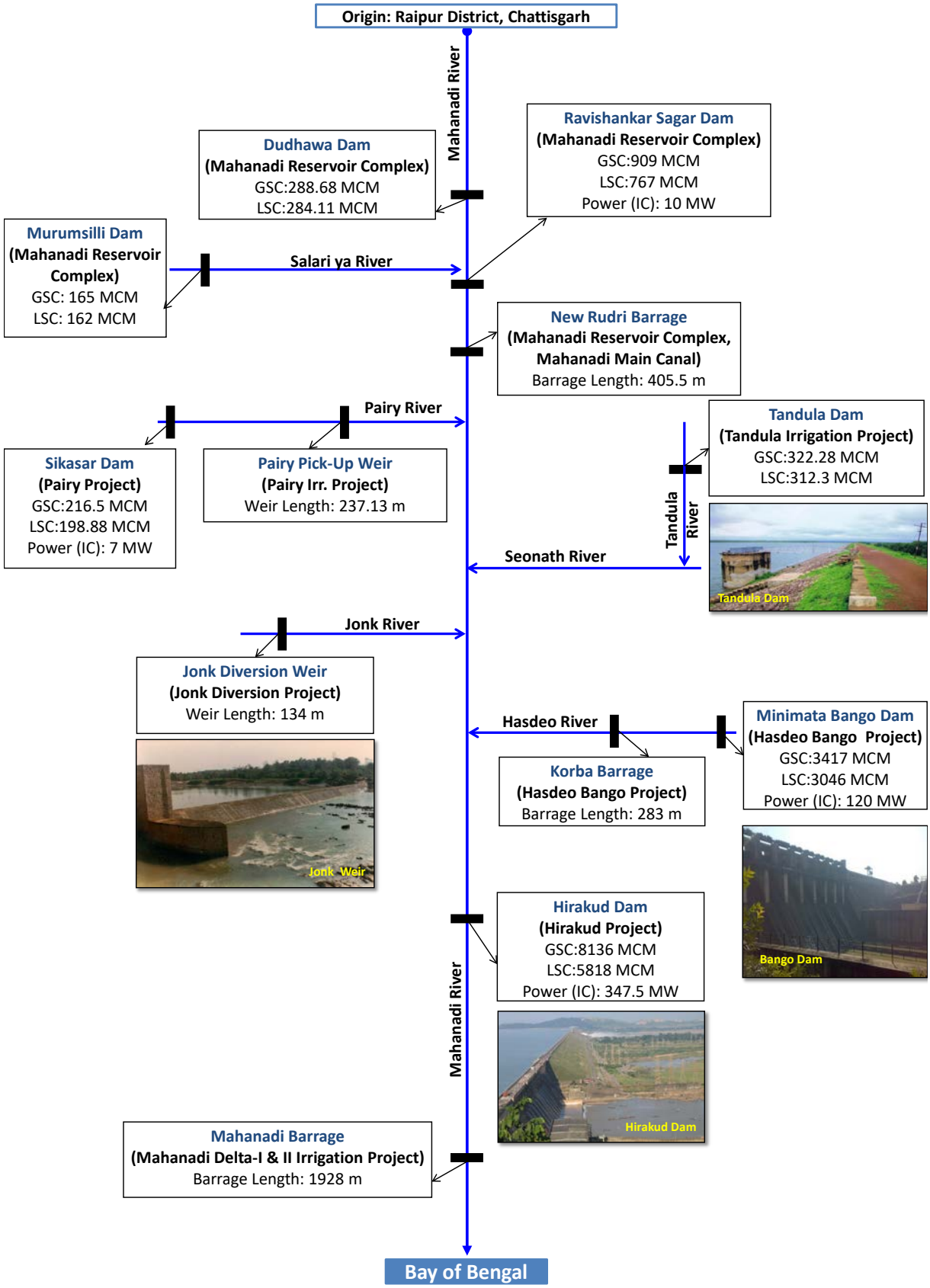


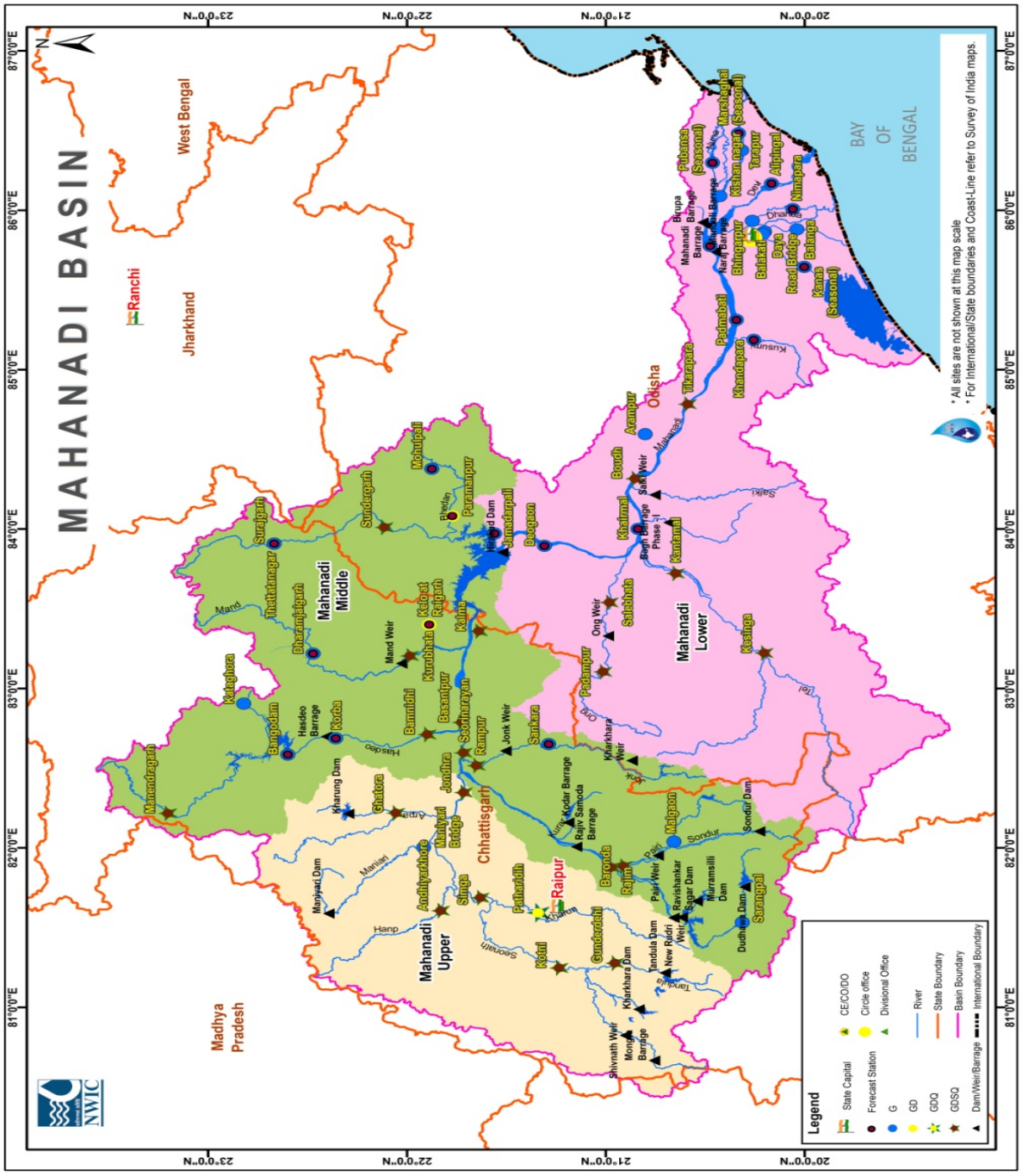
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise Mahanadi Basin Area (Sq. km)



Mahanadi River Flow Line Diagram




MAHANADI BASIN
West Bengal
Jharkhand
Ranchi
Madhya Pradesh
Odisha
BAY OF BENGAL
Chhattisgarh
Raipur
Mahanadi Upper
Mahanadi Middle
Mahanadi Lower
Hirakud Dam
Tikarapara
Kantamal
Sundergarh
Jharsuguda
Jhartarangar
Dharamjaigarh
Kotgarh
Kurubhata
Mand Weir
Kathghora
Bangodam
Hasdeo Barrage
Korba
Bamnidhi
Basinpur
Sodhnarayan
Rajim
Jonk Weir
Sankara
Padampur
Ong Weir
Salebhata
Kesinga
Kharkhara Weir
Rajiv Sagar Barrage
Maligaon
Sondur Dam
Ghatora
Kharung Dam
Manendragarh
Manjhari Dam
Andhiyarkhore
Singa
Patharidih
Gumardohi
Kohri
Kharkhara Dam
Tandula Dam
New Rudri Weir
Ravishankar Sagar Dam
Murramsilli Dam
Dudhawa Dam
Sarangpal
Shivnath Weir
Mongra Barrage
Pairi Weir
Rajim
Baronde
Kesinga
Seonath
Hanp
Mand
Maniari
Tel
Ong
Pairi
Sonar
Kharkhara
Kusumi
Seonath
Tandula
Shivnath
Mongra
Mahanadi
Seonath
Hasdeo
Arpa

2.1.1 Irrigation Projects: The Major Projects namely Tandula, Mahanadi main Canal, Hirakud Dam, (Barrage), Kharang Tank, Manairi Tank, HasdeoBango Dam, Tairi, Kodar, Salaki, Ong Diversion and Sunder Dam fall in the catchment areas of the river basin.

2.1.2 Hydrological Observation Sites: The Centre as well as the State Governments carry out regular measurements of hydrological observations. The CWC maintains 69 sites in the basin, the details of which are as under:

(As on September, 2020)

Site Type	No. of Hydrological Observations
G	30
GD	02
GDQ	01
GDS	00
GDSQ	22
GQ	00
SG&Met	06
WQSS	08
Total	**69**

Source: RDC-II, CWC

2.1.3 Peak Water Level: There are 23 sites in the basin for which historical observations are given for the reference period 2019-20. The maximum drainage area 1,24,450 sq km is covered by Tikrapara site in the basin while Mahendragarh site covers minimum the drainage area i.e. 1,100 sq km. The maximum stage of peak water i.e. 420.44 metres is observed at Mahendragarh site on 12.07.1990. On the other hand, Tikrapara site has registered a minimum peak water level i.e. 71.82 metres on 06.08.2014 (Ref. Table 4).

2.1.4 Water Quality Statistics: As per CPCB norms, the tolerance limits of parameters of all polluting factors of water have been indicated in Tables-11 in respect of the following five classes that have been formed according to various uses of water.

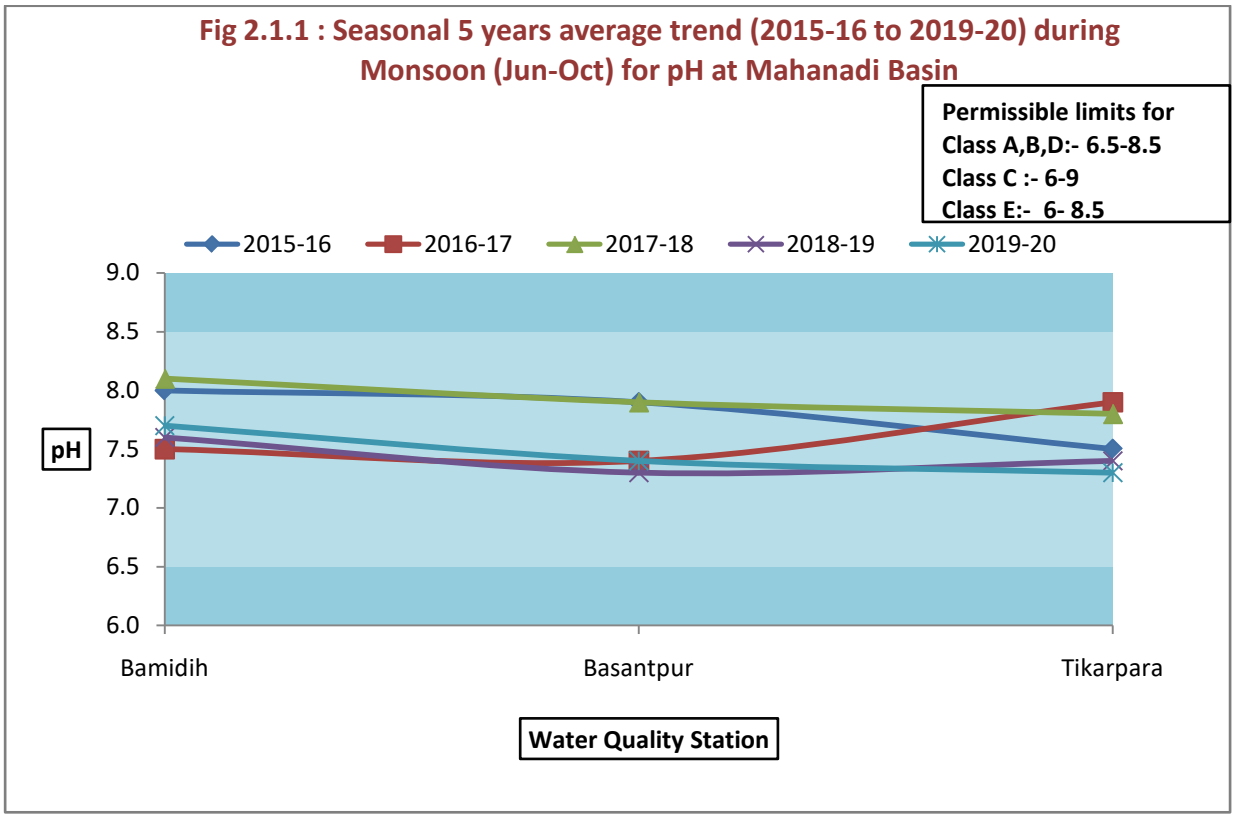
Class A: Drinking water source without conventional treatment but after disinfection
Class B: Outdoor bathing (Organized).
Class C: Drinking water source after conventional treatment and disinfection.
Class D: Propagation Wild Life Fisheries.
Class E: Irrigation, Industrial Cooling, Controlled Wastes disposal.

Considering the importance of water quality, an attempt has been made to present season-wise and site-wise detailed information on critical absolute values that are outside the range of the tolerance limits of water-quality for class-A. These values of water quality parameters have been presented in Table 12.

Site-wise information on maximum and minimum values of water quality parameters during the year 2019-20 for reviewing the kind of water being discharged/ supplied for different purposes have been presented in Table 13.

Temporal trends of water quality parameters for the Mahanadi river basin are given below.

Basin: Mahanadi (Water Quality Parameter:pH)



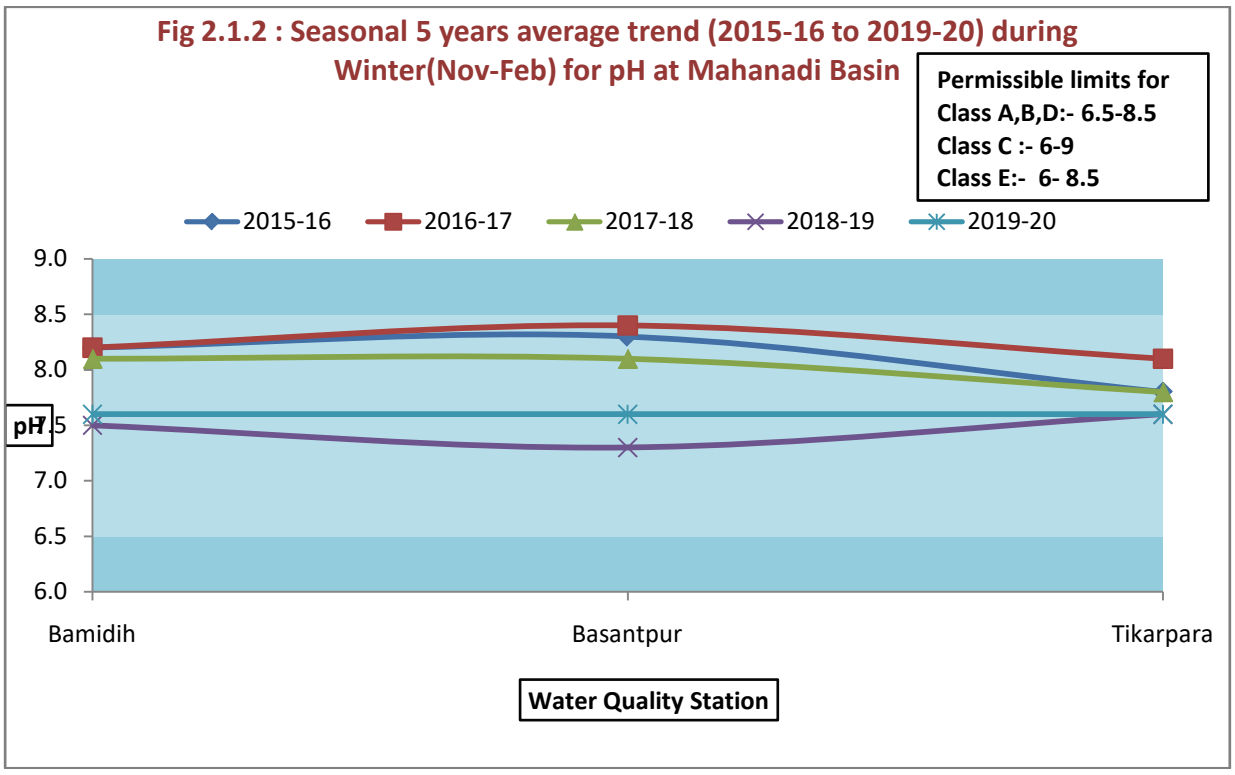
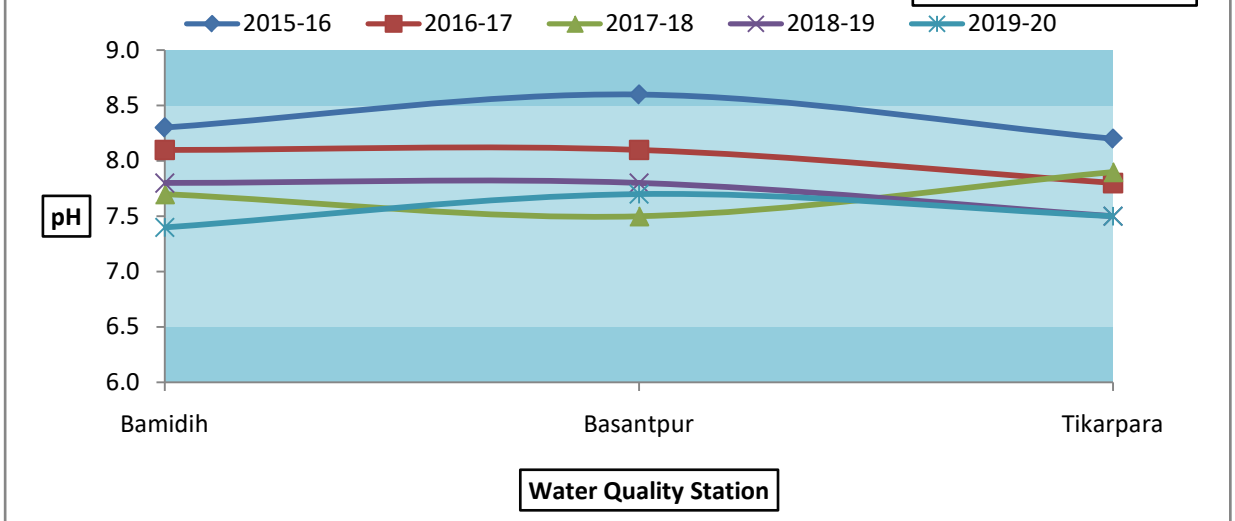


Fig 2.1.3 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer (Mar-May) for pH at Mahanadi Basin



Basin: Mahanadi (Water Quality Parameter : Biological Oxygen Demand)

Fig 2.1.4 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for BOD at Mahanadi Basin

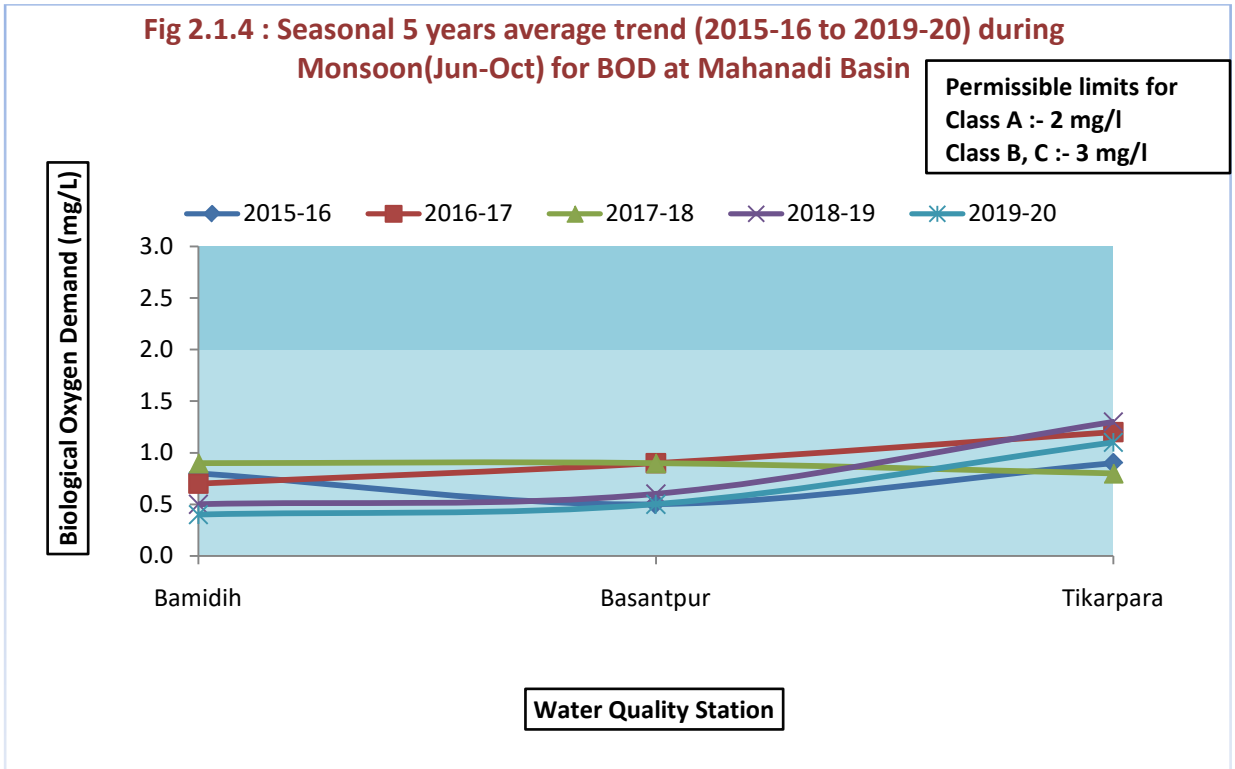


Fig 2.1.5 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for BOD at Mahanadi Basin

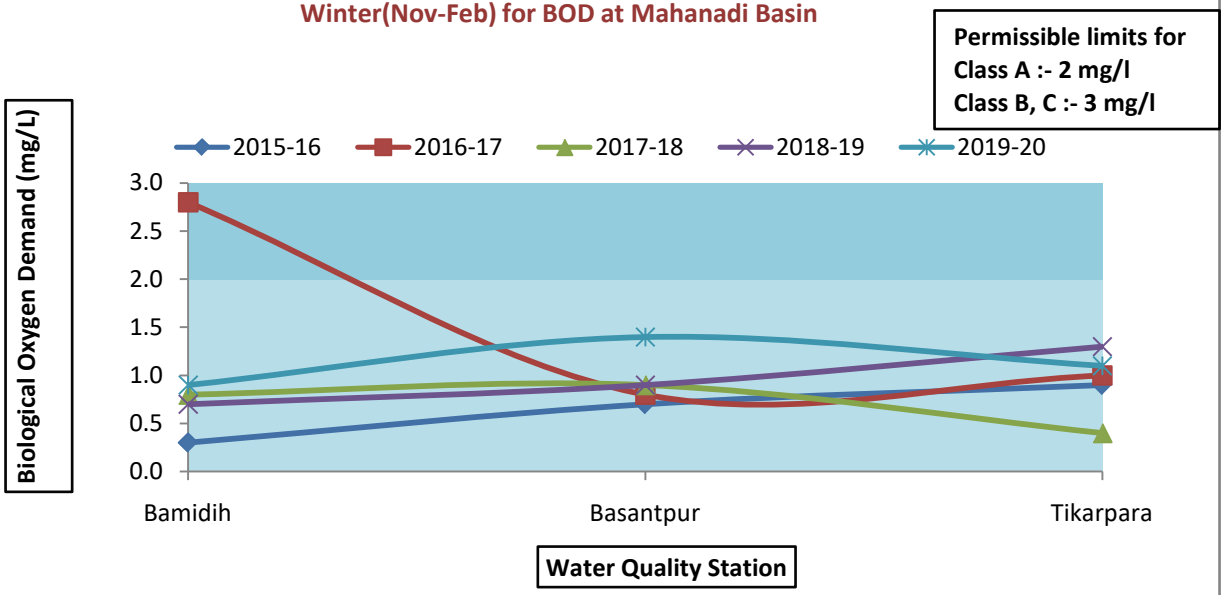
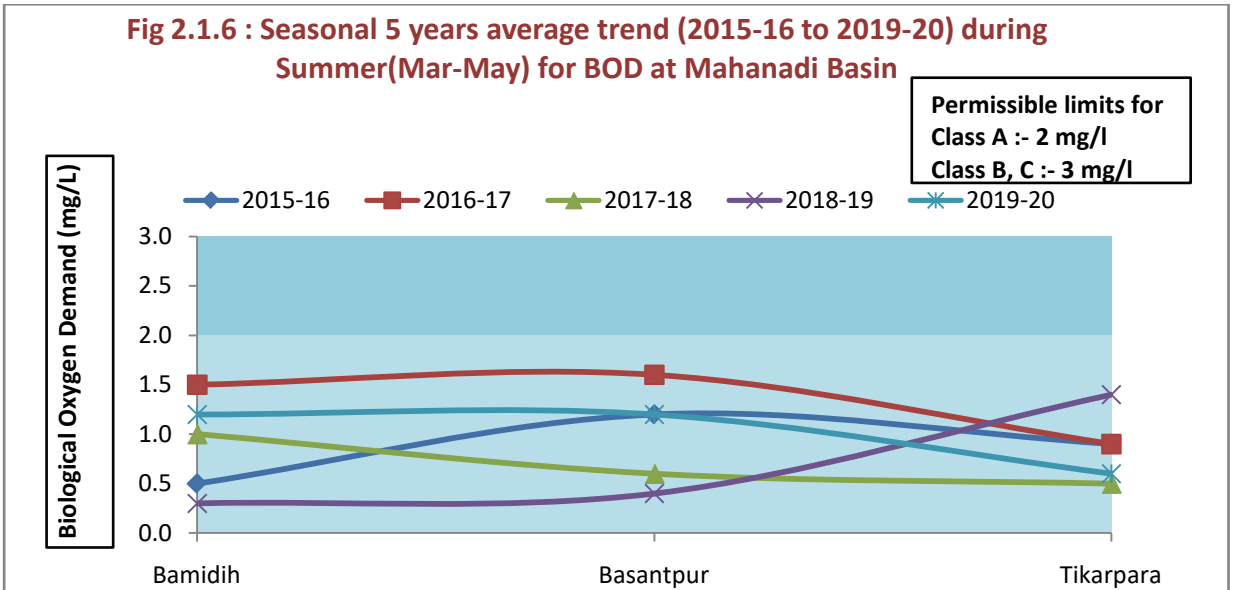


Fig 2.1.6 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for BOD at Mahanadi Basin



Basin: Mahanadi (Water Quality Parameter : Dissolved Oxygen)

Fig 2.1.7 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon (Jun-Oct) for DO at Mahanadi Basin

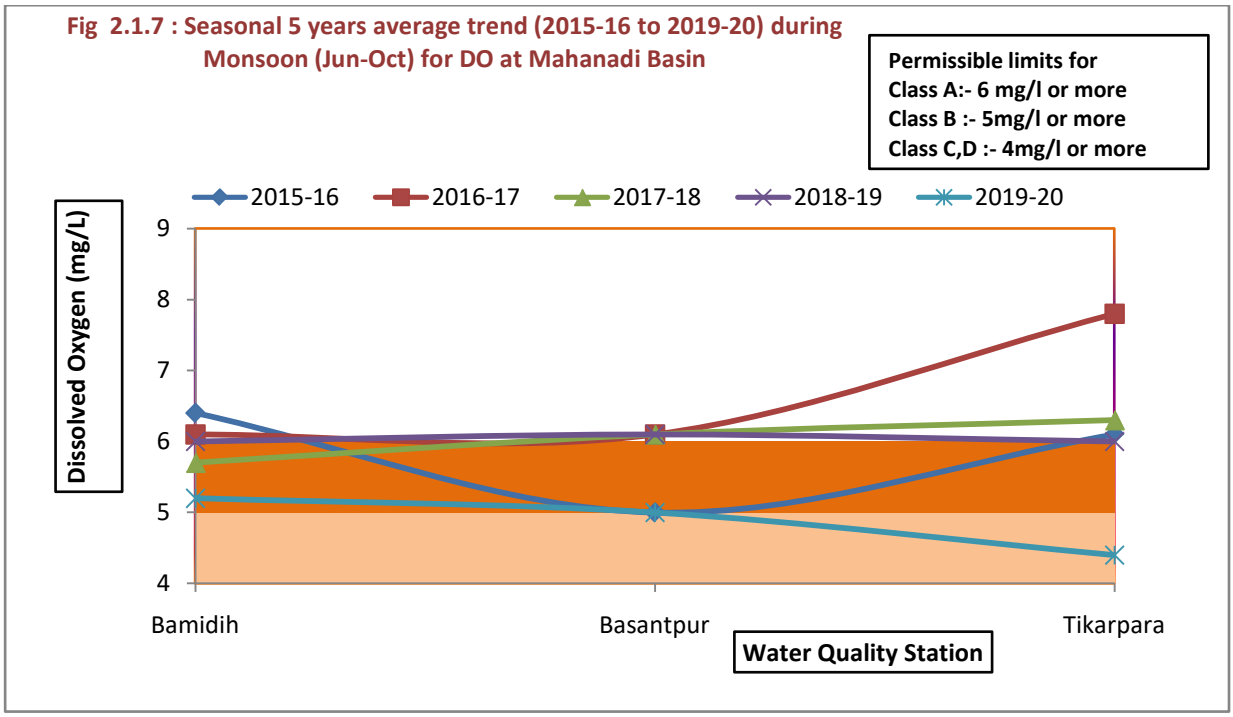


Fig 2.1.8 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for DO at Mahanadi Basin

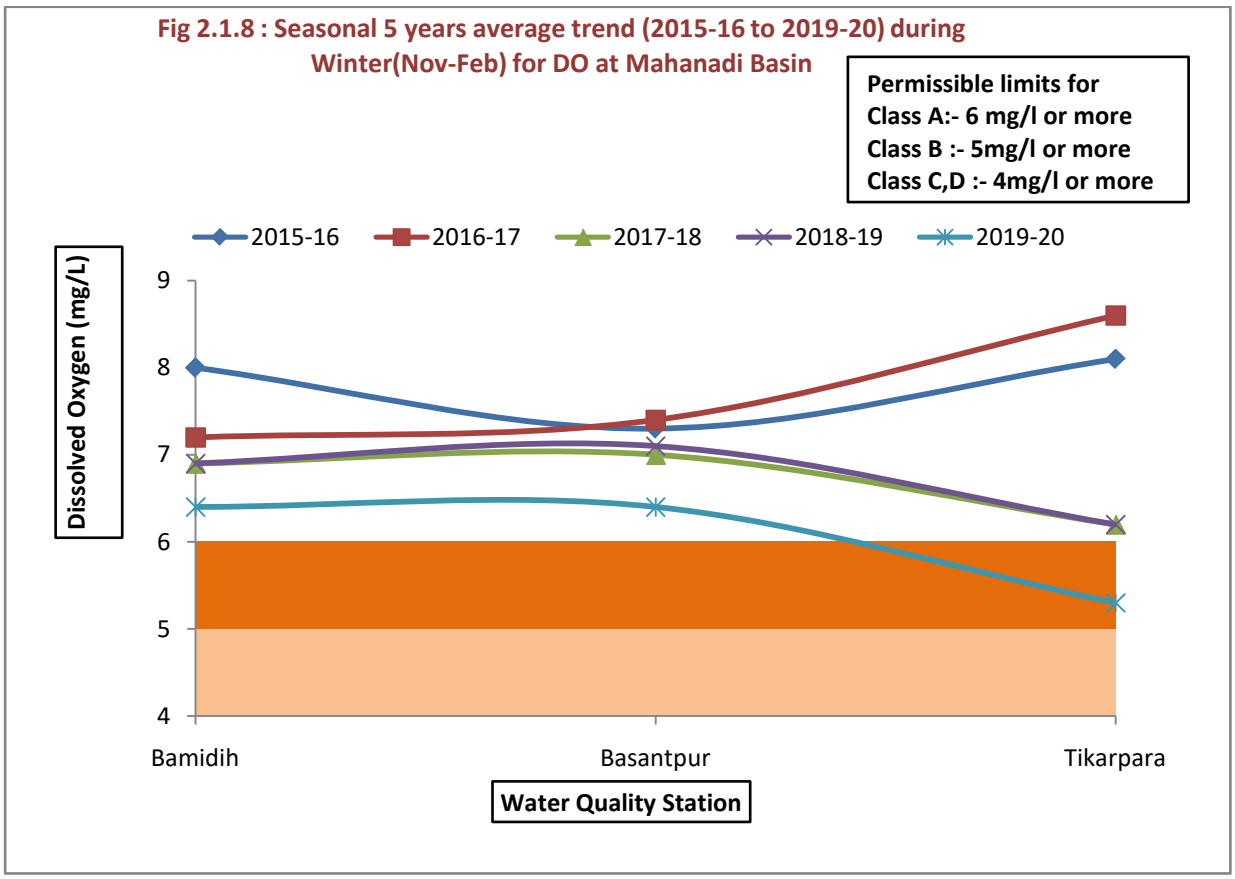
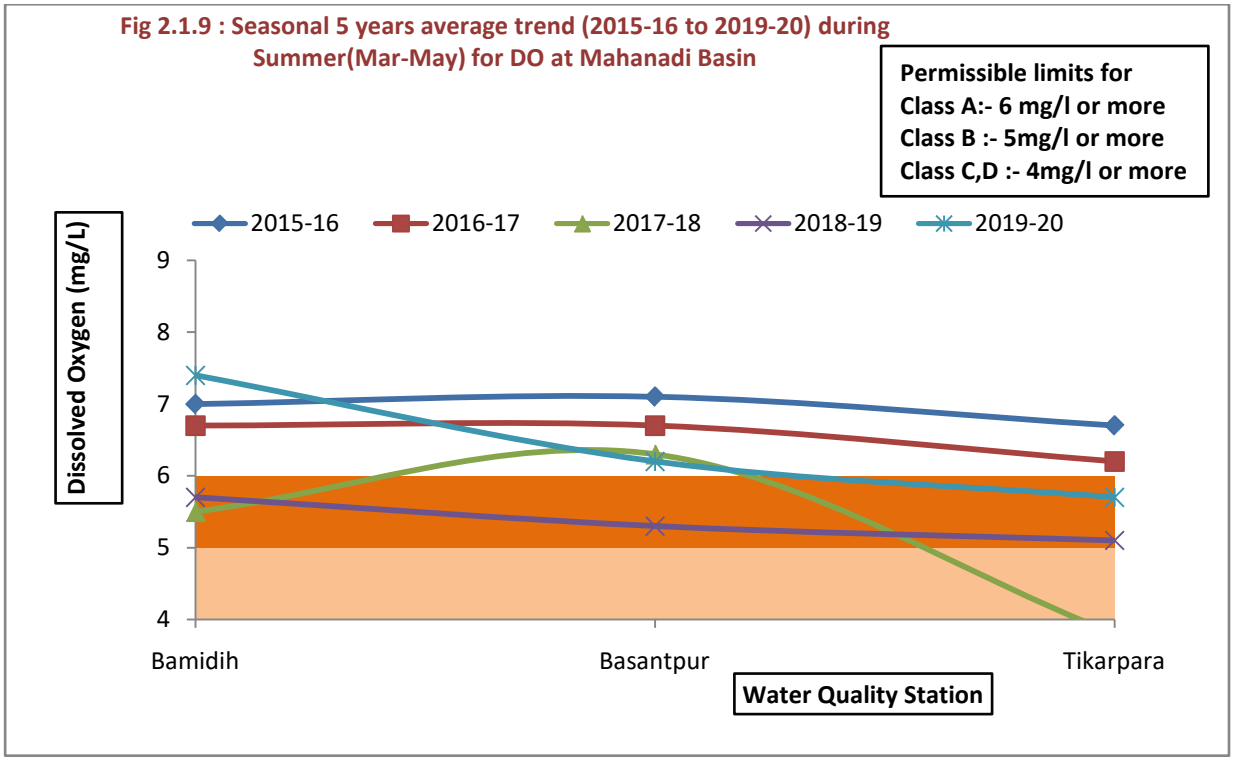


Fig 2.1.9 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for DO at Mahanadi Basin



Basin: Mahanadi (Water Quality Parameter : Total Hardness)

Fig 2.1.10 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for Total Hardness at Mahanadi Basin

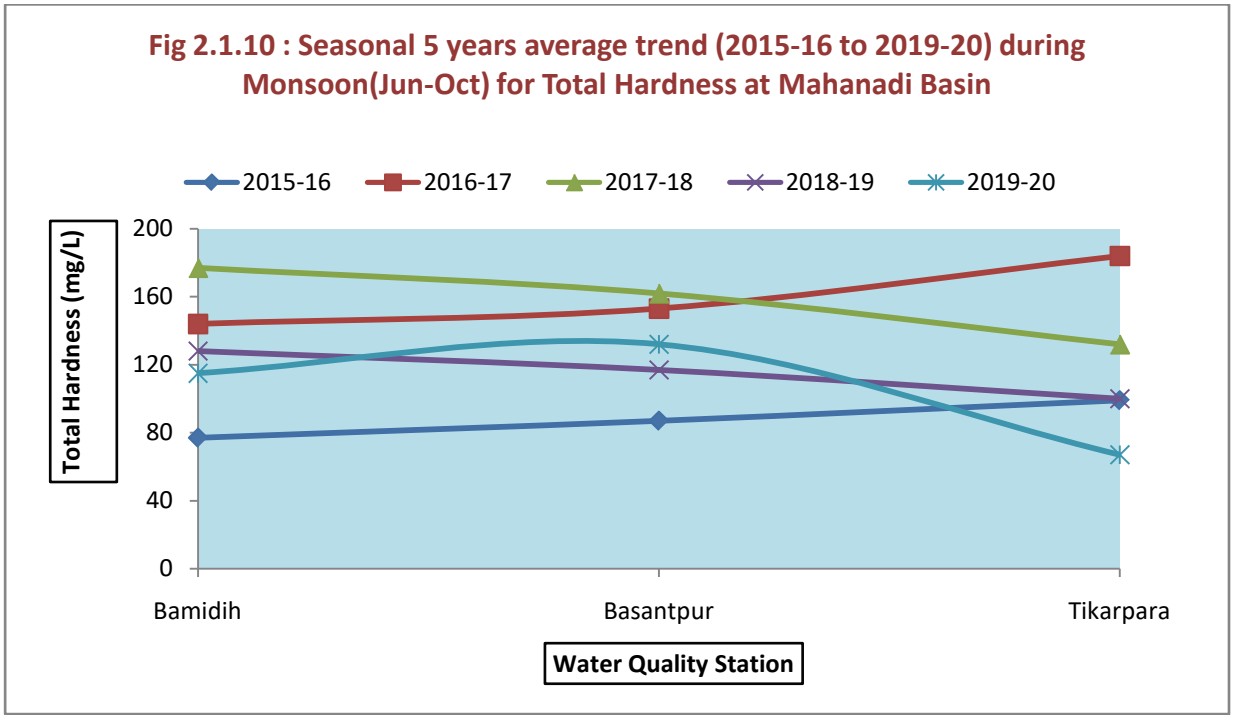


Fig 2.1.11 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for Total Hardness at Mahanadi Basin

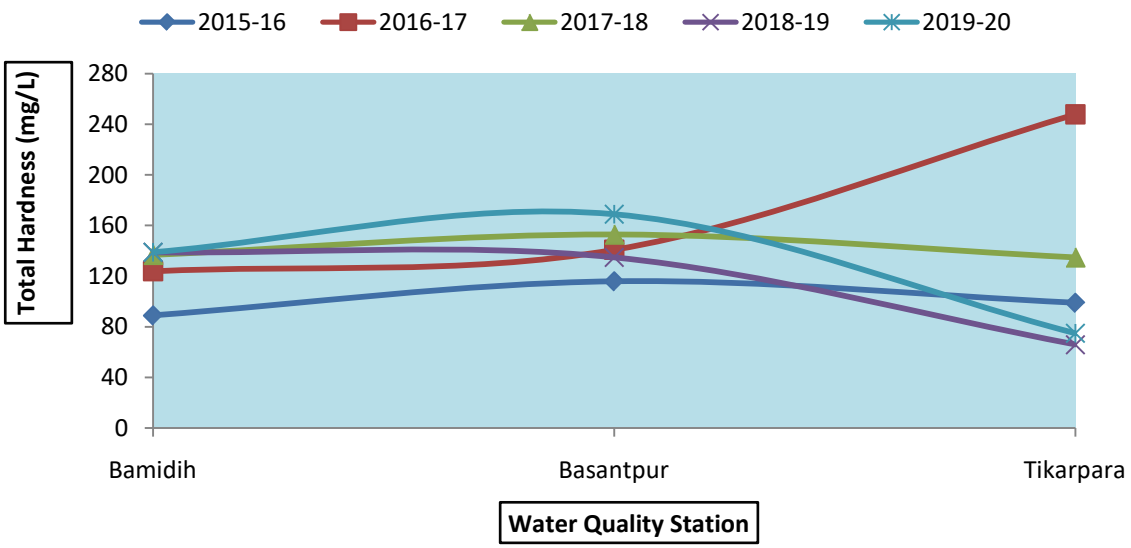
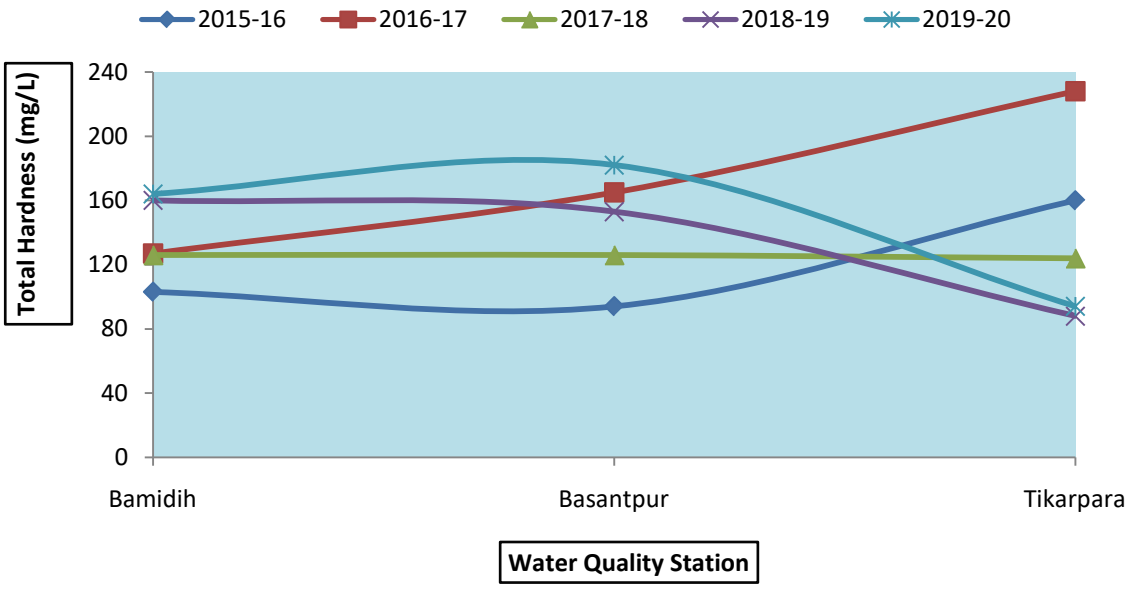


Fig 2.1.12 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for Total Hardness at Mahanadi Basin

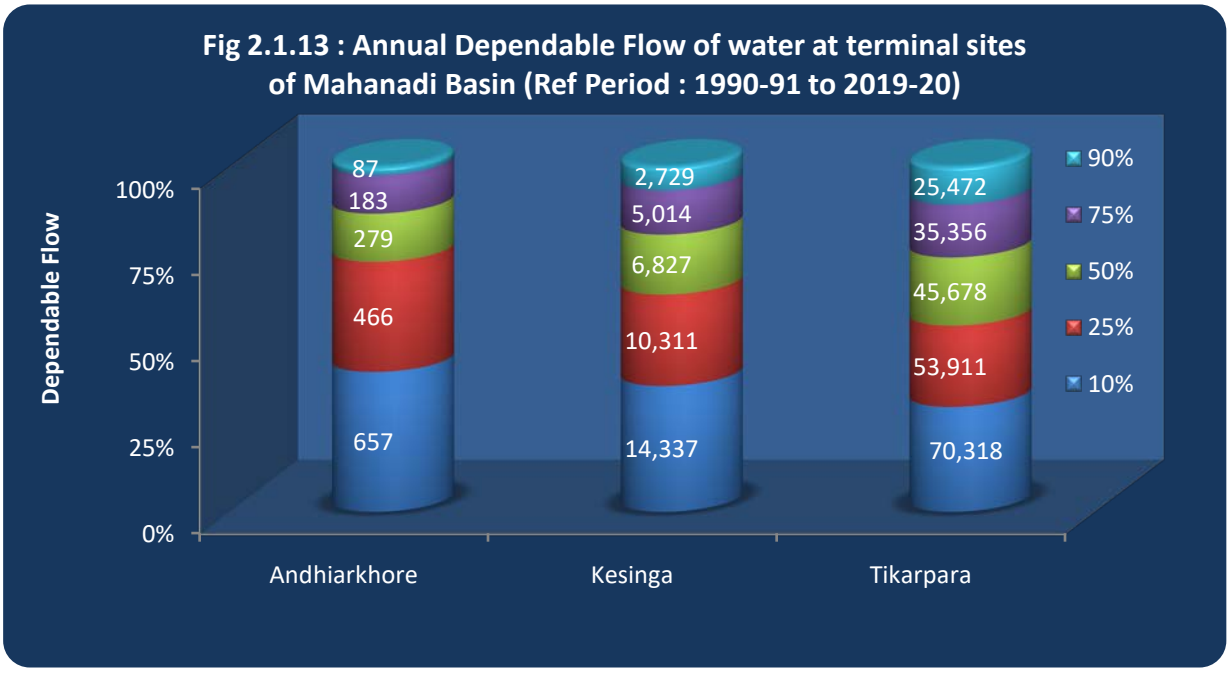


2.1.5 Availability of the required amount of water is of paramount importance for any plan or project in the water sector for irrigation etc. With this view, Table-7 has been presented. It provides the dependable flow of water at 10 equal percentile levels for each site. The percentiles have been calculated taking into consideration the last 30 years period (1990-91 to 2019-20) of releases of water from the sites. The Graphical representation of the Annual Dependable flow of water (10%, 25%, 50%, 75%, 90%) for the three terminal sites of Unclassified river basin is given below:

Table 2.1.1: Annual Dependable Flow Of Water at Terminal Sites Of Mahanadi Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	ANDHIARKHORE	06/1990 To 05/2020	657.00	465.77	279.20	183.29	86.67
2	KESINGA		14336.606	10311.345	6826.575	5013.927	2729.264
3	TIKARPARA		70318.414	53910.758	45677.539	35355.969	25471.881

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar



2.1.6 Land Use Statistics: Land use pattern is a fairly useful indicator in understanding the environmental set-up, infrastructural facilities and climatic conditions of an area. The land use pattern is an outcome of the interaction and interplay of the various physical conditions of the area. It gives not only the land coverage but also an insight into the nature of environmental degradation in the catchment area of the basins. Hence it is considered very important in the environmental study of any area. Various Government Departments for their respective administrative units such as Blocks/Tehsils/Districts mostly compile the information. But information is not available for districts/areas under different basins. In this issue, land use statistics are confined to analysis of the information at the state and basin-wise level. The basin wise land utilisation has been computed as the sum total of land use for different classifications in the area of the district in a particular state falling within a basin. The data on the district and state-wise land use pattern as published by the Directorate of Economics and Statistics, Department of Agriculture & Co-operation, Ministry of Agriculture and Farmers Welfare has been used for this purpose. The data has been classified into (i) forest area (ii) area not available for cultivation (iii) other uncultivated lands excluding fallow land (iv) fallow land (v) net area sown (vi) area sown more than once and (vii) total cropped area. The land utilisation pattern by the district of each basin is presented in Table 14 for the river basins (Region-III). These basins cover approximately 1618 thousand sq. kilometres area of the states as reported land utilized area.

As per the available land use classification reported during 2017-18 as per the Ministry of Agriculture and Farmers Welfare for the State is adopted for the catchment area of seventeen river basins (Region-III). The district-wise area under catchment of the basin is reported by India-WRIS and land use under forest coverage, not available for cultivation, other uncultivated land, fallow land and net area shown under the river basin have been indicated under land use statistics. Gross Area Irrigated and net area irrigated within the river basins by source such as canals, tanks, wells and other sources are presented in table 15 of the Appendix. Table 2.1.2 to Table 2.1.4 given below present an overall picture of the basins combined land use pattern, gross and net area irrigated by different sources like Canals, Tanks, Wells, etc.

TABLE 2.1.2: LAND UTILISATION PATTERN OF MAHANADI AND ALL RIVER BASIN (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Mahanadi	107780.54	29006.18	14563.61	11592.24	12331.53	40286.98	8019.92	48306.90
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.1.3: GROSS AREA IRRIGATED BY SOURCES OF MAHANADI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Mahanadi	10513.275	751.23972	11264.515	265.98153	5087.6063	241.49403	5329.1004	315.13779	17174.735
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics& Statistics, M/o. A&FW.

TABLE 2.1.4: NET AREA IRRIGATED BY SOURCES OF MAHANADI AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Mahanadi	5909.759	0	5909.7595	195.80814	3120.2801	94.931617	3215.2117	5224.4714	14545.251
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A&FW.

2.1.7 Urban Centers: Three important urban centers in the basin are Raipur, Durg and Cuttack.

2.1.8 Industries: Mahanadi, because of its rich mineral reserve and adequate power resource, has a favorable industrial climate. The important industries presently existing in the basin are iron and steel plants, aluminum factories, paper mills, sand and cement industries.

2.1.9 Minerals: The important minerals found in the basin are Iron Ores, Coal, Lime stone, Quartzite, Copper Ores, Silver, Lead, Mica, Bauxite, Galena and Graphite.

2.2 SUBERNAREKHA BASIN

Location: The Subernarekha is one of the longest east flowing inter-state rivers. It covers large areas of Jharkhand and some parts of Odisha and West Bengal. The basin lies between north latitudes of $21^0$33' to $23^0$32' and east longitudes of $85^0$09' to $87^0$27' situated in the northeast corner of the peninsular India. It is bound on the north-west by the Chhotanagpur Plateau, on the south by Baitarani basin and in the south-east by the Bay of Bengal. This river originates near Nagri village in Ranchi district of Jharkhand at an elevation of 600 metres. The total length of the river is about 395 km. Its tributaries are Kanchi, Kharkai, Karkari, Raru, Garruand Dulang. The basin is generally influenced by South-West monsoon, which begins in the month of June and extends upto October.

2.2.1 Irrigation Projects: Kanchi irrigation schemes (major), Sunei irrigation project (major), Khadkhi Irrigation Project (medium) are the prominent projects in the basin.

2.2.2 Hydrological Observation (H.O.)Sites: There are 20 H.O. sites, the details of which are as below:

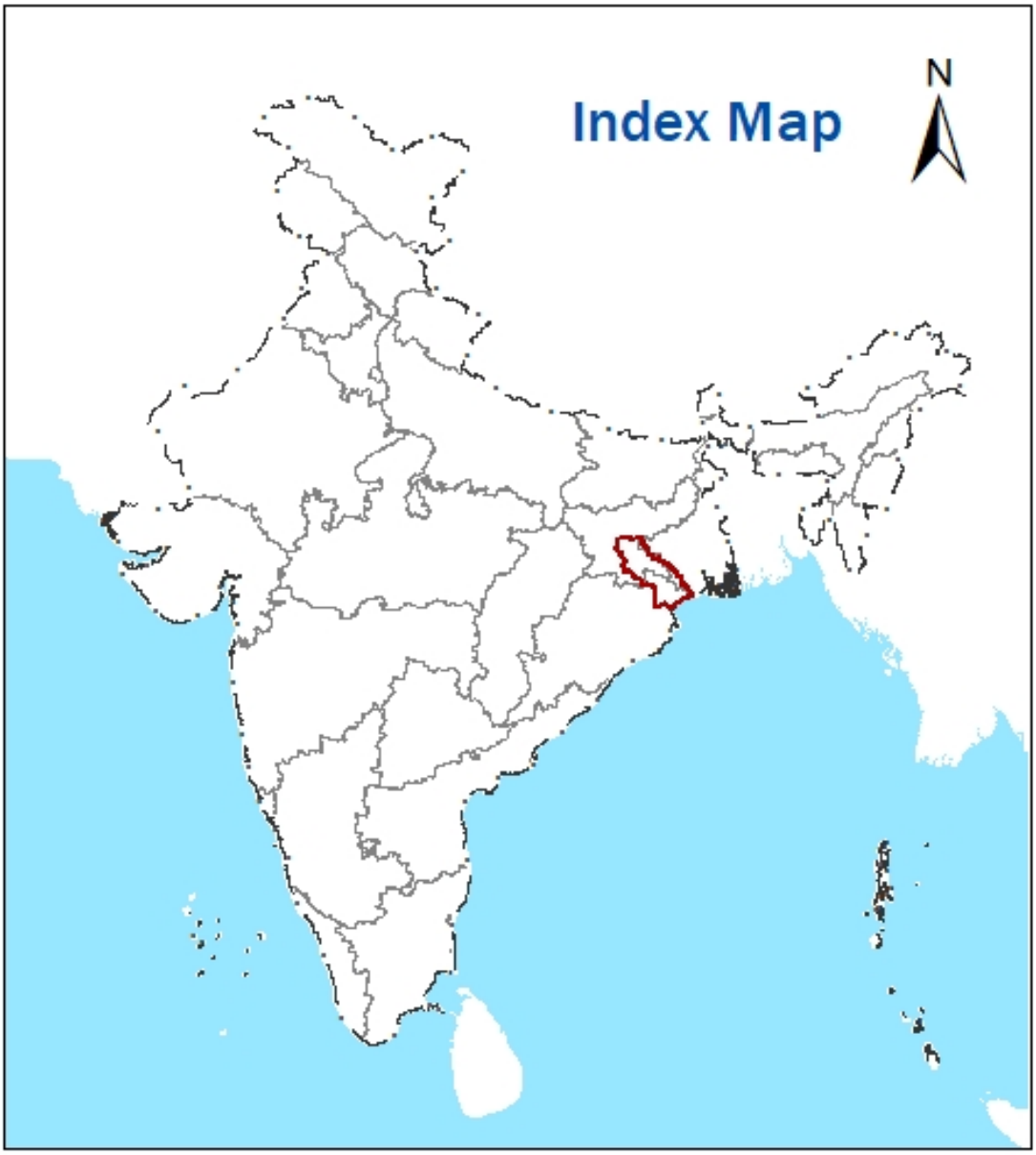
(As on September, 2020)

Site Type	No. of Hydrological Observations
G	06
GD	02
GDQ	01
GDS	00
GDSQ	06
GQ	00
SG&Met	00
WQSS	05
Total	**20**

Source:- RDC-II, CWC

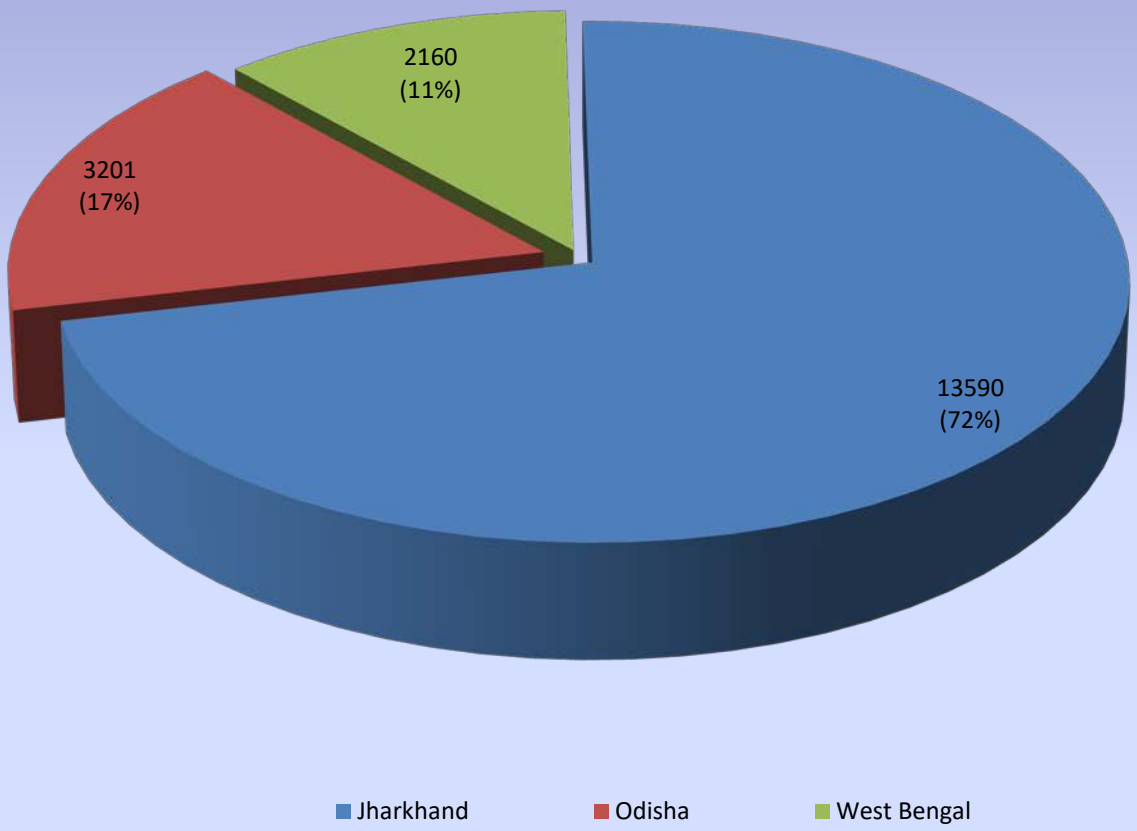
2.2.3 Peak Water Level: This basin contains the information of 12 sites and there is a vast variation in peak water level, maximum of 237.50 metres at Muri to a minimum of 8.90 metres at Govindpur during the reference period 2019-20 (Ref. Table 4).

2.2.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for three sites of the Subernarekha basin (Fig 2.2.1 to Fig 2.2.12).

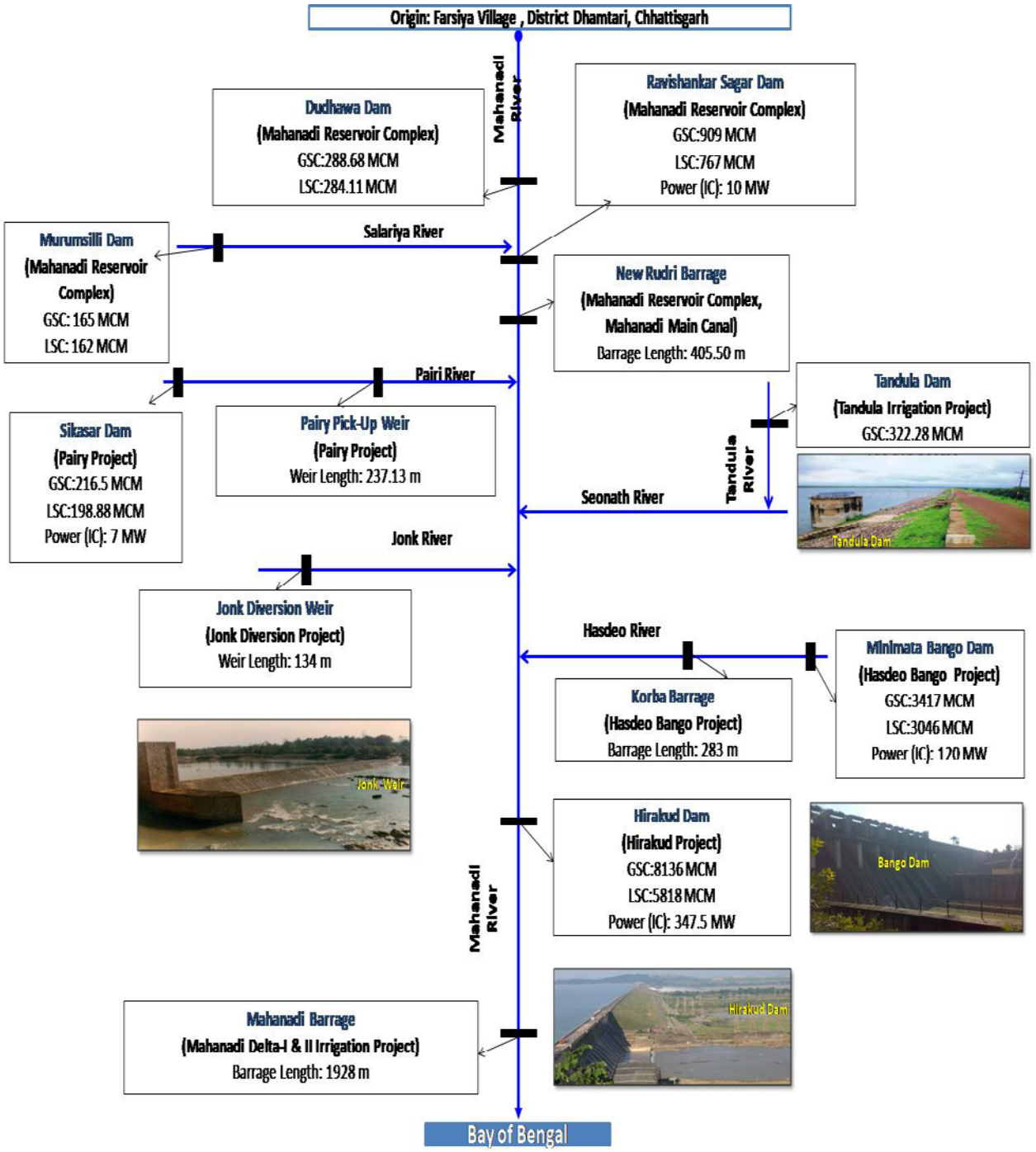


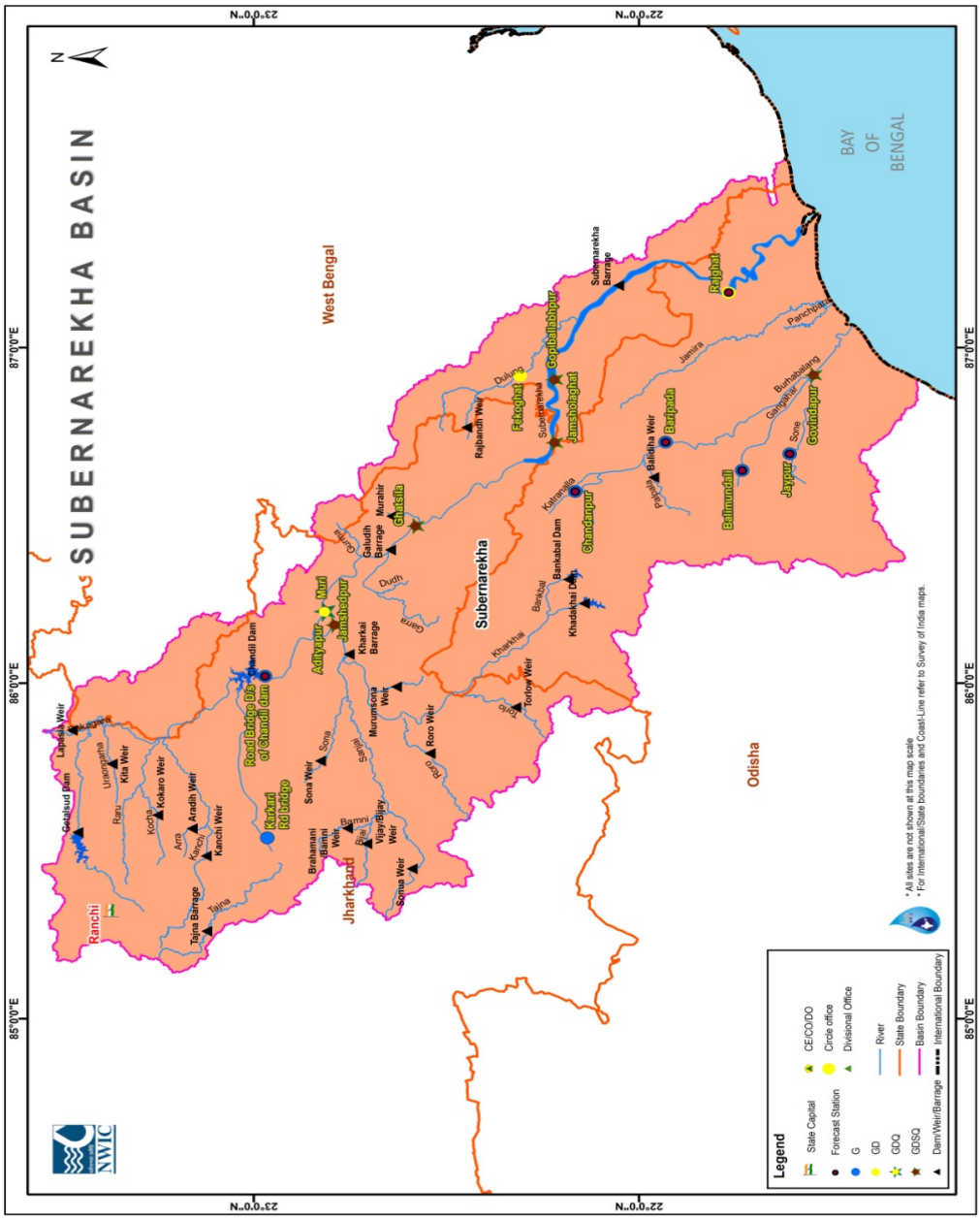
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise Subernarekha Basin Area (Sq.km.)



Subernarekha River Flow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Basin: Subernarekha (Water Quality Parameter : pH)

Fig 2.2.1 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for pH at Subernarekha Basin

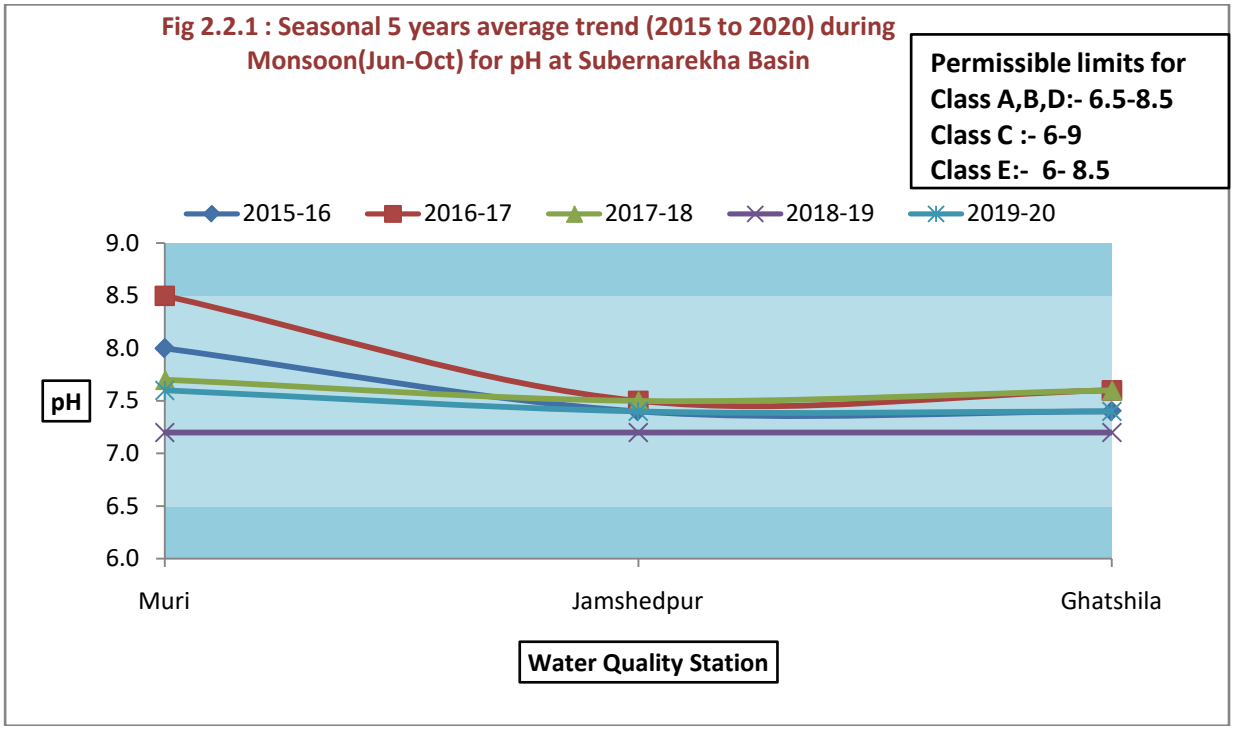


Fig 2.2.2 : Seasonal 5 years average trend (2015 to 2020) during Winter Nov-Feb) for pH at Subernarekha Basin

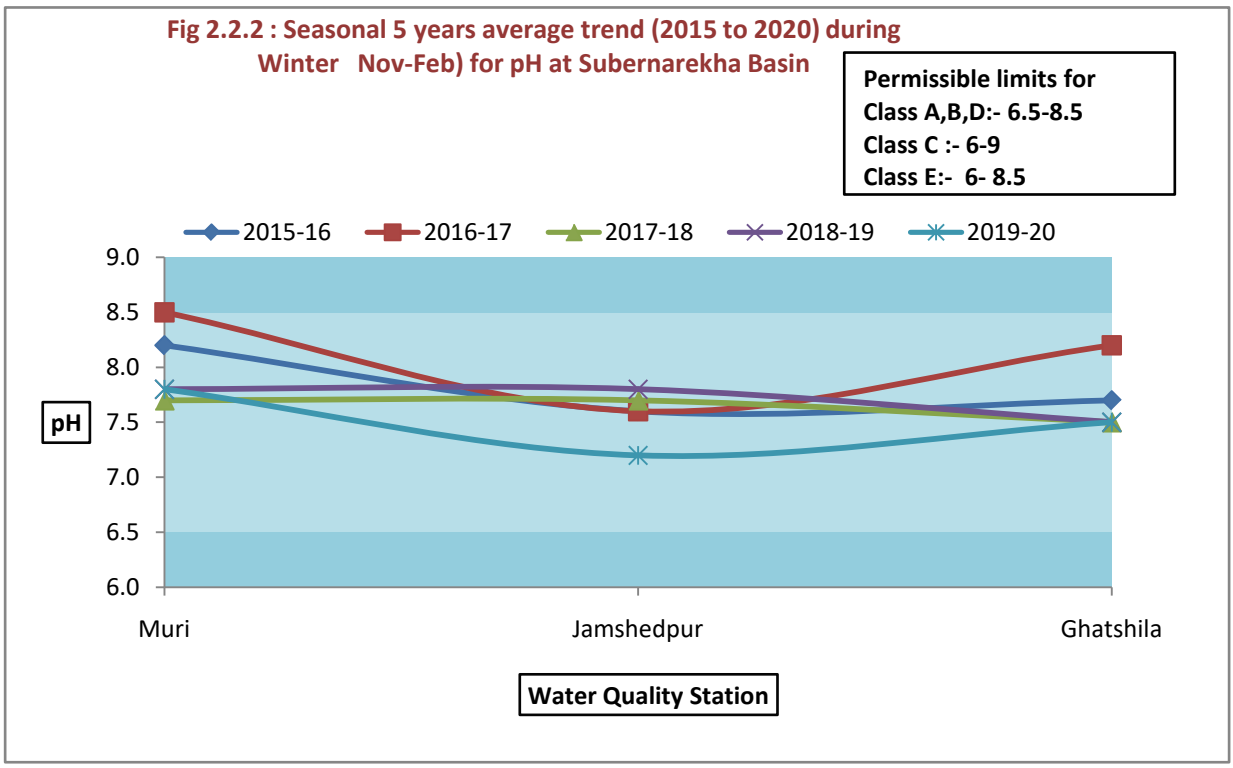
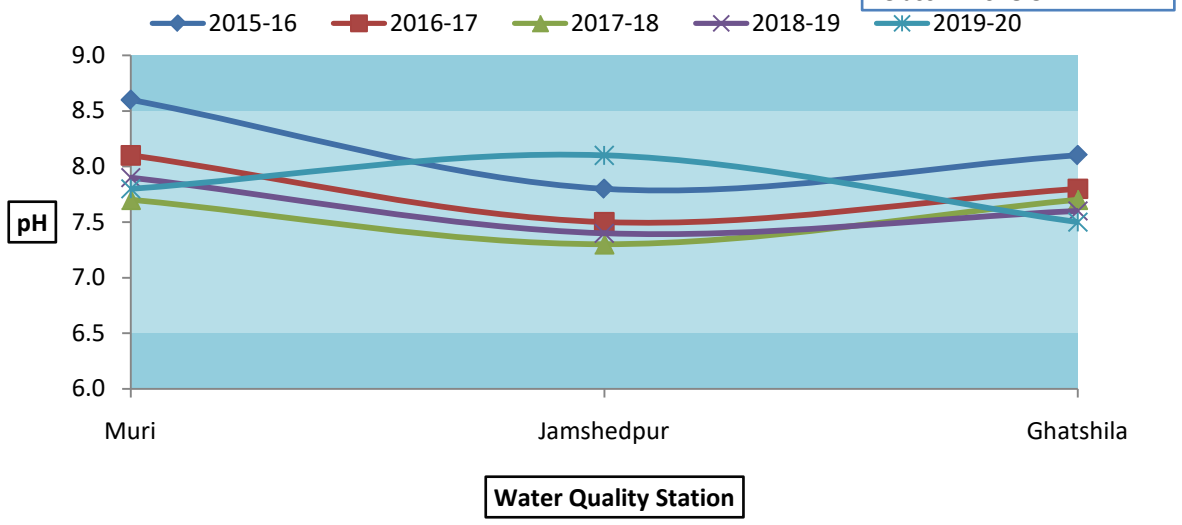


Fig 2.2.3 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for pH at Subernarekha Basin



Basin: Subernarekha (Water Quality Parameter :BOD)

Fig 2.2.4 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for BOD at Subernarekha Basin

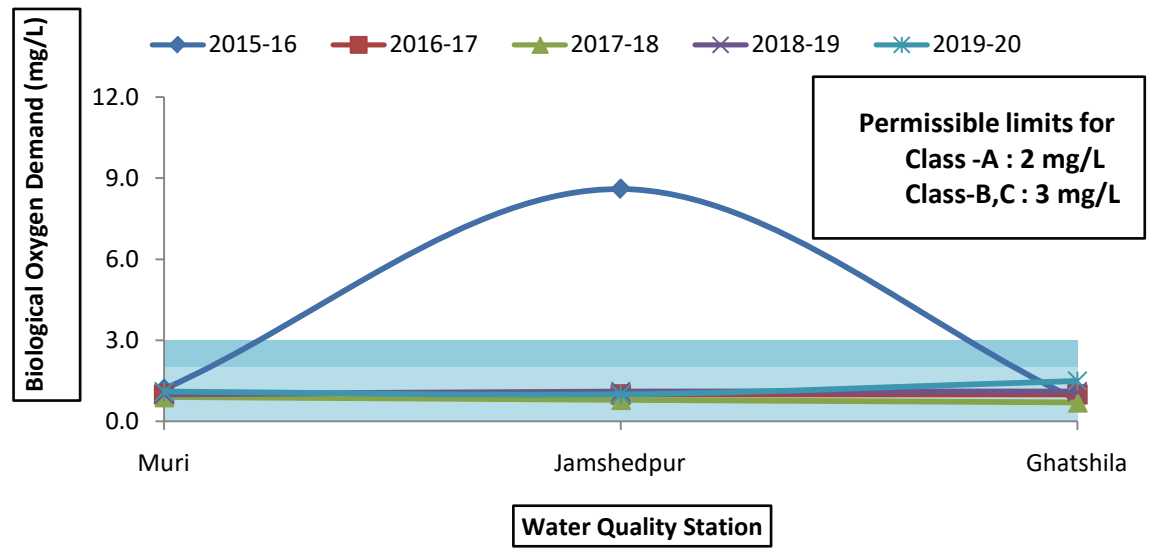


Fig 2.2.5 : Seasonal 5 years average trend (2015 to 2020) during Winter (Nov-Feb) for BOD at Subernarekha Basin

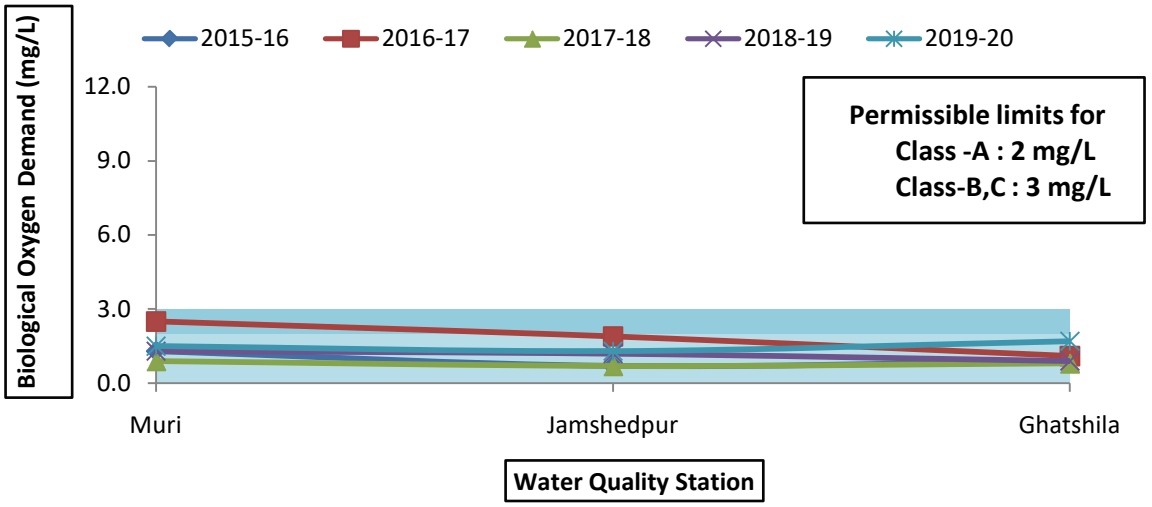
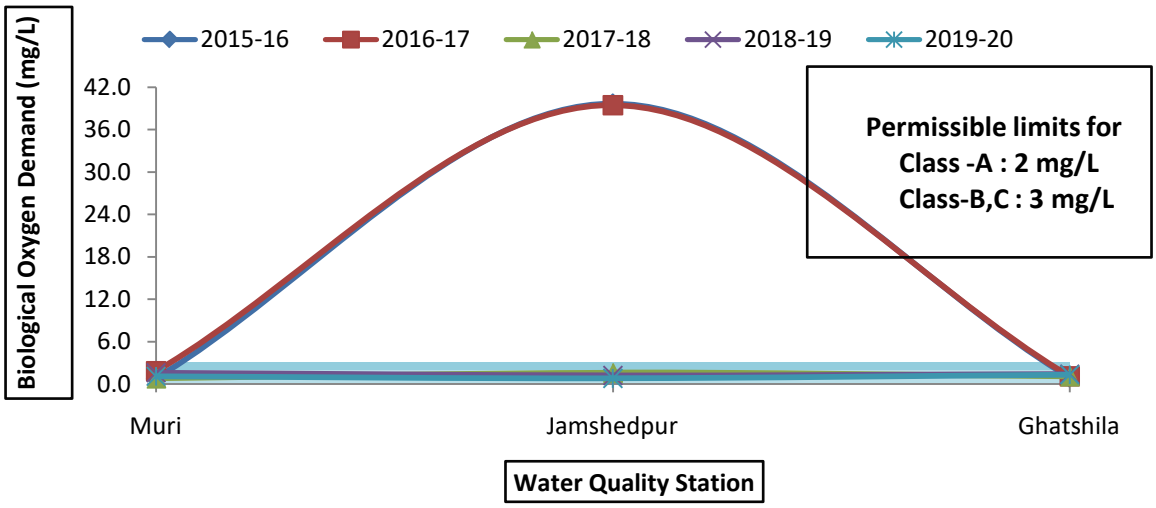


Fig 2.2.6 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for BOD at Subernarekha Basin



Basin: Subernarekha(Water Quality Parameter : Dissolved Oxygen)

Fig 2.2.7 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for DO at Subernarekha Basin

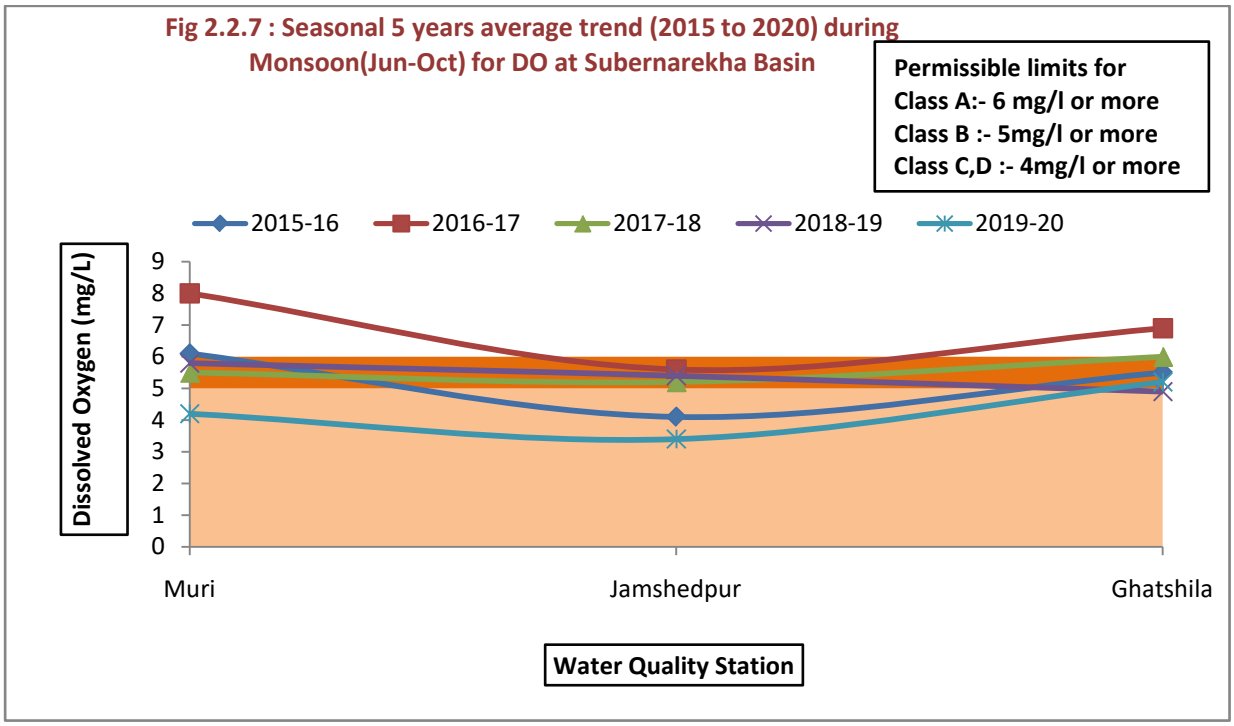


Fig 2.2.8 : Seasonal 5 years average trend (2015 to 2020) during Winter(Nov-Feb) for DO at Subernarekha Basin

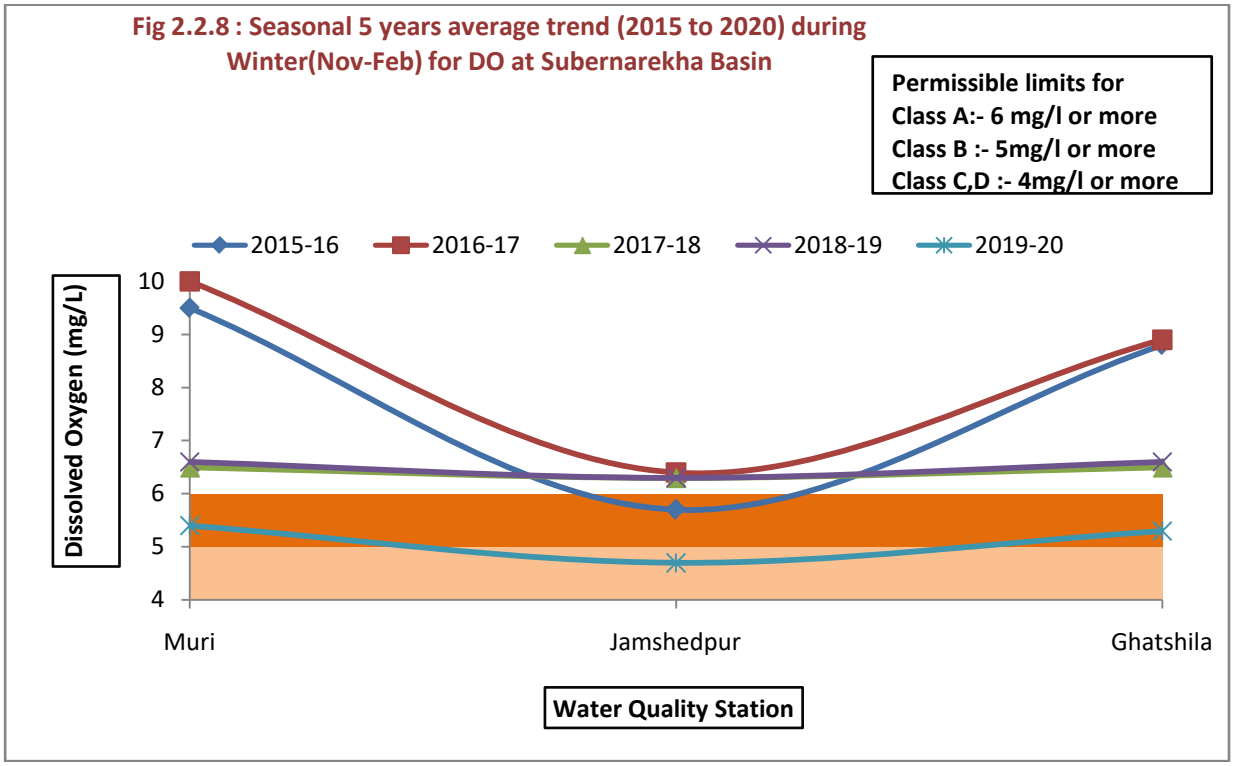
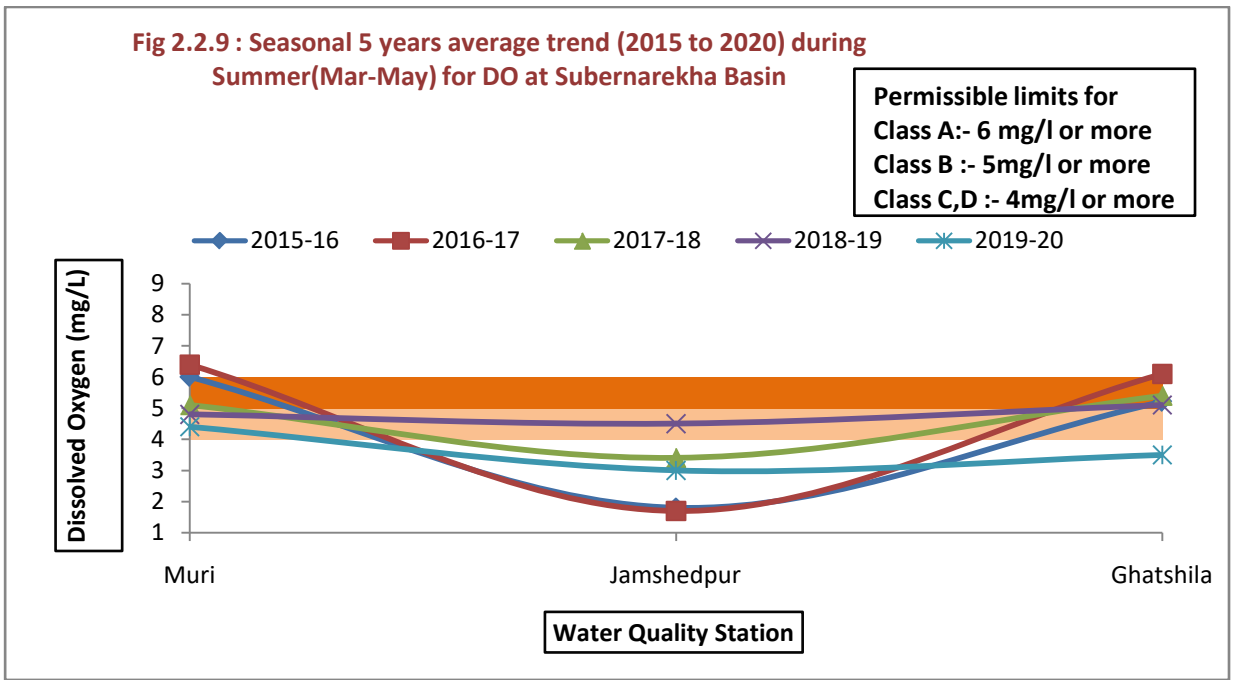


Fig 2.2.9 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for DO at Subernarekha Basin



Basin: Subernarekha(Water Quality Parameter : Total Hardness)

Fig 2.2.10 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for Total Hardness at Subernarekha Basin

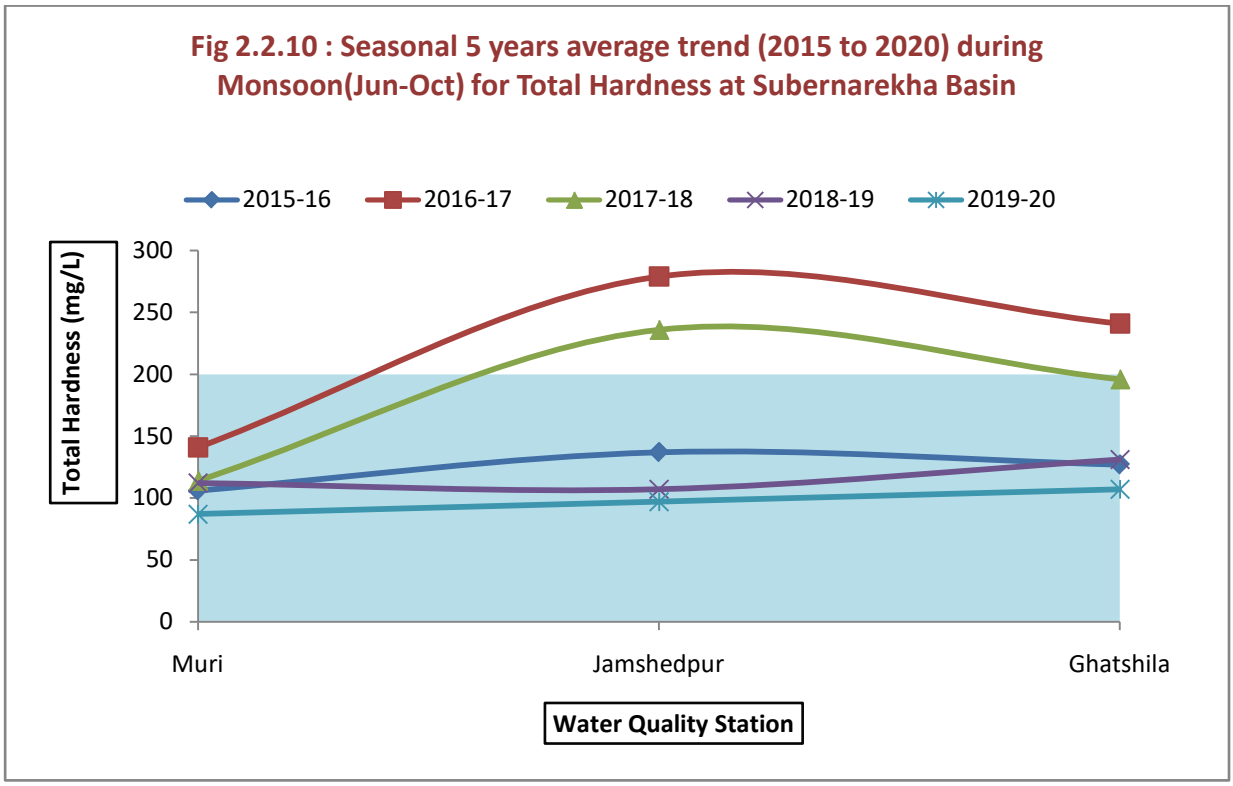


Fig 2.2.11 : Seasonal 5 years average trend (2015 to 2020) during Winter(Nov-Feb) for Total Hardness at Subernarekha Basin

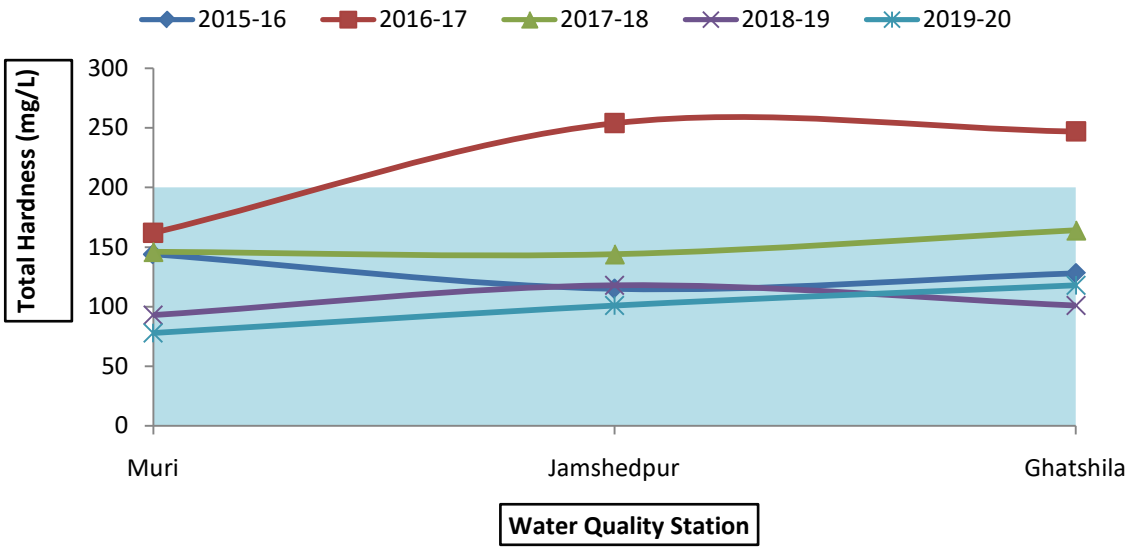


Fig 2.2.12 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for Total Hardness at Subernarekha Basin

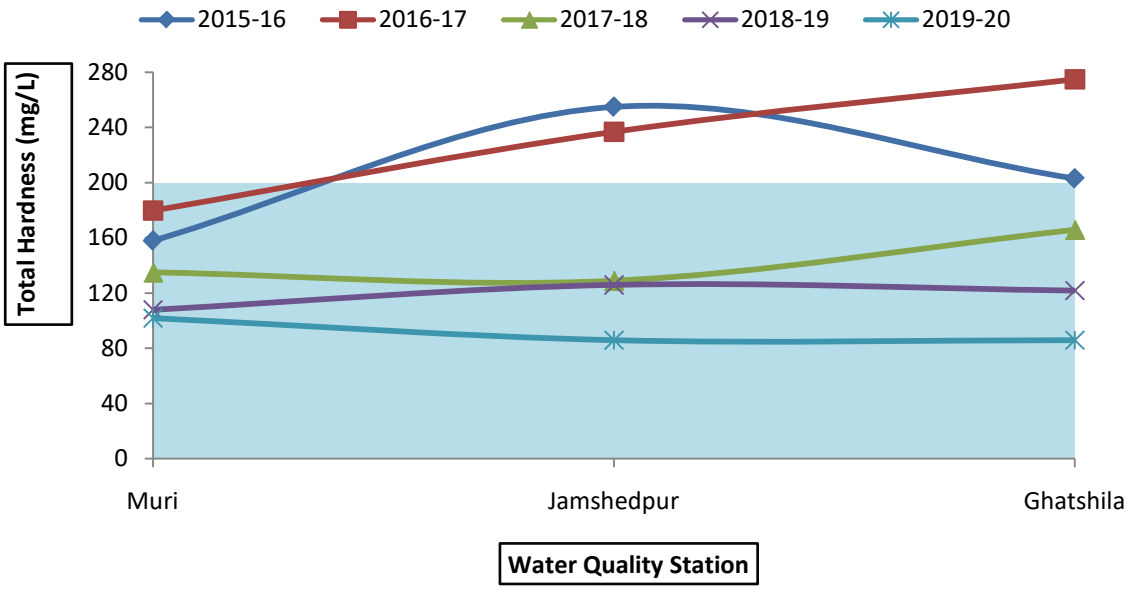
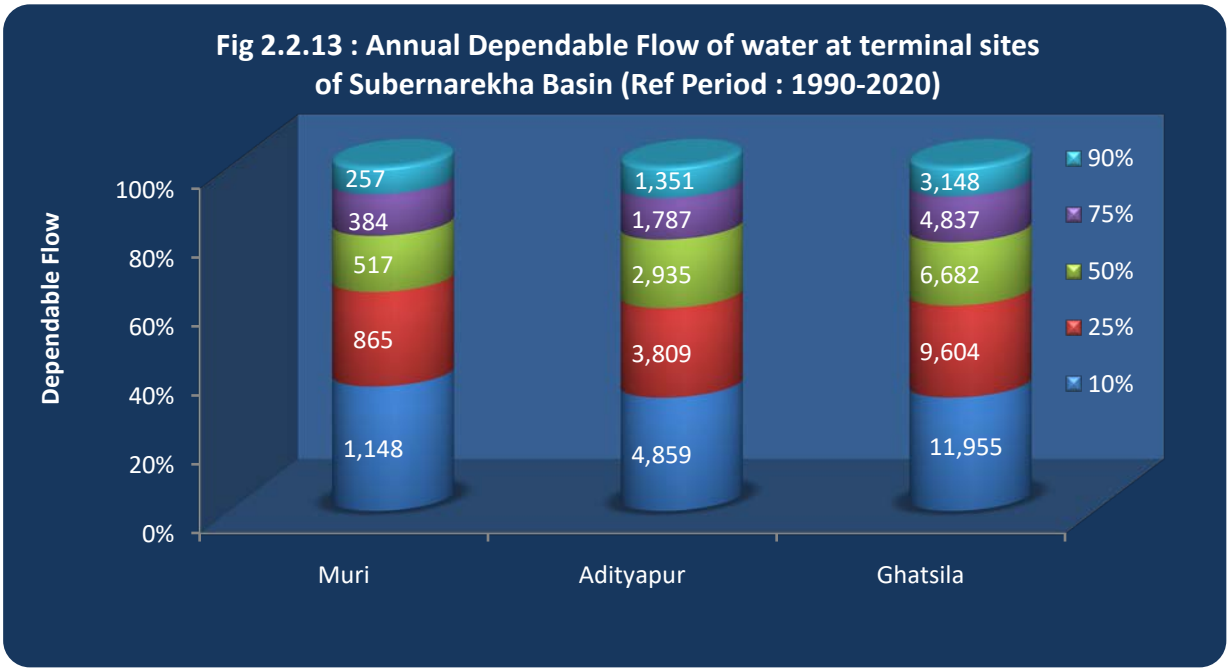


Table 2.2.1: Annual Dependable Flow Of Water at Terminal Sites of Subernarekha Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Muri	'06/1990 To 05/2020 (Last 30 years data)	1147.931	865.391	517.180	383.898	256.858
2	Adityapur		4859.186	3809.228	2934.870	1786.900	1351.155
3	Ghatsila		11954.642	9604.480	6682.146	4837.262	3147.566

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar



2.2.5 Land Use Statistics: Table 2.2.2 to Table 2.2.4 present below the land use pattern, gross irrigated area and net irrigated area for Subernarekha basin as compared to all the basins (Region-III).

TABLE 2.2.2: LAND UTILISATION PATTERN OF SUBERNAREKHA AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Subernarekha	25000.17244	4395.864707	4881.537451	2273.87823	5263.468623	8185.423428	3007.20314	11192.62657
All Basins	1022962.494	225739.680	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.2.3: GROSS AREA IRRIGATED BY SOURCES OF SUBERNAREKHA AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Subernarekha	140.50	81.25	221.75	78.17	448.95	80.24	529.19	27.86	856.96
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics& Statistics, M/o. A&FW.

TABLE 2.2.4: NET AREA IRRIGATED BY SOURCES BY SUBERNAREKHA AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.).

7	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Subernarekha	8.54	0.00	8.54	53.38	9.63	60.77	70.40	677.14	809.47
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A&FW.

2.2.6 Urban Centres: The important cities/ towns in the basin are Jamshedpur and Muri.

2.2.7 Industries: Important industries in the basin are tobacco products, cement, asbestos sheets, glass, ceramics, Locomotives & Coaches, automobiles, agricultural equipment, wires & cables, iron & steel machinery, metal tubes & conduits, copper & brass, chemicals acids & caustics, fertilizers and Soaps.

2.2.8 Minerals: The important minerals found in the basin are Coal, Iron Ores, Bauxite, Copper, Chromium, Gold, Vanadium Lime stone, Dolomite, Asbestos, China Clay, Talc and building Stone.

2.3 BRAHMANI AND BAITARANI BASIN

Location: The basin consisting of Brahmani and Baitarani is situated within the geographical co-ordinates of north latitude $20^0$28' to $23^0$35' and east longitude $83^0$52' to $87^0$3'. This basin is bound on the north by the Chhotanagpur plateau, on the south-west by Mahanadi basin and on the east by the Bay of Bengal. The basin flows through Jharkhand, Chattisgarh, and Odisha States and its catchment area is 50,015 sq km which is nearly 1.7% of the total geographical area of the country.

2.3.1 Brahmani Basin

The Brahmani is known as the South Koel in the upper reaches. It originates near Nagri village in Ranchi District at an elevation of about 600 metres. The total length of its run is about 799 km. The Brahamani sub-basin covers 39,033 sq. km and has a long sausage shape. The principal tributaries of this river are Sankh, Tikra and Karo. The climate of the basin is tropical with a fairly hot summer and moderately cold winter. The basin is influenced by south west monsoon from June to October.

2.3.1.1 Irrigation Projects: Rengali (major) and Ramiala irrigation project (medium)are the prominent projects in the catchment area of the basin.

2.3.2 Baitarni Basin

The Baitarani is one of the important east flowing rivers of peninsular India, flowing eastward and joining the Bay of Bengal. The river originates in the hill ranges of Keonjhar District of Odisha near Dumuria village at an elevation of about 900 metres. The river flows through Jharkhand and Odisha states. The main tributaries of Baitarani are the Salandi and the Matai. The total catchment area of this basin is 10,982sq km and is roughly circular in shape. More than 93% of the catchment area falls in Odisha. The basin is surrounded by the Brahmani on the south and west, the Subernarekha on the north, the Burhabalang and the Bay of Bengal on the east. The river is flashy in nature; having a total length of 355 km with the upper reach up to Anandpur is in the hilly region. There is a considerable fall in elevation from RL 367m at Champua to RL 28m at Anandpur. The basin receives most of the rainfall from the south-west monsoons during the period from June to October and the average rainfall is 1450 mm.

2.3.2.1 Irrigation Projects: Akhuapada, Salandi, Anandpur Barrage and Kanupur Irrigation System are the Major Irrigation Projects in the catchment area of the Baitarni river basin.

2.3.2.2 Hydrological Observation (H.O.) Sites: There are in total 39 H.O. sites in **Brahamni & Baitaran**i River Basin the details are given as:

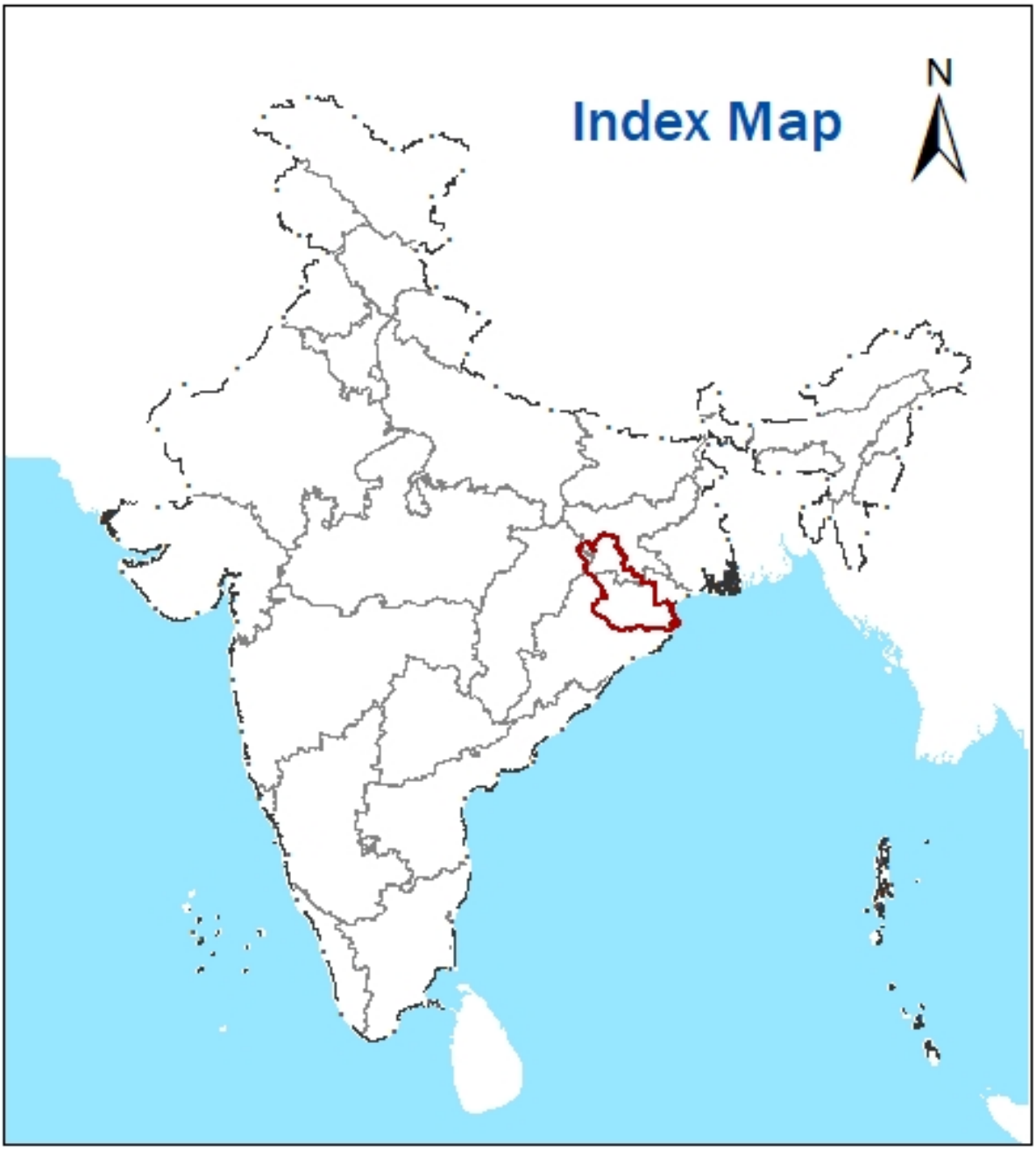
(As on September, 2020)

Site Type	No. of Hydrological Observations
G	12
GD	00
GDQ	00
GDS	00
GDSQ	11
GQ	01
SG&Met	01
WQSS	14
Total	**39**

Source:RDC-II, CWC

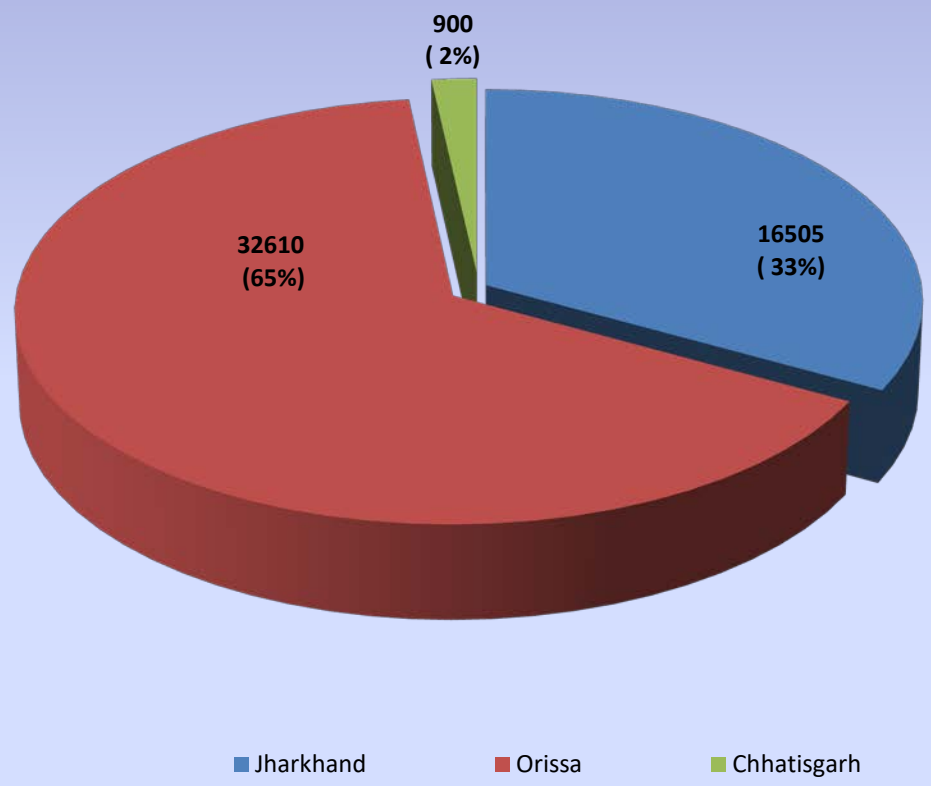
2.3.3 Peak Water Level: In the Brahmani & Baitarni basin, 15 observation sites have been reported and Anandpur is the oldest site established on 07.03.1972. Gauge/Discharge observations are being recorded since then. Maximum Peak water level recorded at 378.83 metres in Tilgasite on 27.07.2017 during the reference period 2019-20.

2.3.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for four sites of Brahmani & Baitarni basin (Fig 2.3.1 to Fig 2.3.12).

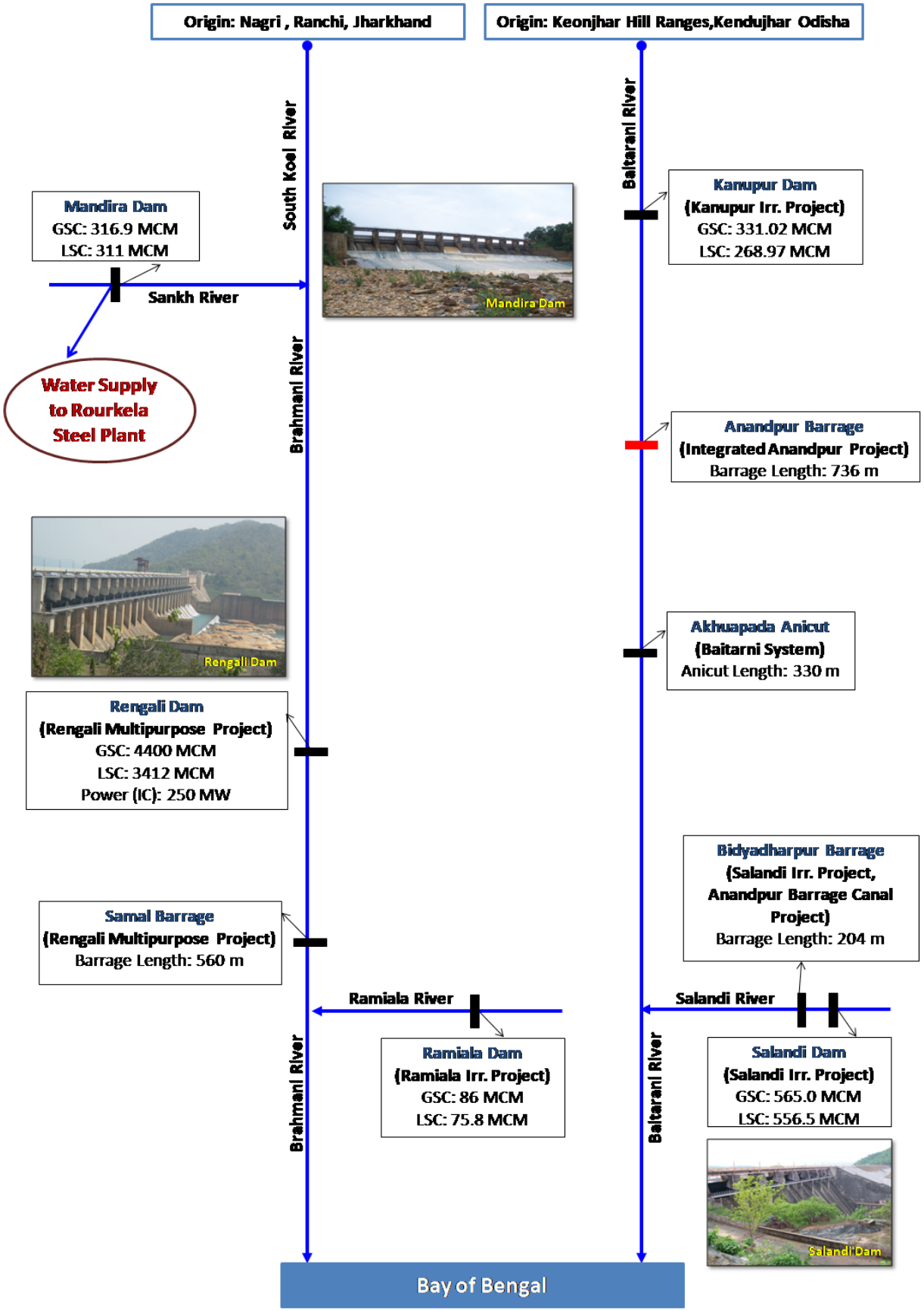


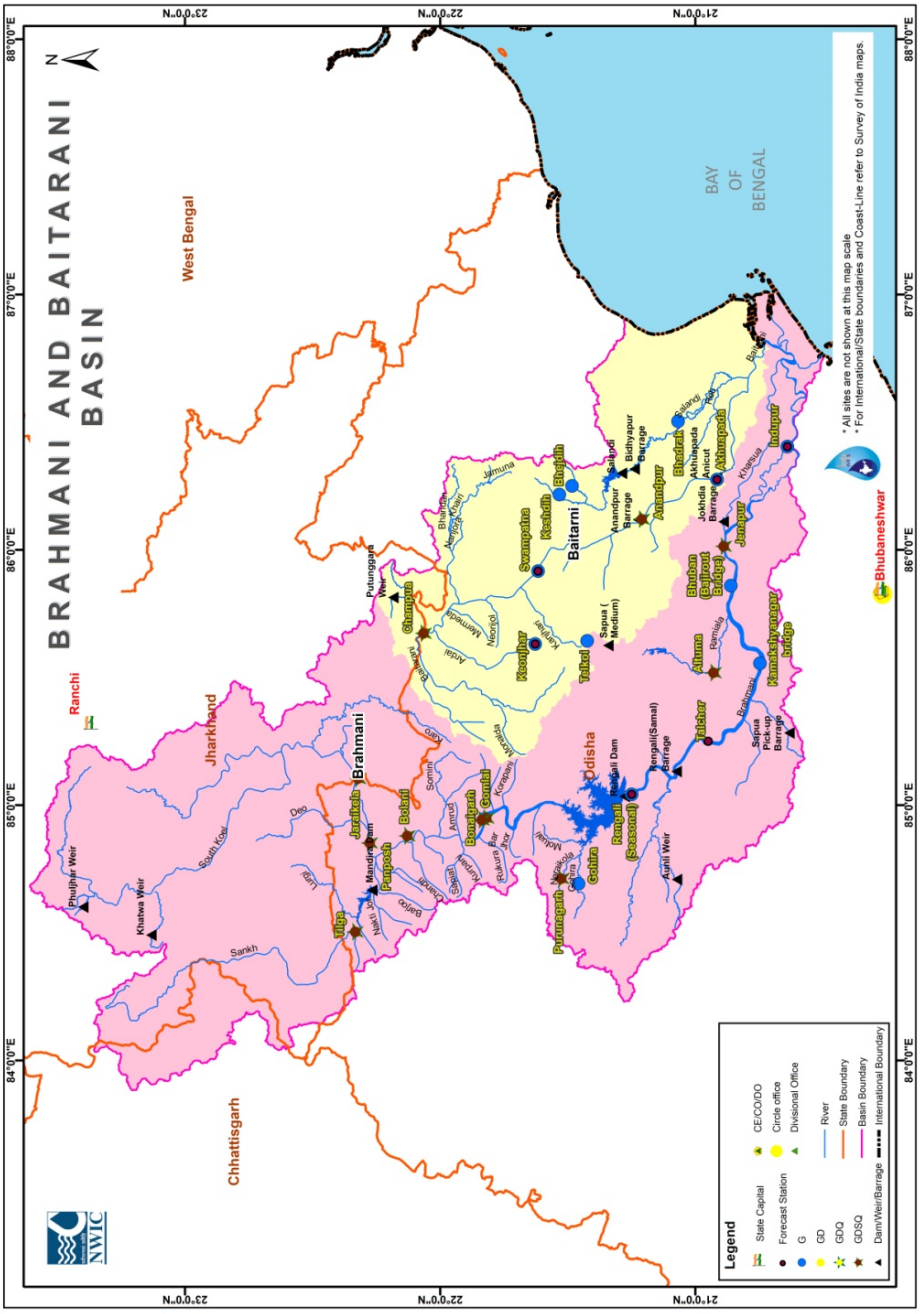
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State wise Brahamani and Baitarani Basin Area (Sq. Km)



Brahmani & Baitarni Rivers Flow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Basin: Brahmani & Baitarni (Parameter :pH)

Fig 2.3.1 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for pH at Brahmani Basin

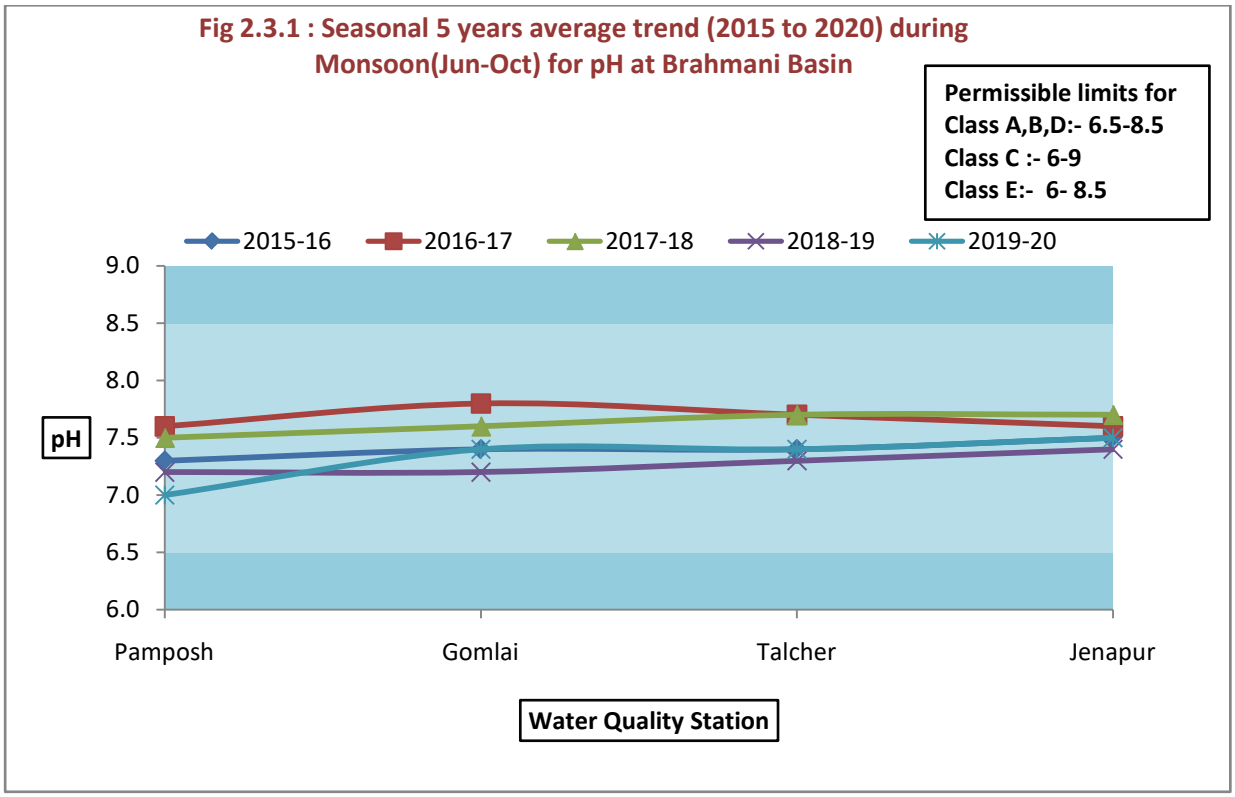


Fig 2.3.2 : Seasonal 5 years average trend (2015 to 2020) during Winter(Nov-Feb) for pH at Brahmani Basin

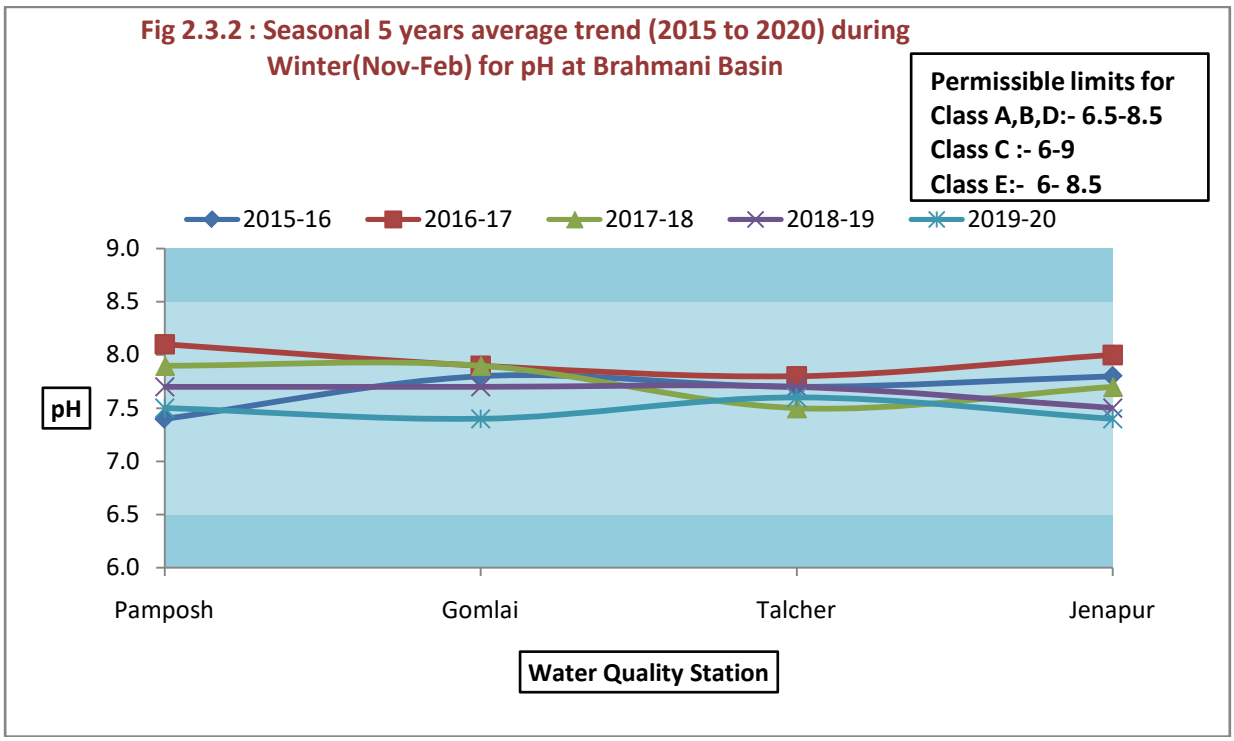
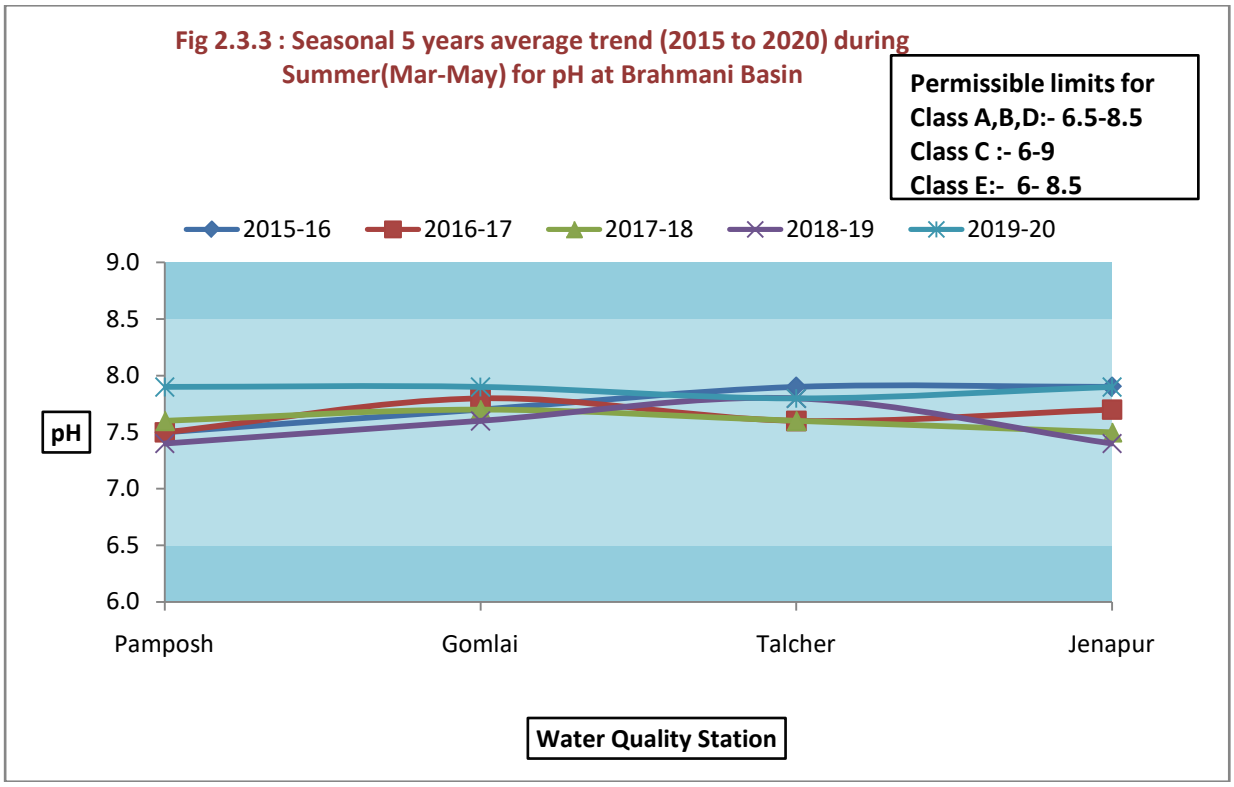


Fig 2.3.3 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for pH at Brahmani Basin



Basin: Brahmani & Baitarni (Water Quality Parameter : Biological Oxygen Demand)

Fig 2.3.4 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for BOD at Brahmani Basin

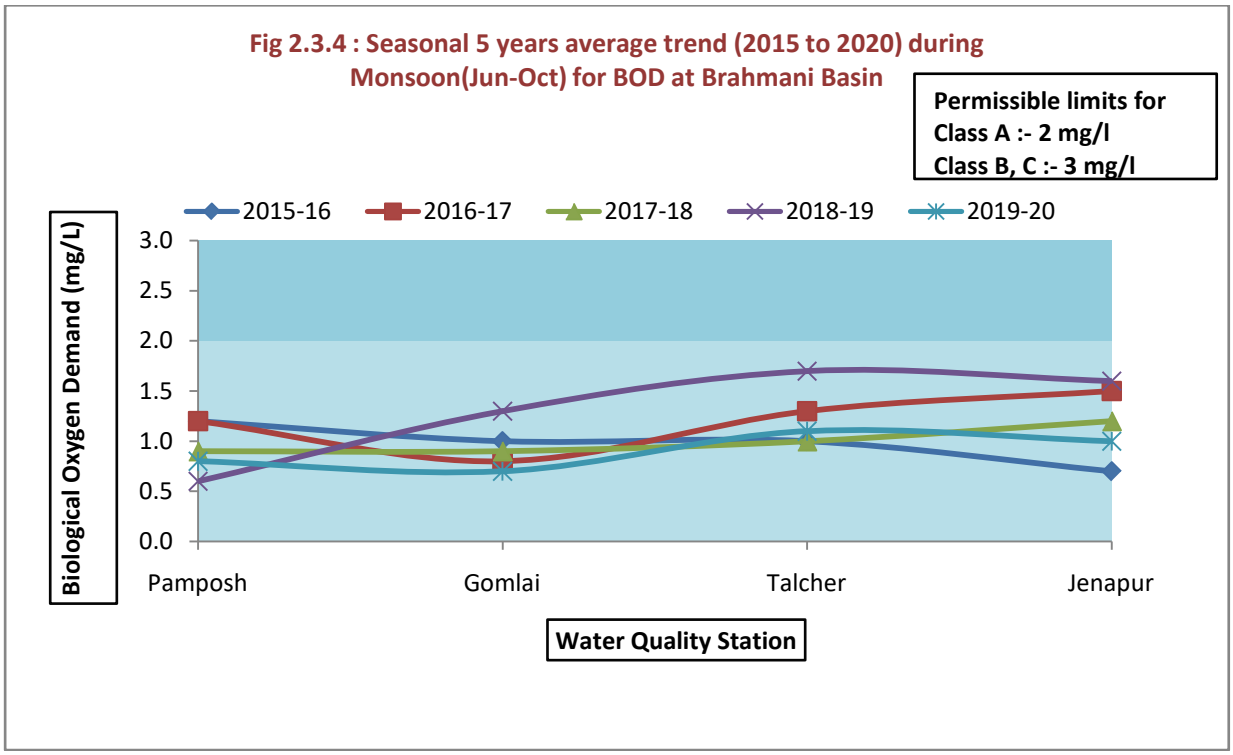


Fig 2.3.5 : Seasonal 5 years average trend (2015 to 2020) during Winter(Nov-Feb) for BOD at Brahmani Basin

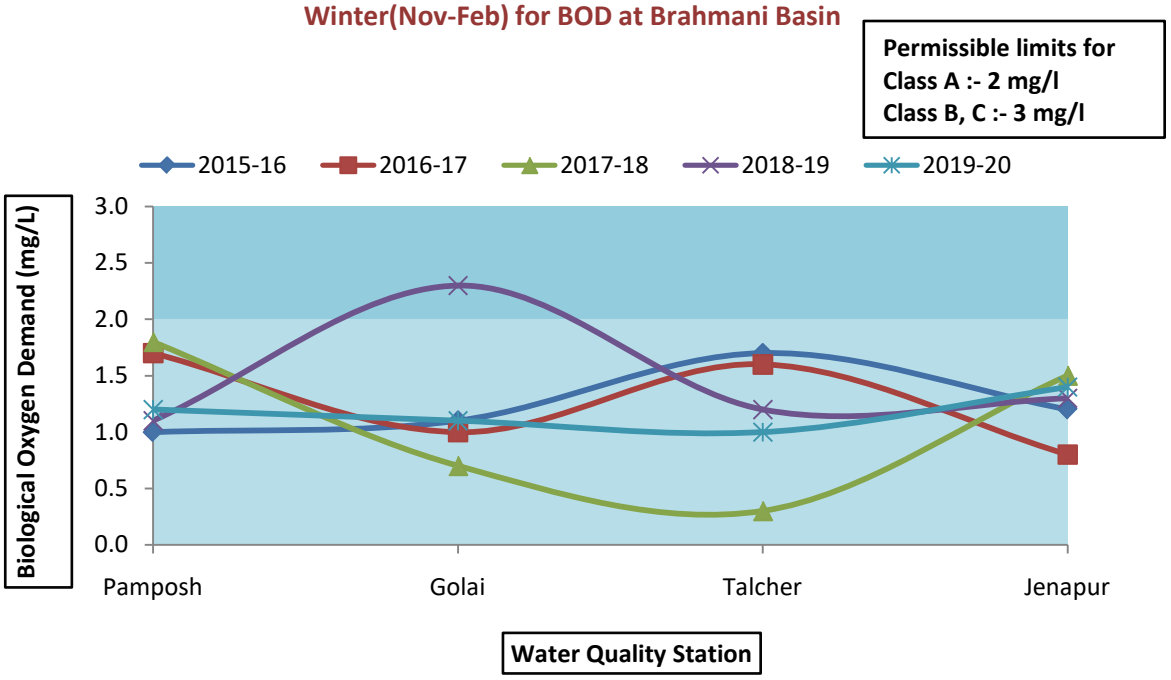
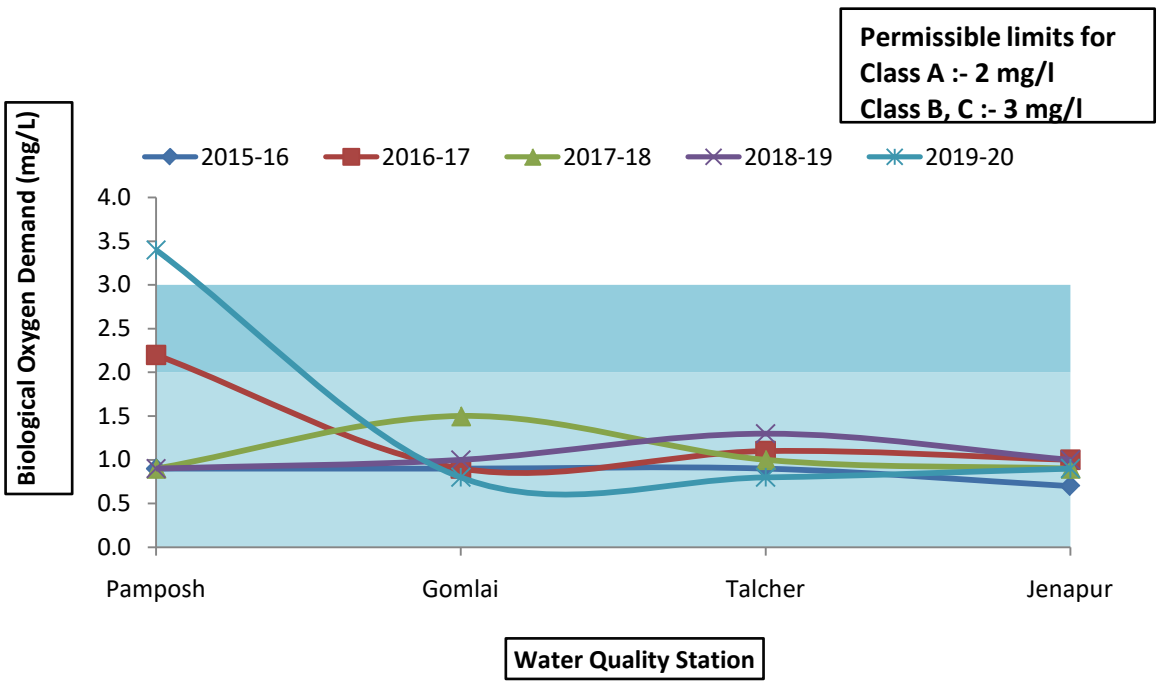


Fig 2.3.6 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for BOD at Brahmani Basin



Basin: Brahmani & Baitarni (Water Quality Parameter : Dissolved Oxygen)

Fig 2.3.7 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for DO at Brahmani Basin

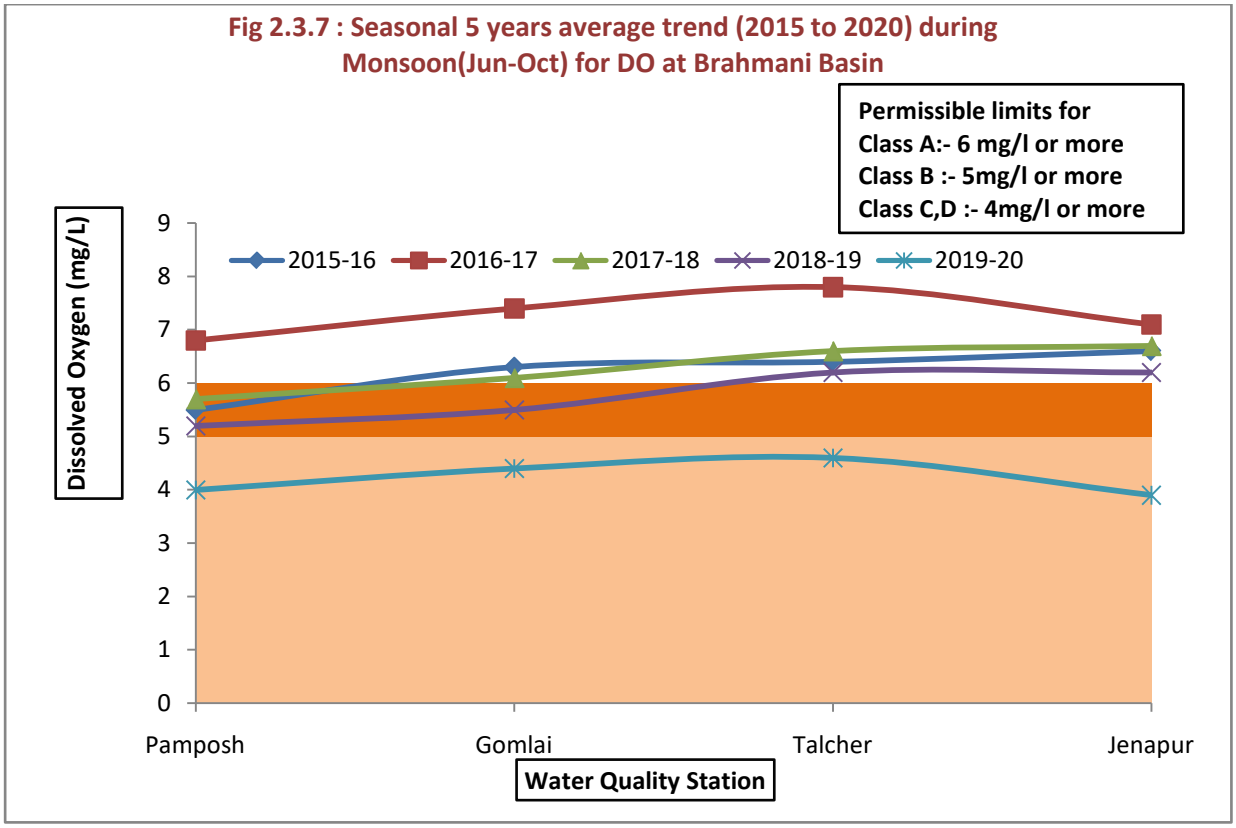


Fig 2.3.8 : Seasonal 5 years average trend (2015 to 2020) during Winter(Nov-Feb) for DO at Brahmani Basin

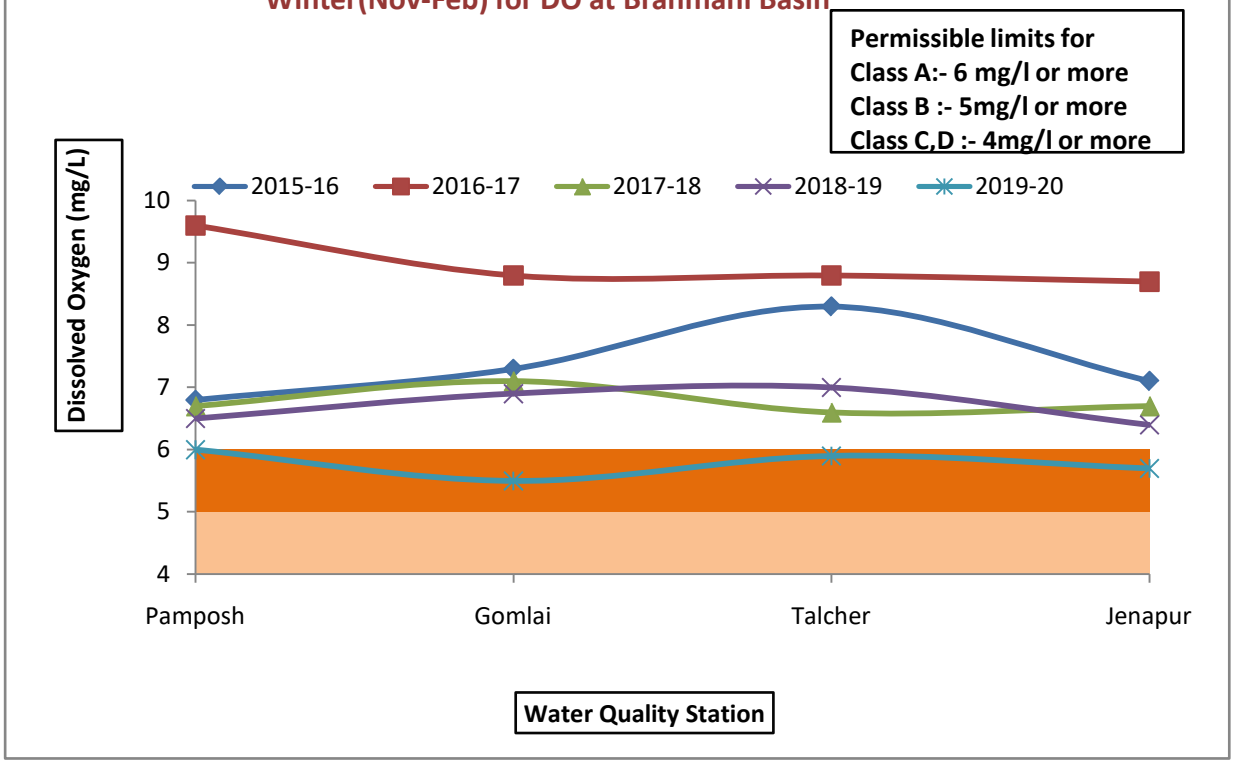
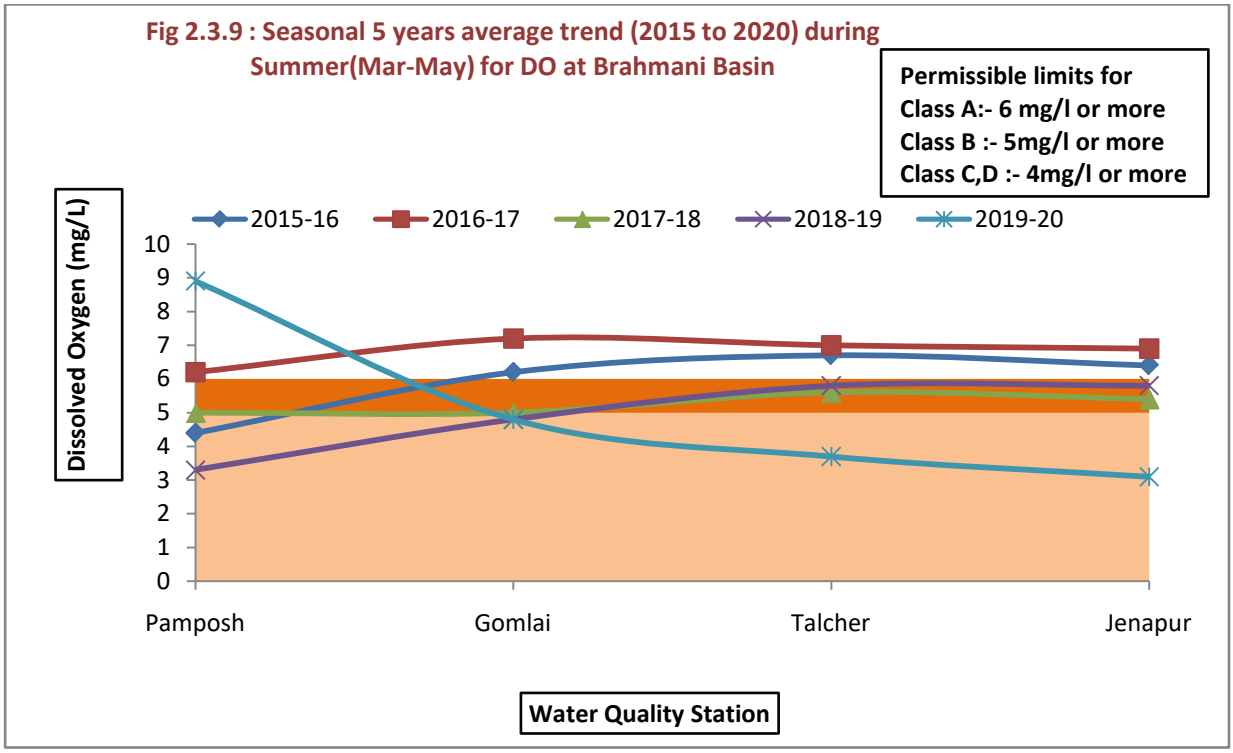


Fig 2.3.9 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for DO at Brahmani Basin



Basin: Brahmani&Baitarni (Water Quality Parameter : Total Hardness)

Fig 2.3.10 : Seasonal 5 years average trend (2015 to 2020) during Monsoon(Jun-Oct) for Total Hardness at Brahmani Basin

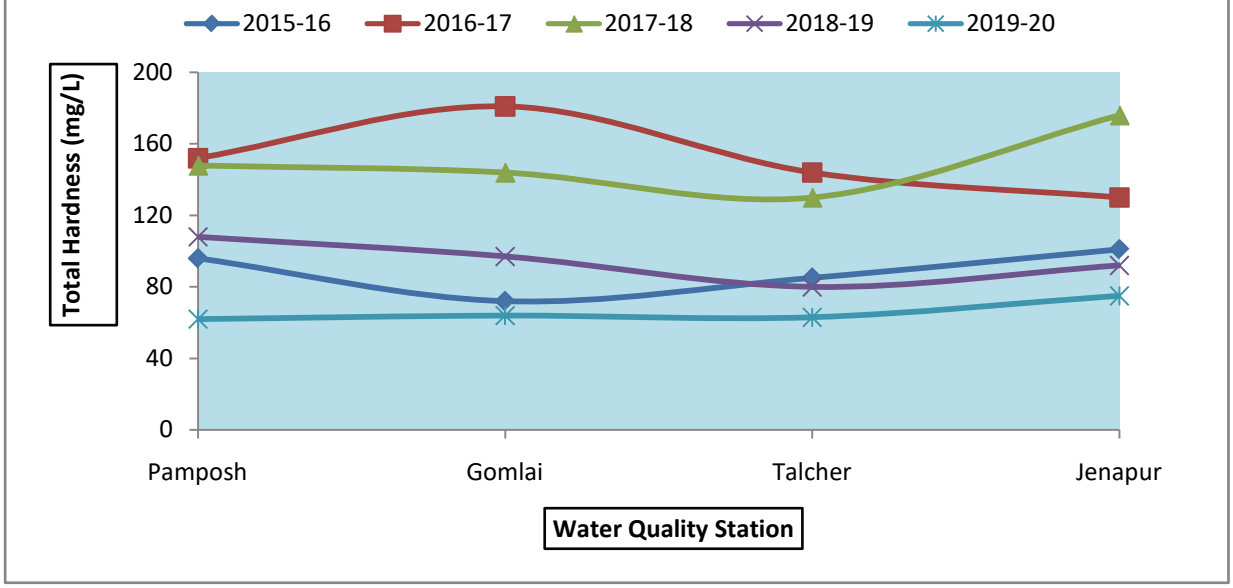


Fig 2.3.11 : Seasonal 5 years average trend (2015 to 2020) during Winter(Nov-Feb) for Total Hardness at Brahmani Basin

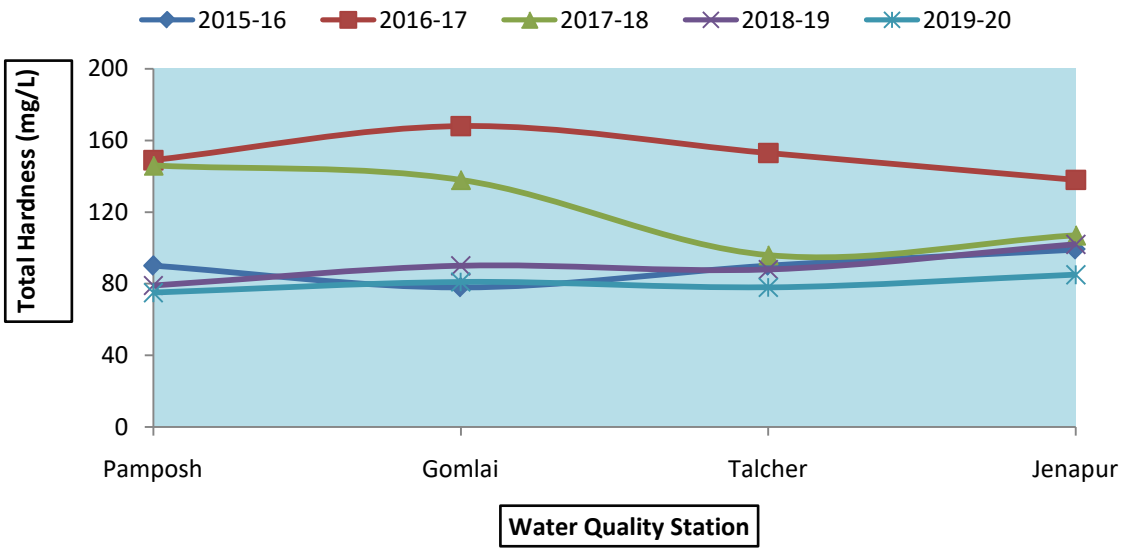


Fig 2.3.12 : Seasonal 5 years average trend (2015 to 2020) during Summer(Mar-May) for Total Hardness at Brahmani Basin

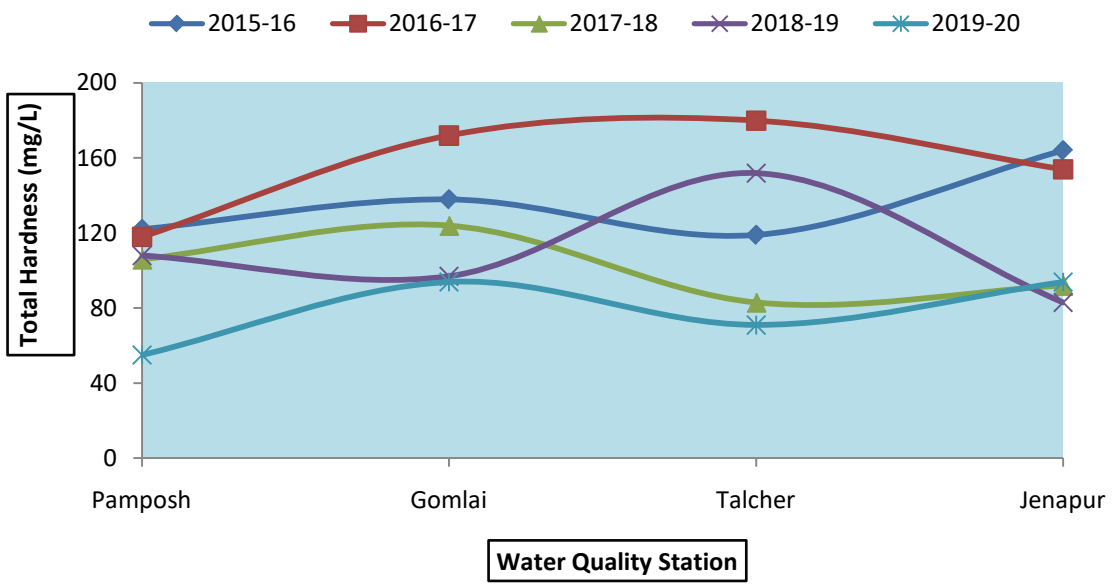
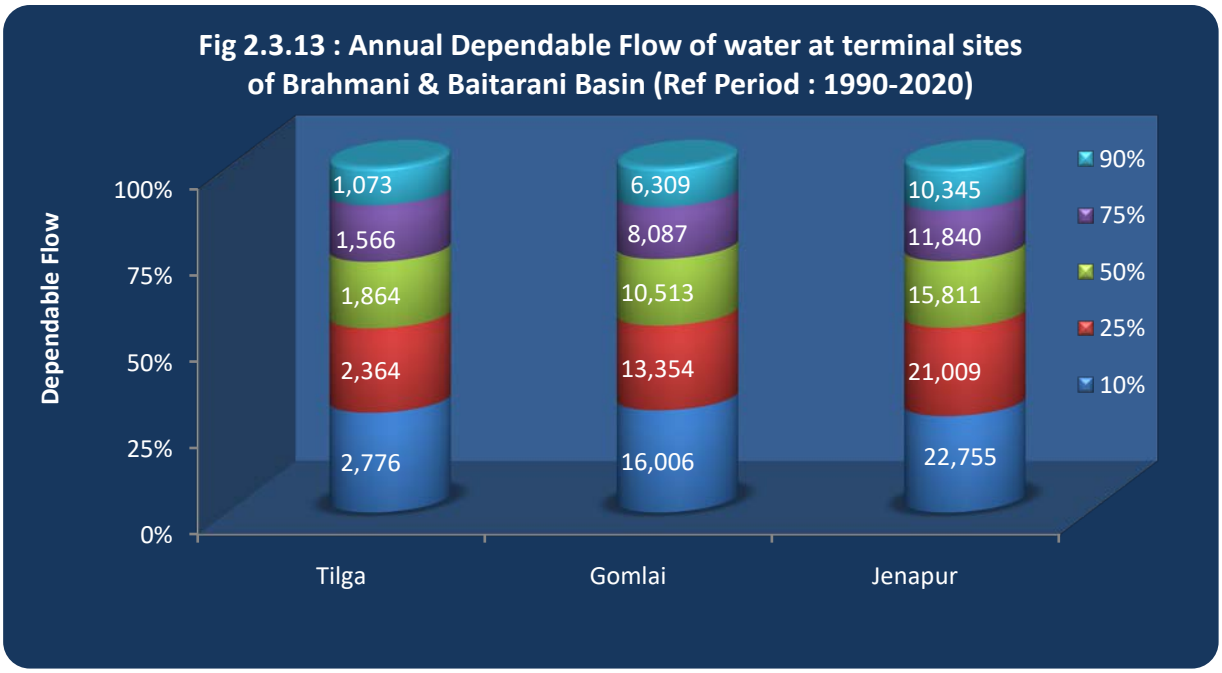


Table 2.3.1: Annual Dependable Flow Of Water at Terminal Sites Of Brahmani& Baitarani River Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	TILGA	06/1990 to 05/2020	2776.369	2363.976	1864.058	1566.350	1072.678
2	GOMLAI		16006.481	13353.586	10512.645	8087.008	6308.532
3	JENAPUR		22754.537	21009.172	15811.351	11840.012	10345.330

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar



2.3.5 Land Use Statistics: Table 2.3.2 to Table 2.3.4 below present the land use pattern, gross irrigated area and net irrigated area for Brahmani & Baitarnibasin as compared to all basins (Region-III).

TABLE 2.3.2: LAND UTILISATION PATTERN OF BRAHMANI & BAITARANI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Brahamani& Baitarani	44272.06509	9353.991514	7376.232048	4587.039972	8873.42656	14081.375	2345.509631	16426.88463
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW

TABLE 2.3.3: GROSS AREA IRRIGATED BY SOURCES OFBRAHAMANI & BAITARANI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Brahamani & Baitarani	1270.7152	202.65832	1473.3735	89.780171	455.55789	128.20773	583.76562	91.391798	2238.3111
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics& Statistics, M/o. A &FW

TABLE 2.3.4: NET AREA IRRIGATED BY SOURCES OF BRAHAMANI & BAITARANI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Brahamani& Baitarani	19.847234	0	19.847234	59.960395	14.6333	72.555909	87.189209	1972.8834	2139.8802
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW

2.3.6 Urban Centres: The important towns in the basin are Champua, Karanjia, Keonjhar, and Anandpur.

2.3.7 Minerals: The basin is rich in mineral resources. Coal, Iron ore, Copper, Chromites, Limestone, Dolomites, Bauxite, Manganese, China clay, Fire clay, Asbestos, Atomic Minerals and Soap Stone are the main mineral resources of these basins.

2.3.8 Industries: Major industries in the basin are Steel Plants and Aluminum plants. There exist a number of other industries like fertilizers, cement, explosives chemicals, machine tools, Ferro-Manganese and sponge Iron Plant.

2.4 GODAVARI BASIN

Location: The Godavari River, the largest of the peninsular rivers and third largest in India, covers about 10% of India's total geographical area. The catchment area of the river is 3,12,812 sq km and is spread in the States of Maharashtra (48.6%), erstwhile Andhra Pradesh (23.4%), Madhya Pradesh (10.0%), Chhattisgarh (10.9%), Odisha (5.7%) and Karnataka (1.4%). The basin lies in the Deccan Plateau and is situated between latitude 16^0 16' north and 22^0 36' north and longitude 73^0 26' east and $83^0$7' east. The Godavari river rises in the Nasik district of Maharashtra, about 80 km from the Arabian sea at an elevation of 1,067 metres after flowing for about 1,465 km in a generally south-east direction, through Maharashtra and erstwhile Andhra Pradesh it falls into the Bay of Bengal. The Godavari basin is bounded by the Satmala Hills, the Ajanta range and the Mahadeo hills on the north, by the Eastern Ghats on the south and the east and by the Western Ghats on the west. The basin is roughly triangular in shape and the main river itself runs practically along the base of the triangle.

The western edge of the basin is an almost unbroken line formed by the Sahyadri range of the Western Ghats, from 600 to 2100 metre in height. It has the heaviest rainfall and the dampest climate in the basin.

About 64 km from its source, the Godavari receives the waters from Dharna, on its right bank and the Kadana joins it from the left. The combined waters of the Pravara and Mula which rise in the hills of Akola join the river about 217 km from its source, About 338 km lower down, while still in Maharashtra, the river receives the combined waters from the Purna and Dudhna rivers and after a further 138 km at the border of Maharashtra and erstwhile Andhra Pradesh, the waters of the Majira river joins it from the south. At this point, Godavari flows at an elevation of about 329 metres.

The Pranhita river, conveying the combined waters of the Penganga, the Wardha and Wainganga, which drain Nagpur and southern slopes of the Satpura ranges, falls into Godavari about 306 km below its confluence with the Majira. Forty eight km lower, the waters of the Indravathi join the river. Both the Pranhita and the Indravathi are major rivers in their own right. The last major tributary is the Sabari from Odisha, which falls into the Godavari, 100 km above Rajahmundry.

The largest tributary of the Godavari is the Pranhita with about 20% coverage of drainage area. The Pravara, Manjira and Maner are notable right bank tributaries, and the Purna, Pranhita, Indravathi and Sabari are important left bank tributaries. The Godavari in the upper, middle and lower reaches make up for 24.1% coverage of drainage area. The Godavari basin as a whole receives around 1100 mm of the annual rainfall on an average, during the southwest monsoon, which sets in mid-June and ends by mid-October.

2.4.1 Irrigation Projects: Kadam, Wainganga Canal and Surthi System major Irrigation Projects are in the catchment area of Godavari Basin. The Kodwa, Godavari (Dama), Pravara, Purna, Pus, Gangapur, Bagh, and Mula Major Projects of Maharashtra are in the catchment area of Godavari Basin. There are several prominent Major Irrigation Projects like Waghed,

Ozarkhed, Karanjawan, Pallakhed and Madmeswar, Jayakwadi Stage-1, Bhandaradara, Manar, Adhole, SRS Project, Nizamsagar, Lower Maner, Maner Project, Manjira, Dhuti weir, Idiadoh, Cotton Barrage, Lakhnavaram, Upper Kolab and Lower Silerusituated also in the catchment areas of the river basin.

2.4.2 Hydrological Observation Sites: There are in total 157 H.O. sites, the details of which are given below:

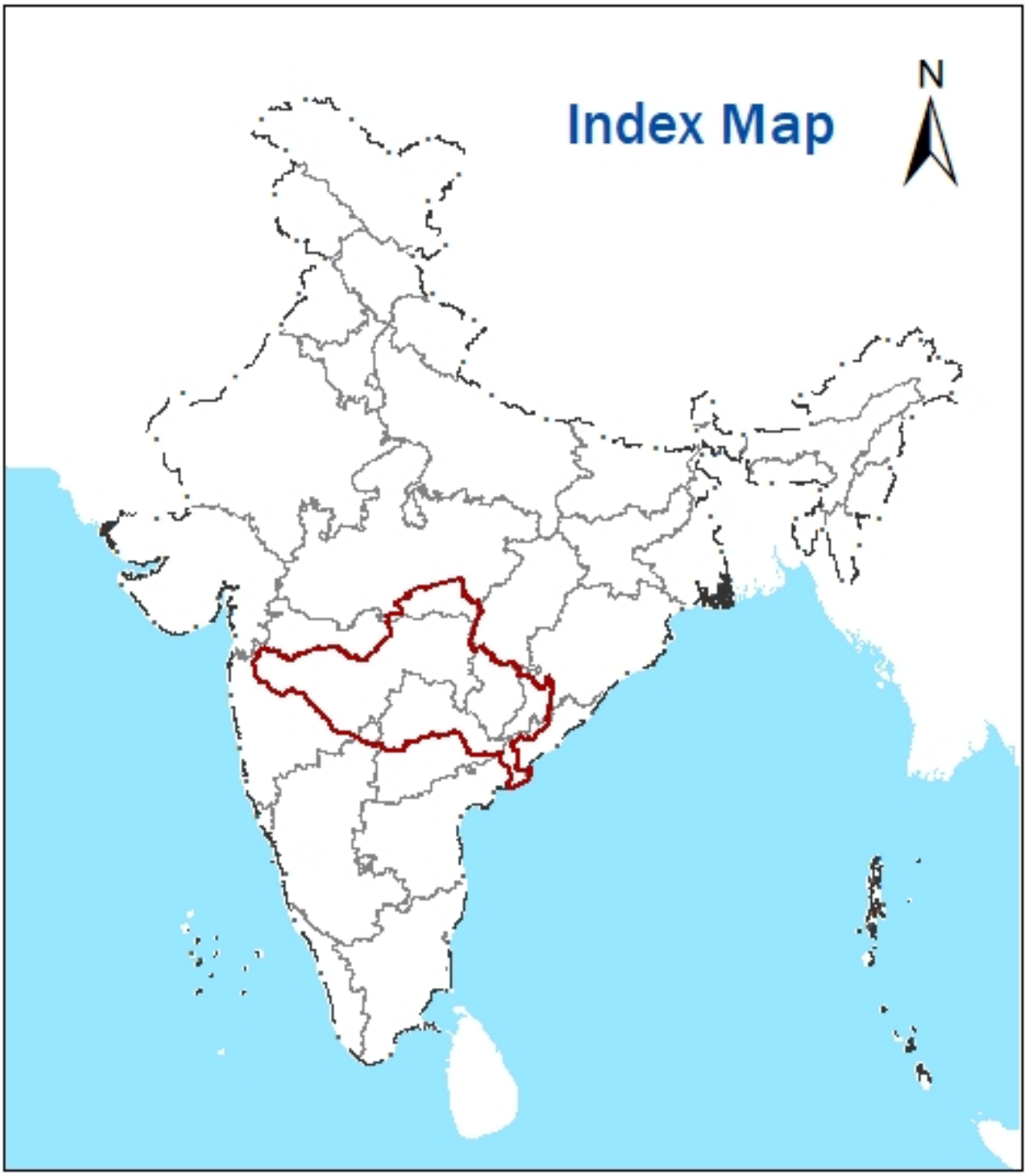
(As on September 2020)

Site Type	No. of Hydrological Observations
G	48
GD	43
GDQ	13
GDS	00
GDSQ	32
GQ	4
SG&Met	17
WQSS	00
Total	**157**

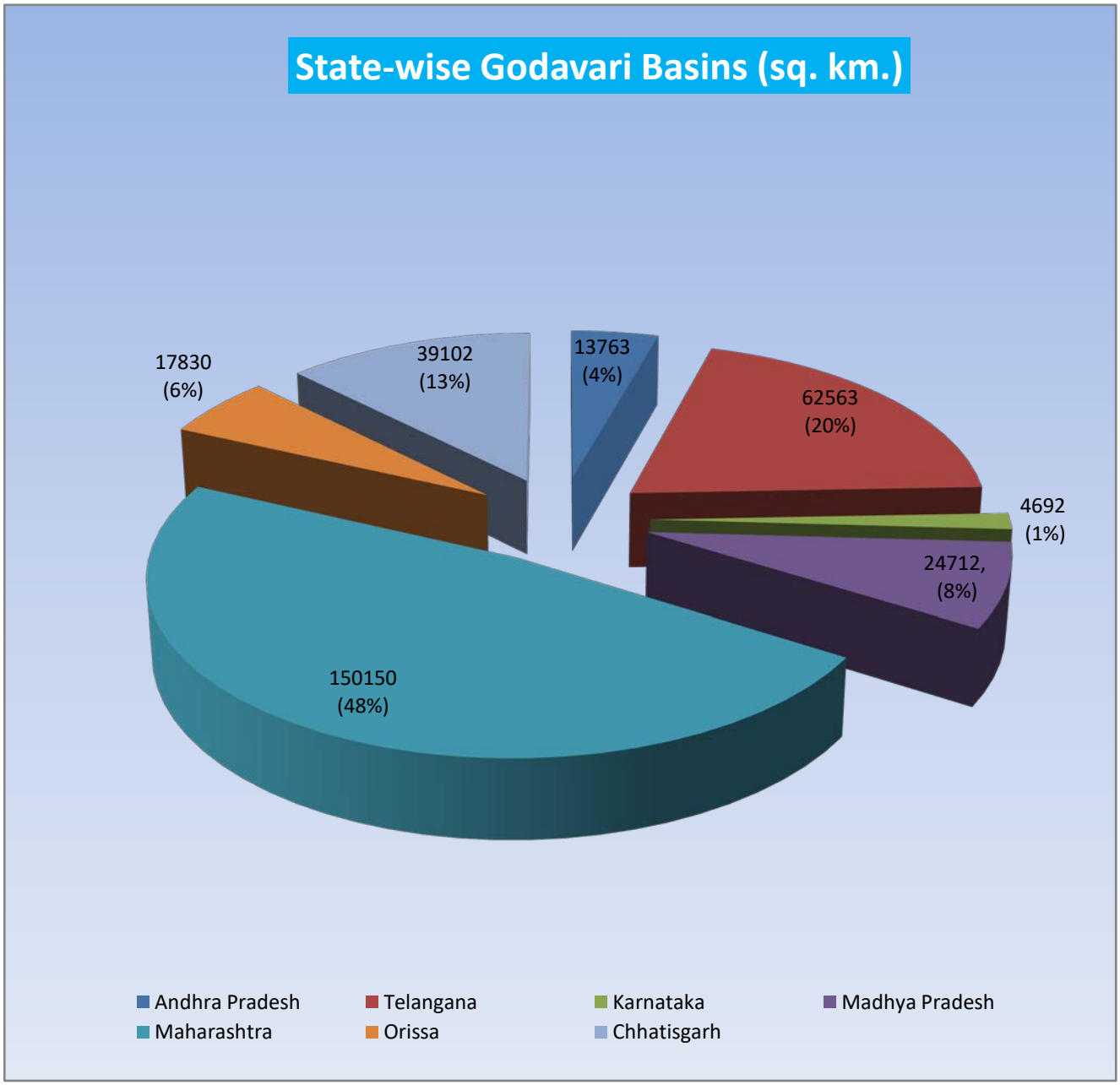
Source:RDC-II, CWC

2.4.3 Peak Water Level: This is a large basin in the area in respect of drainage area. It has 92 historical sites which are maintaining the information on observations in respect of at least two or more types of data: Gauge/Discharge, Sedimentation and Water Quality. Tekra is the oldest site in the basin and established on 15.07.1964 for collecting data on Gauge/ Discharge, Subsequently, the scope has been extended to observe data on sedimentation and water quality. Among all the reported sites, the maximum water level was observed at Kunturla (861.32 metre) site on 20.07.2018 during the reference period 2019-20. The Polavaram site reported the minimum peak water level at 28.02 metres on 16.08.1986 for the same reference period.

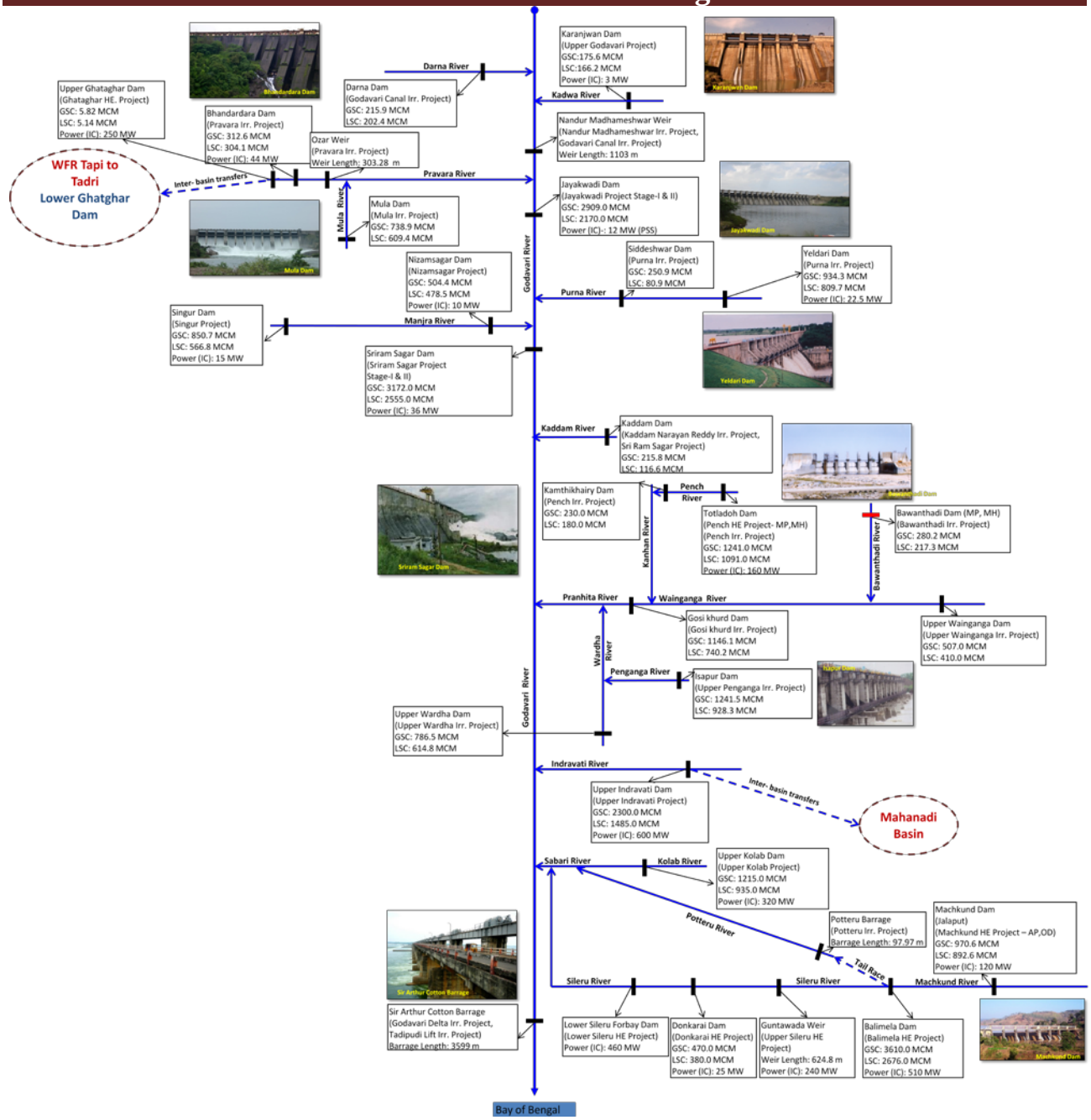
2.4.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for four sites of the Godavari basin (Fig 2.4.1 to Fig 2.4.12).

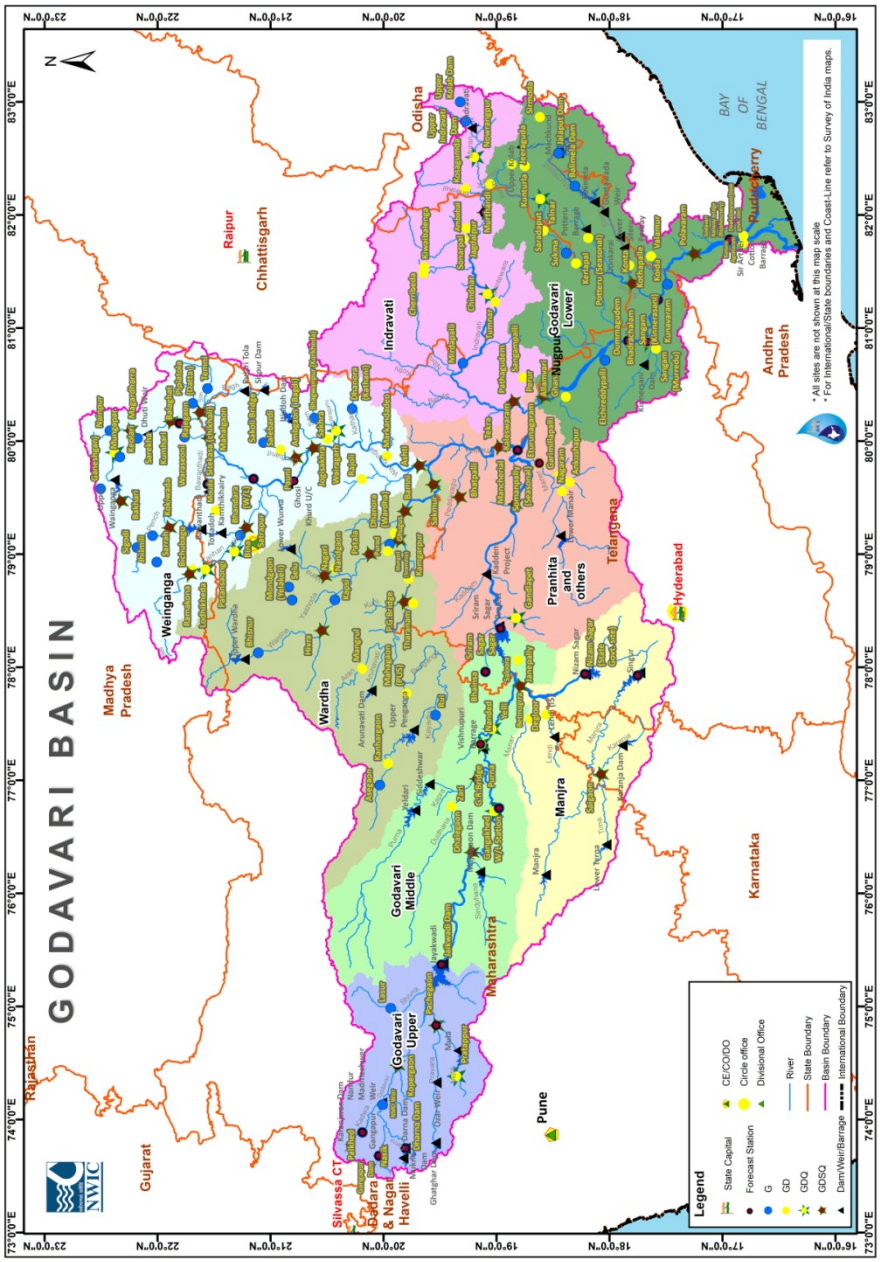


Source:- NWIC, Ministry of Jal Shakti, New Delhi


State-wise Godavari Basins (sq. km.)
17830
(6%)
39102
(13%)
13763
(4%)
62563
(20%)
4692
(1%)
24712,
(8%)
150150
(48%)
Andhra Pradesh
Telangana
Karnataka
Madhya Pradesh
Maharashtra
Orissa
Chhatisgarh

Godavari Riverow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Godavari (Water Quality Parameter : pH)

Fig 2.4.1 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for pH at Godavari Basin

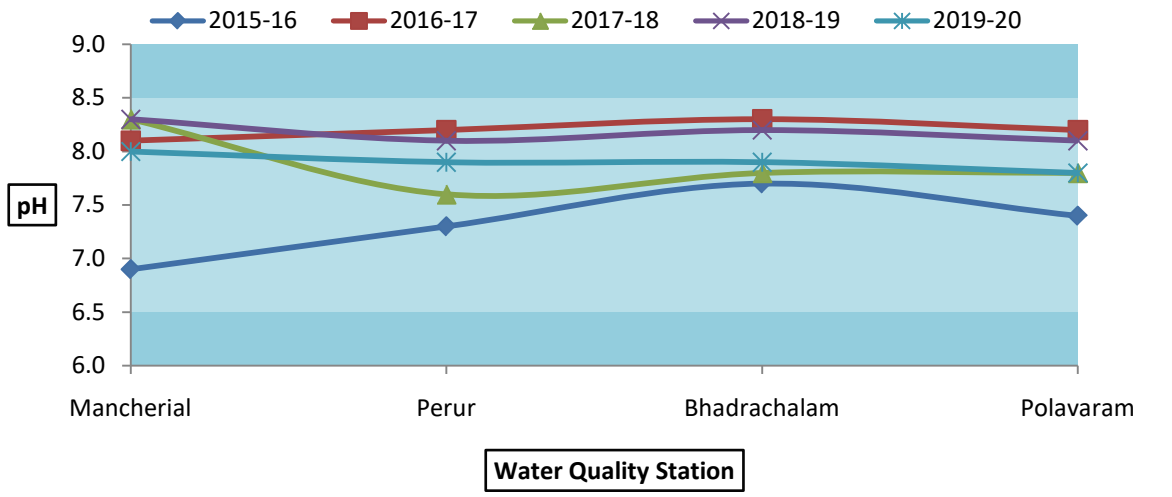


Fig 2.4.2 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for pH at Godavari Basin

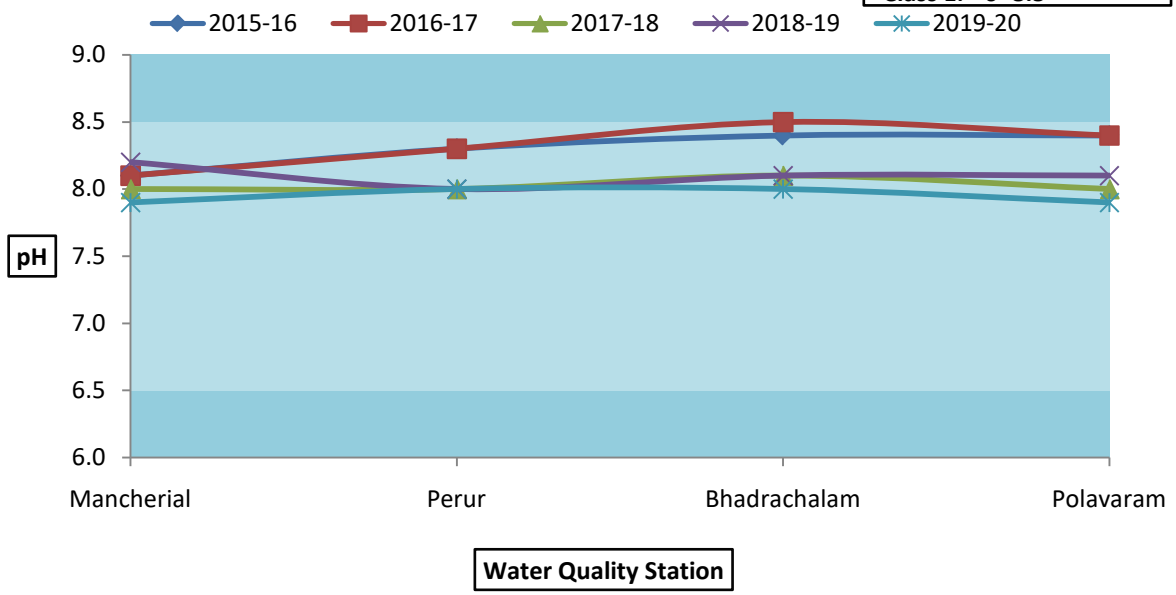
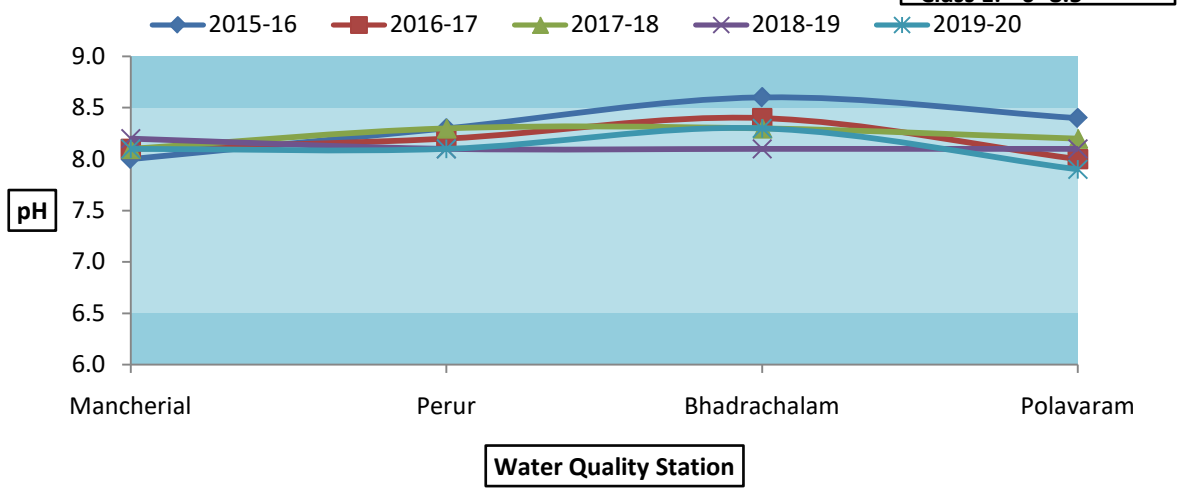


Fig 2.4.3 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer (Mar-May) for pH at Godavari Basin



Basin: Godavari (Water Quality Parameter :Biological Oxygen Demand)

Fig 2.4.4 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for BOD at Godavari Basin

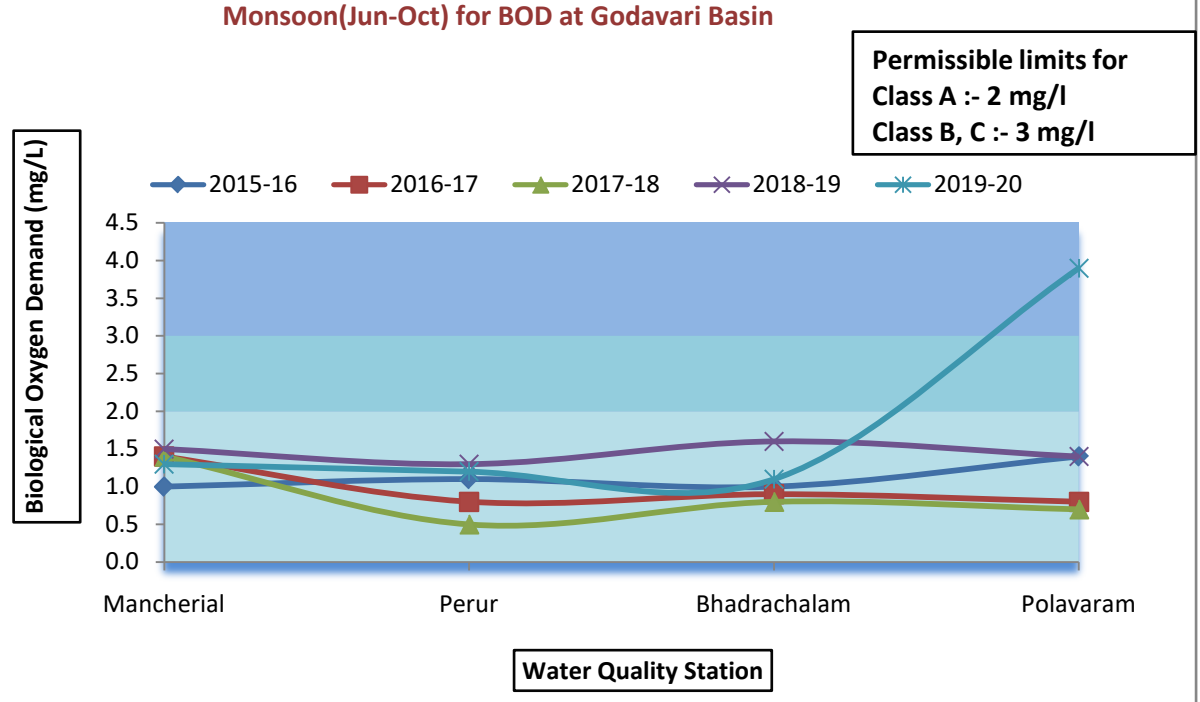


Fig 2.4.5 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for BOD at Godavari Basin

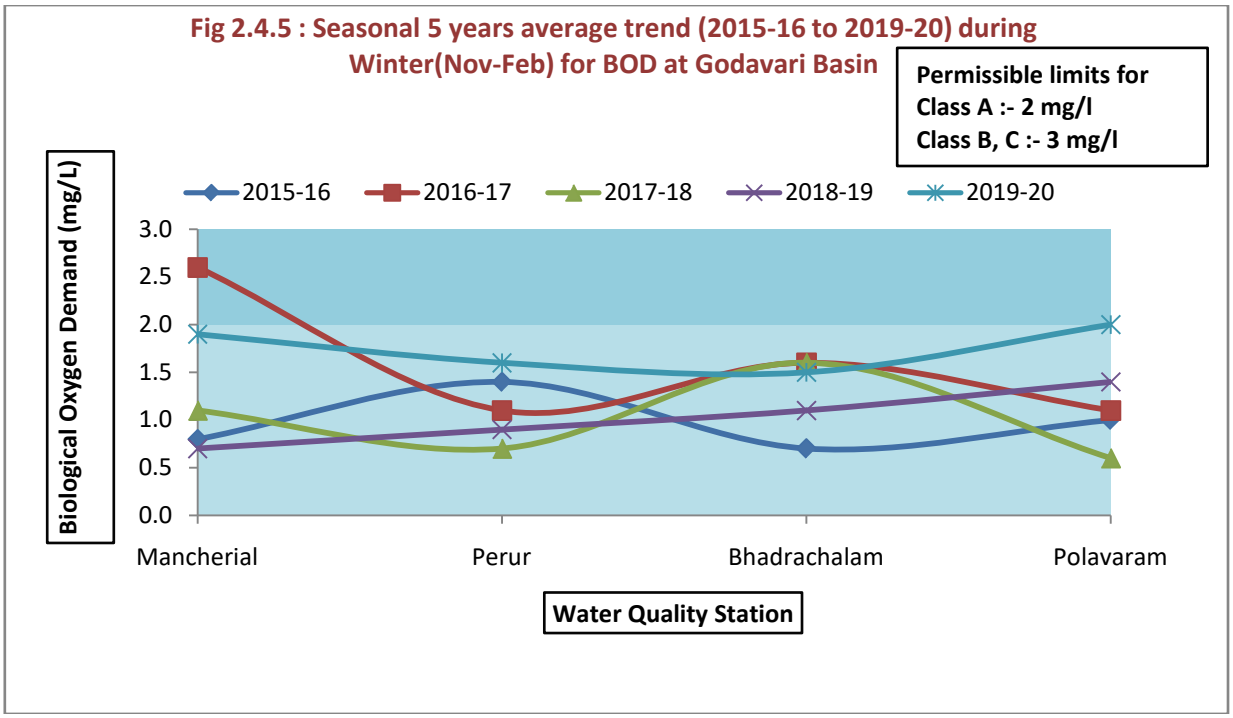
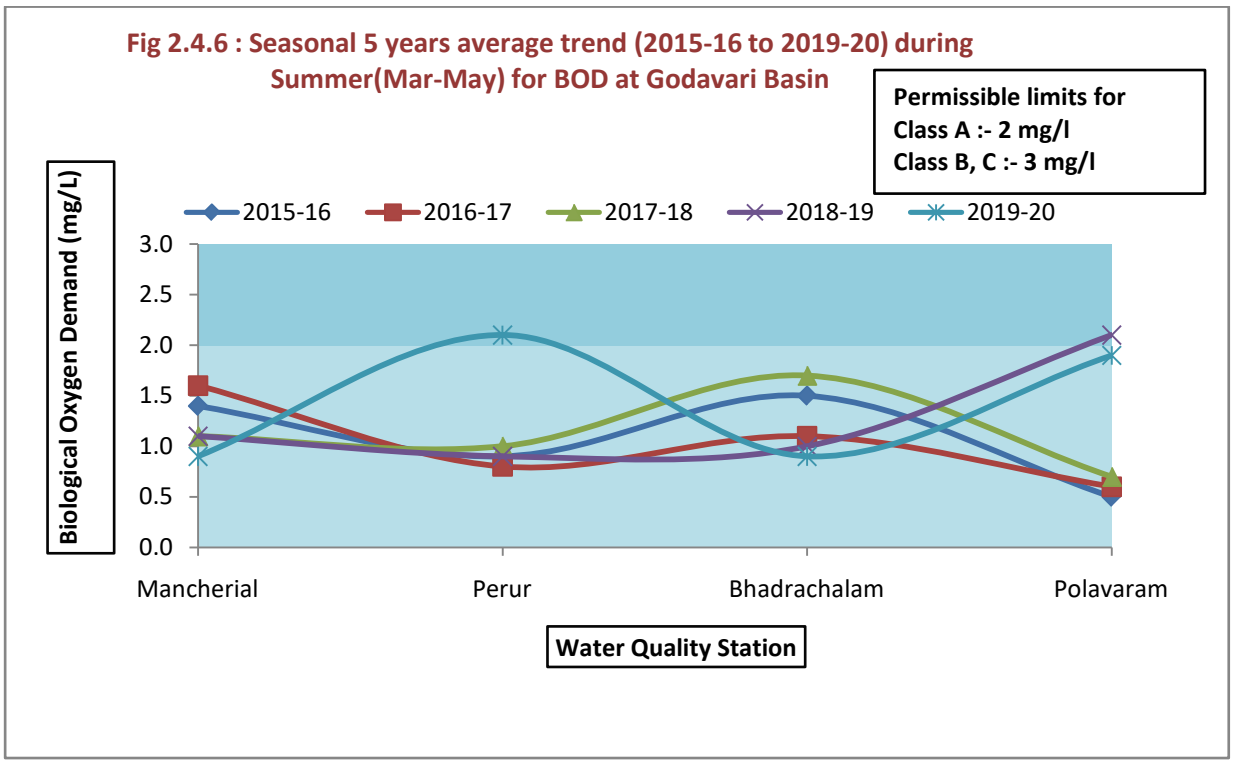


Fig 2.4.6 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for BOD at Godavari Basin



Basin: Godavari (Water Quality Parameter : Dissolved Oxygen)

Fig 2.4.7 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for DO at Godavari Basin

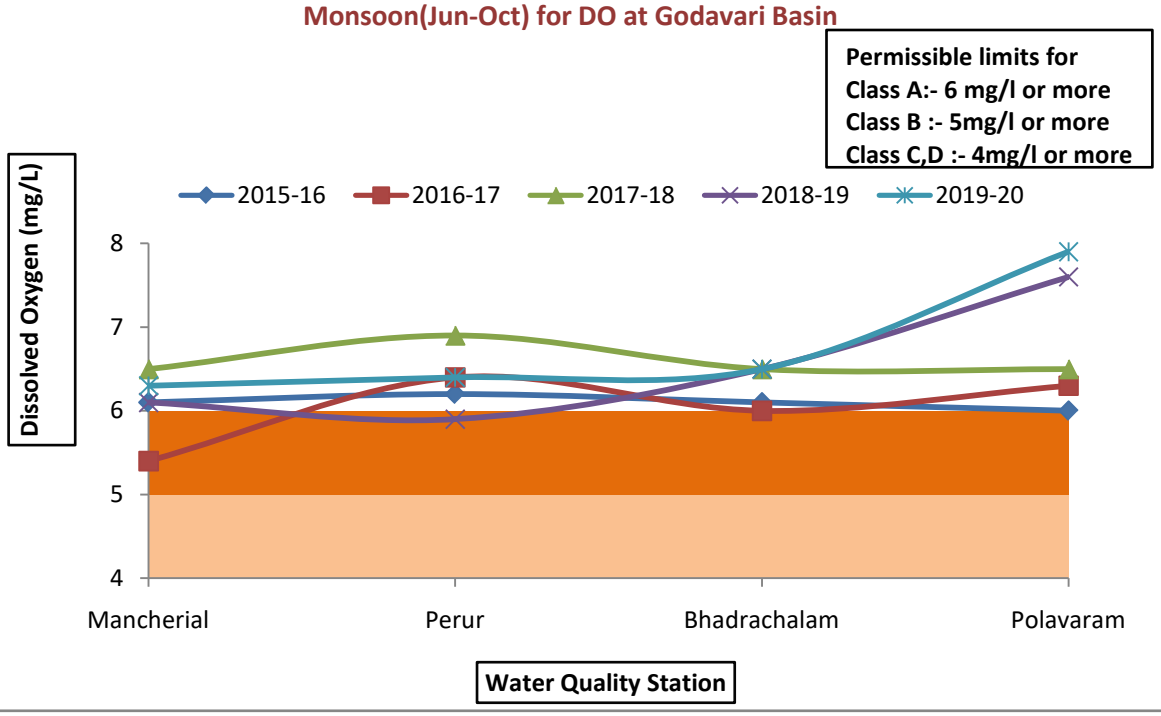


Fig 2.4.8 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for DO at Godavari Basin

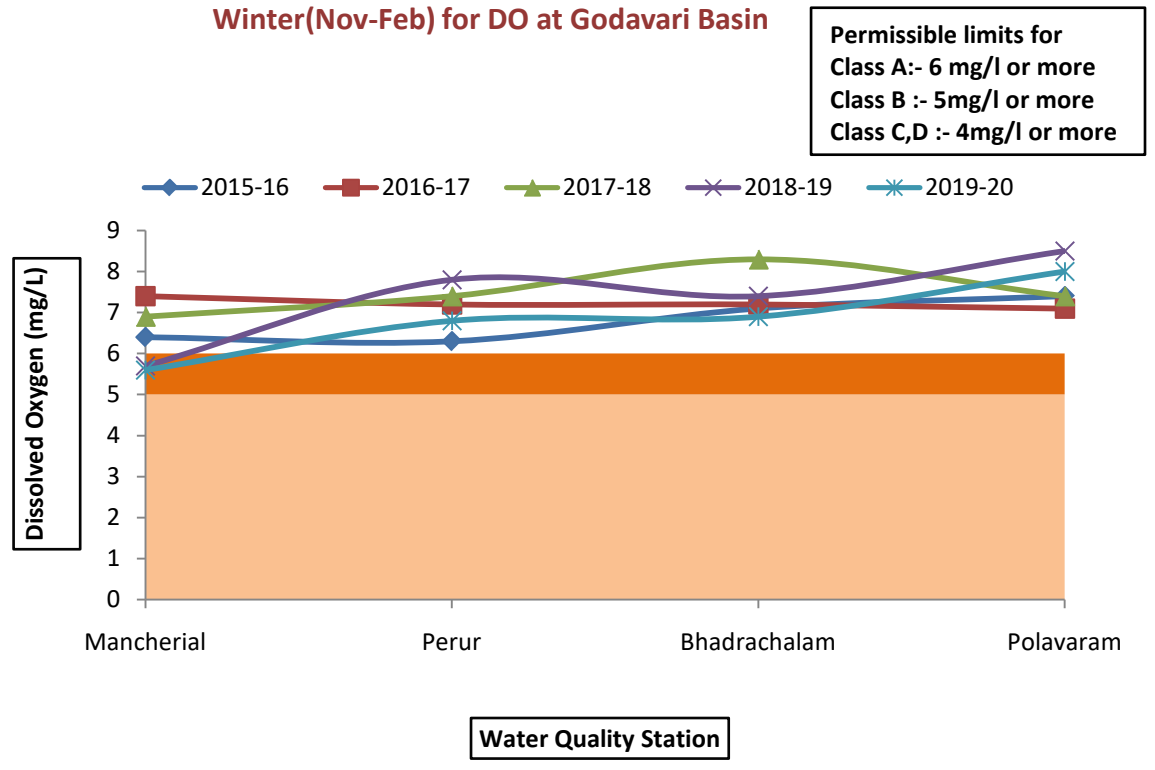
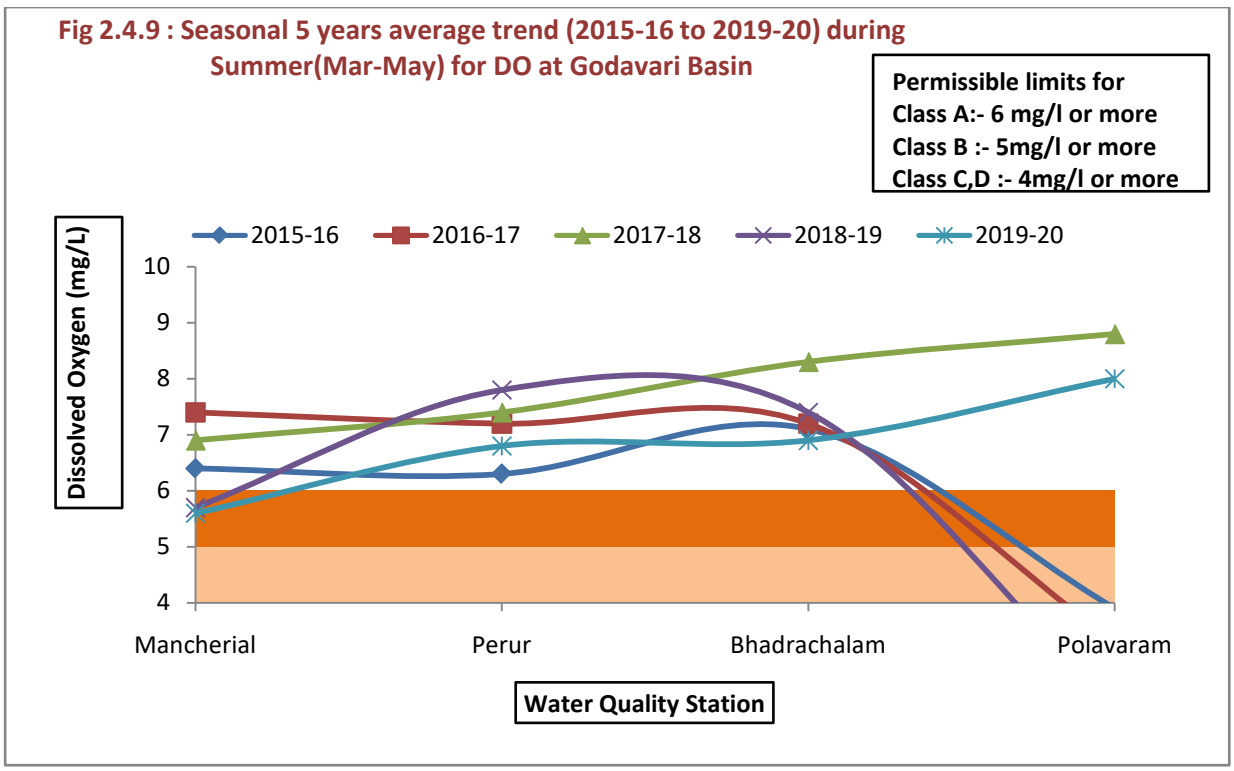


Fig 2.4.9 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for DO at Godavari Basin



Basin: Godavari (Water Quality Parameter :Total Hardness)

Fig 2.4.10 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for Total Hardness at Godavari Basin

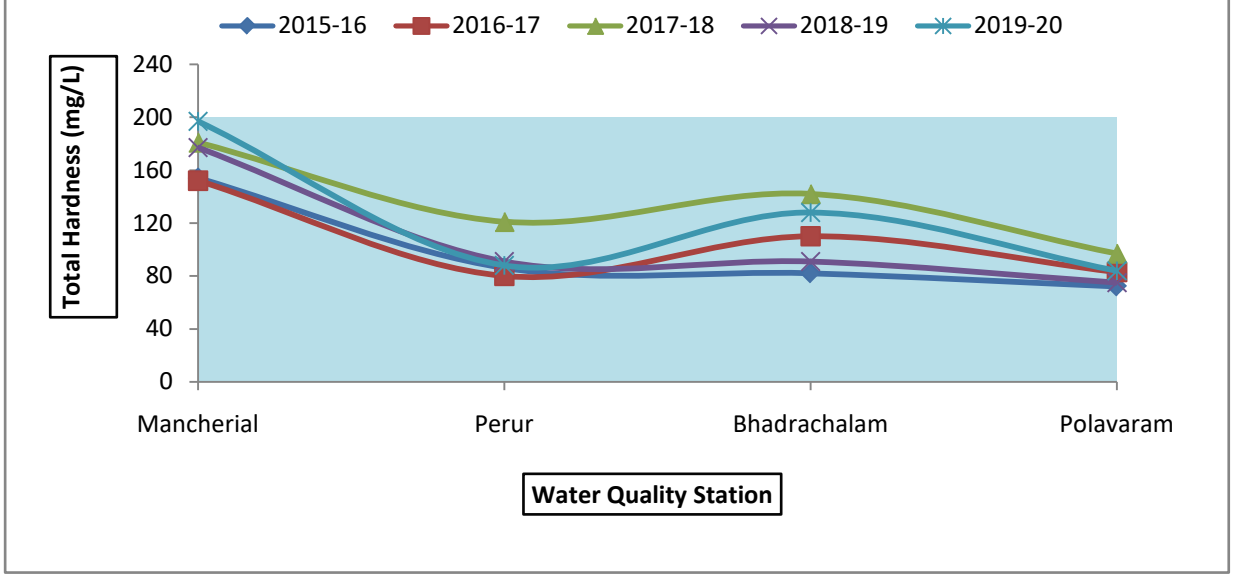


Fig 2.4.11 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for Total Hardness at Godavari Basin

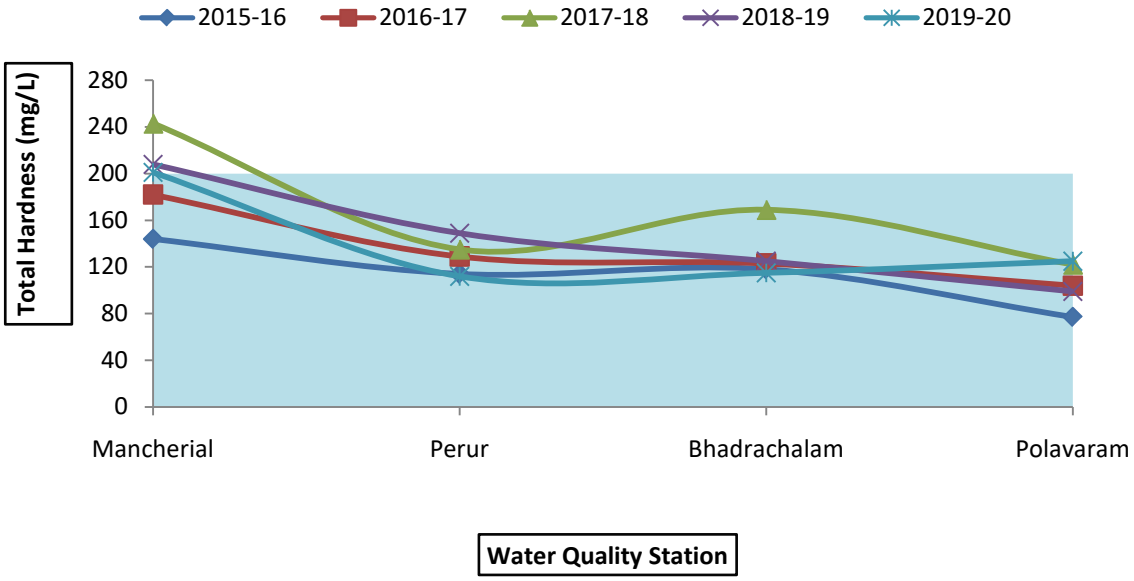


Fig 2.4.12 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer (Mar-May) for Total Hardness at Godavari Basin

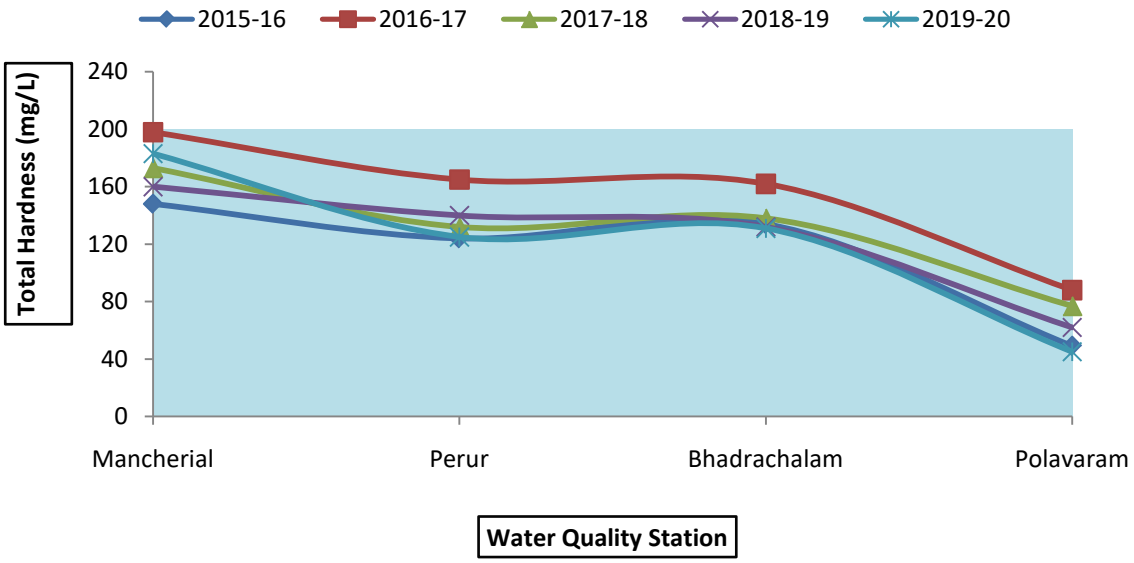
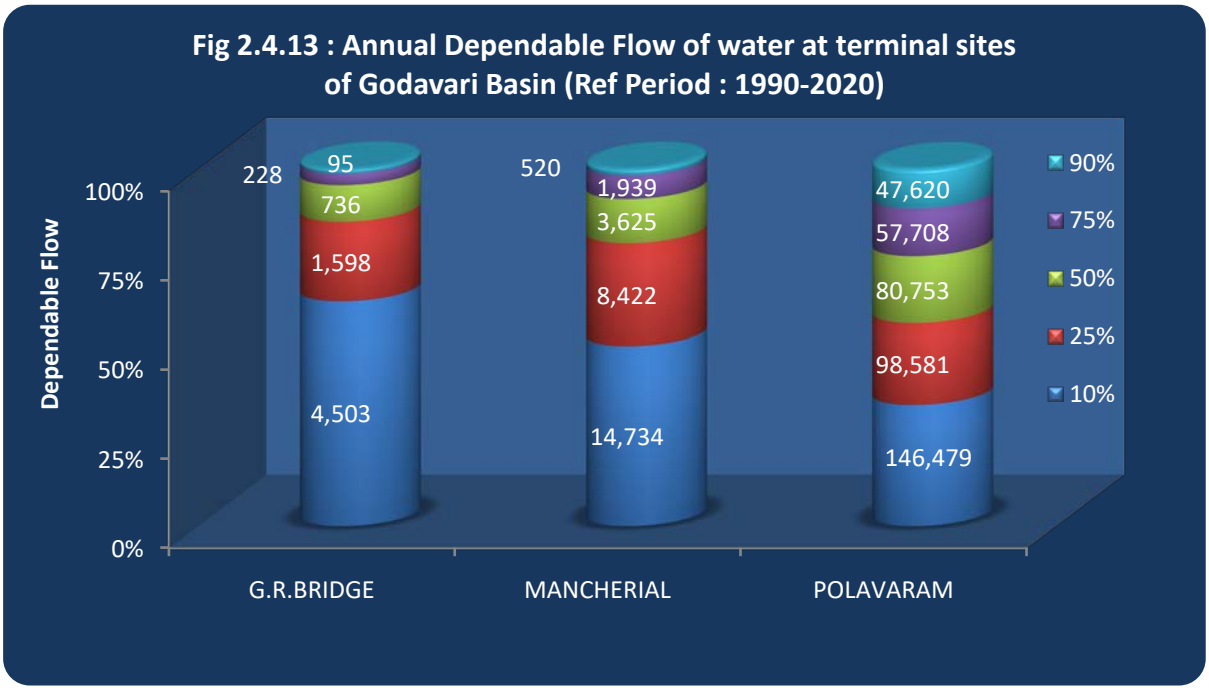


Table 2.4.1: Annual Dependable Flow Of Water at Terminal Sites Of Godavari Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	G.R.BRIDGE	6/1990 to 5/2020	4503.41	1598.26	735.53	228.35	94.85
2	MANCHERIAL		14734.39	8421.74	3624.81	1939.01	519.63
3	POLAVARAM		146479.06	98580.62	80753.13	57707.75	47620.16

Source : SE, Godavari Circle, CWC, Hyderabad, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills Nagpur



2.4.5 Land Use Statistics: Table 2.4.2 to Table 2.4.4 present the land use pattern, gross irrigated area and net irrigated area for the Godavari basin as compared to all basins (Region-III).

TABLE 2.4.2: LAND UTILISATION PATTERN OF GODAVARI AND ALL RIVER BASINS(REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Godavari	99557.10752	38580.76422	11110.01615	7048.890385	7310.953115	35506.48365	10803.39239	46309.87605
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW

TABLE 2.4.3: GROSS AREA IRRIGATED BY SOURCES OF GODAVARI AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Godavari	5914.1572	325.26712	6239.4243	1117.0509	5840.5009	3690.8484	9531.3493	825.85362	17713.678
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW

TABLE 2.4.4: NET AREA IRRIGATED BY SOURCES OF GODAVARI AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Godavari	4314.3849	0	4314.3849	940.3831	4438.1281	3224.7334	7662.8615	1520.8618	14438.491
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW

2.4.6 Urban Centre: Nagpur is the most important urban centre in the basin. Other important towns are Nasik, Aurangabad, Warangal, Rajahmundry, and Nizamabad.

2.4.7 Industries: A small part of the enormous forest wealth of the basin is at present utilized as timber and in the manufacture of paper and other timber products. Industries based on agricultural produce are the processing of agricultural commodities like rice milling, cotton ginning, processing, spinning and weaving, manufacture of sugar, manufacture of textiles, extraction of oil from groundnut and other oil seeds.

2.4.8 Minerals: The Godavari basin has a rich variety of mineral wealth spread over vast areas. The principal minerals found are bauxite, manganese, iron ore, Corundum and coal. Other minerals like lead, zinc, and corundum are also found in different parts of the basin.

2.5 KRISHNA BASIN

Location: The Krishna basin extends over an area of 2,58,948 Sq km out of which 26.4% is in Maharashtra, 43.8% is in Karnataka and 29.8% falls in erstwhile Andhra Pradesh. The basin lies between east longitudes $73^0$17' to 81^0 9' and north latitudes $13^0$10' to 19^0 22' in the Deccan plateau. The Krishna rises in the Western Ghats at an altitude of 1337 metre just north of Mahabaleshwar, about 64 km from the Arabian Sea and flows from west to east through the States of Maharashtra, Karnataka and erstwhile Andhra Pradesh to join the Bay of Bengal. The total length of the river from the sources to its outfall in the sea is about 1,401 km of which 612 km are in erstwhile Andhra Pradesh, 306 km in Maharashtra and 483 km in Karnataka. Together with its tributaries, the river drains about 708 km of the Western Ghats, which is its chief source of supply. The Ghataprabha, the Malaprabha, the Bhima, the Tungabhadra, Munneru and Musi are the principal tributaries. The Krishna basins' predominant land use is agriculture.

The Krishna basin is bounded in the north by the ridge separating it from the Godavari basin in the south and in the east by the Eastern Ghats and in the west by the Western Ghats. The basin is roughly triangular in shape with its base along the Western Ghats, the apex at Vijayawada and the Krishna itself forming the median. All the major tributaries draining the base of the triangle fall into the river in the upper two-thirds of its length.

The Krishna river rises in the Western Ghats at an altitude of 1337 metres just north of Mahabaleswar, about 64 km. from the Arabian Sea and flows from west to east through the States of Maharashtra, Karnataka and erstwhile Andhra Pradesh before it joins the Bay of Bengal downstream of Vijayawada.

There are about 16 major tributaries which join river Krishna along its 1400 km. course, out of which six are right to bank tributaries and seven are left bank tributaries. Among the major tributaries, the Ghataprabha, the Malaprabha and the Tunga Bhadra are the principal right bank tributaries which together account for 35.45% of the total catchment whereas the Bhima, the Musi and the Munneru are the principal left bank tributaries which together account for 35.62% of the total catchment area.

The average annual rainfall in the Krishna basin is 750 mm. The South West Monsoon sets in by the middle of June and withdraws by the middle of October. About 90% of annual rainfall is received during the Monsoon months, of which more than 70% occurs during July, August and September.

Though few major projects like Krishna delta were in existence prior to independence, planned development of water resources of Krishna basin took place after independence. The completed important major projects in Krishna basin are Koyna and Ujjani projects in Maharashtra state.

2.5.1 Irrigation projects: Radhanagari,Ghod, Almatti Dam, Khadakwasla, Vir Dam, Koyna, Tungabhadra, Bhadra, Musi Project, Nagarjuna Sagar, Srisailam, P.D.Jurala and Prakasam Barrage are the major projects in the catchment areas of the river basin.

2.5.2 Hydrological Observation Sites: As per 2019-20 data, there are 90 Hydrological Observation Stations in the basin, the details of which are given below:

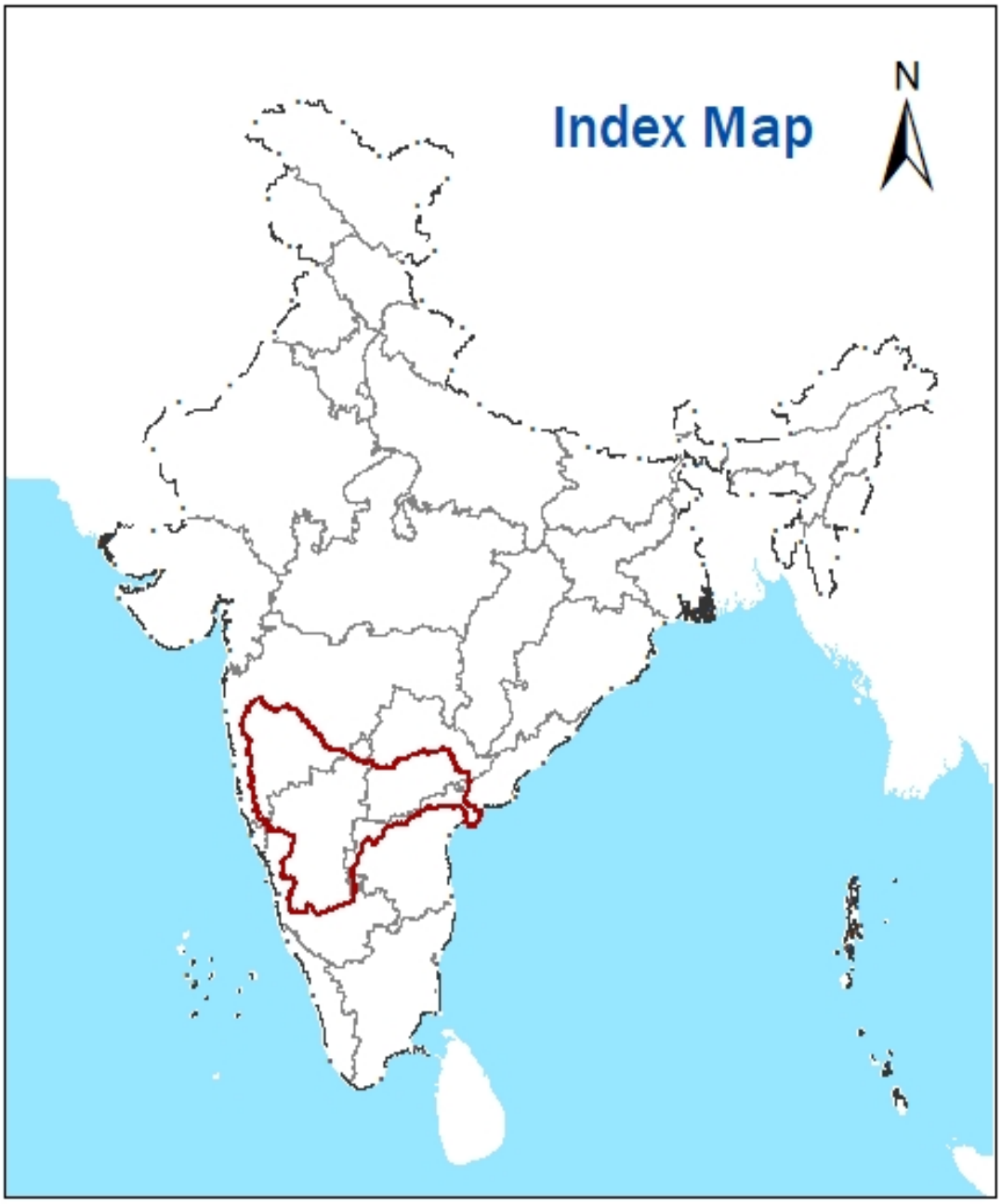
(As on September 2020)

Site Type	No. of Hydrological Observations
G	14
GD	14
GDQ	12
GDS	00
GDSQ	29
GQ	03
SG&Met	18
WQSS	00
Total	**90**

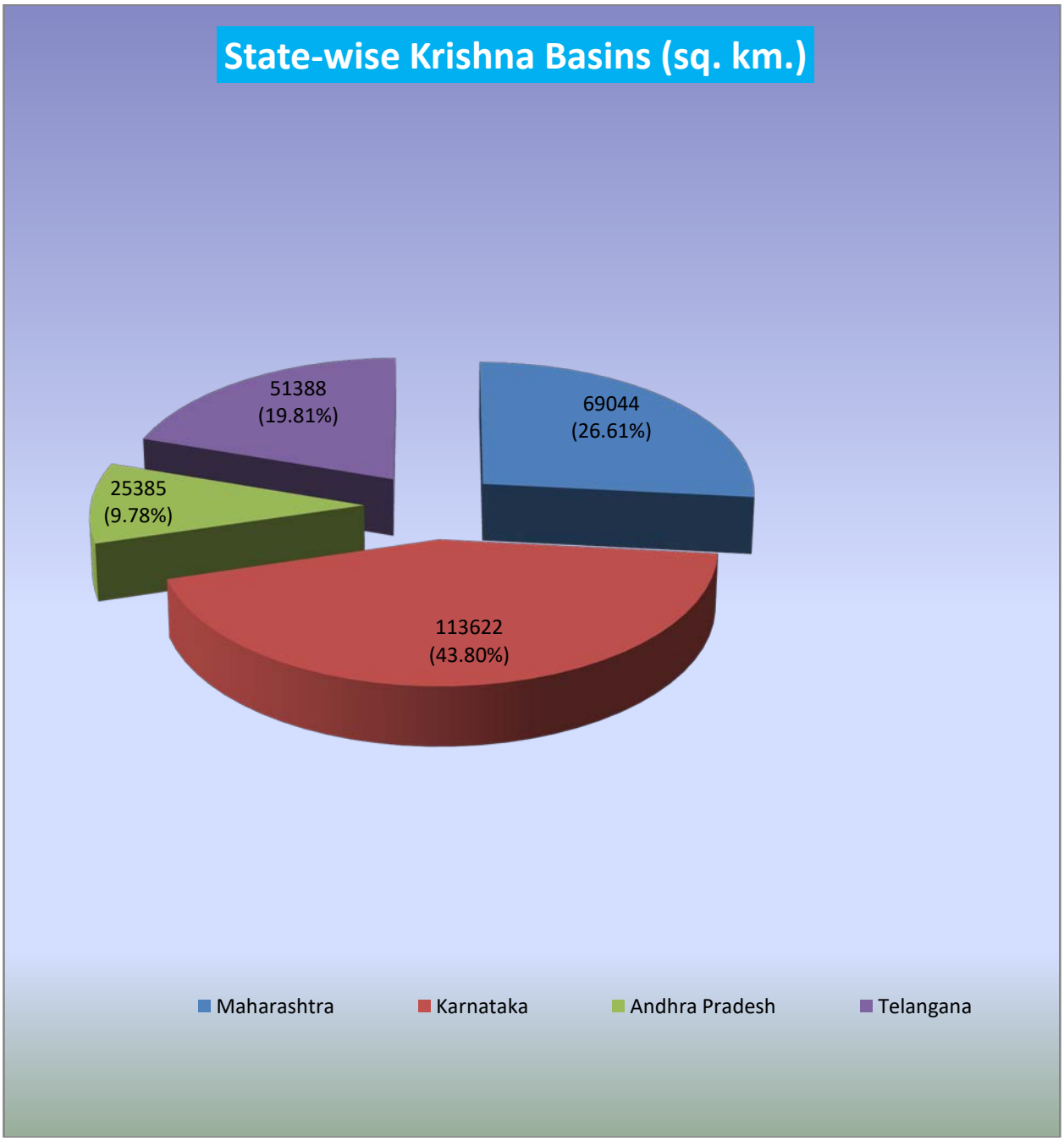
Source:RDC-II, CWC

2.5.3 Peak Water Level: It has 55 sites in all for hydrological observations. Among these sites, peak water level varied from 18.19 metre (as on 07-08-1967) at Vijaywada site (minimum) to 650.25 metres (as on 13-11-2010) at Kellodu site (maximum) during the reference period 2019-20.

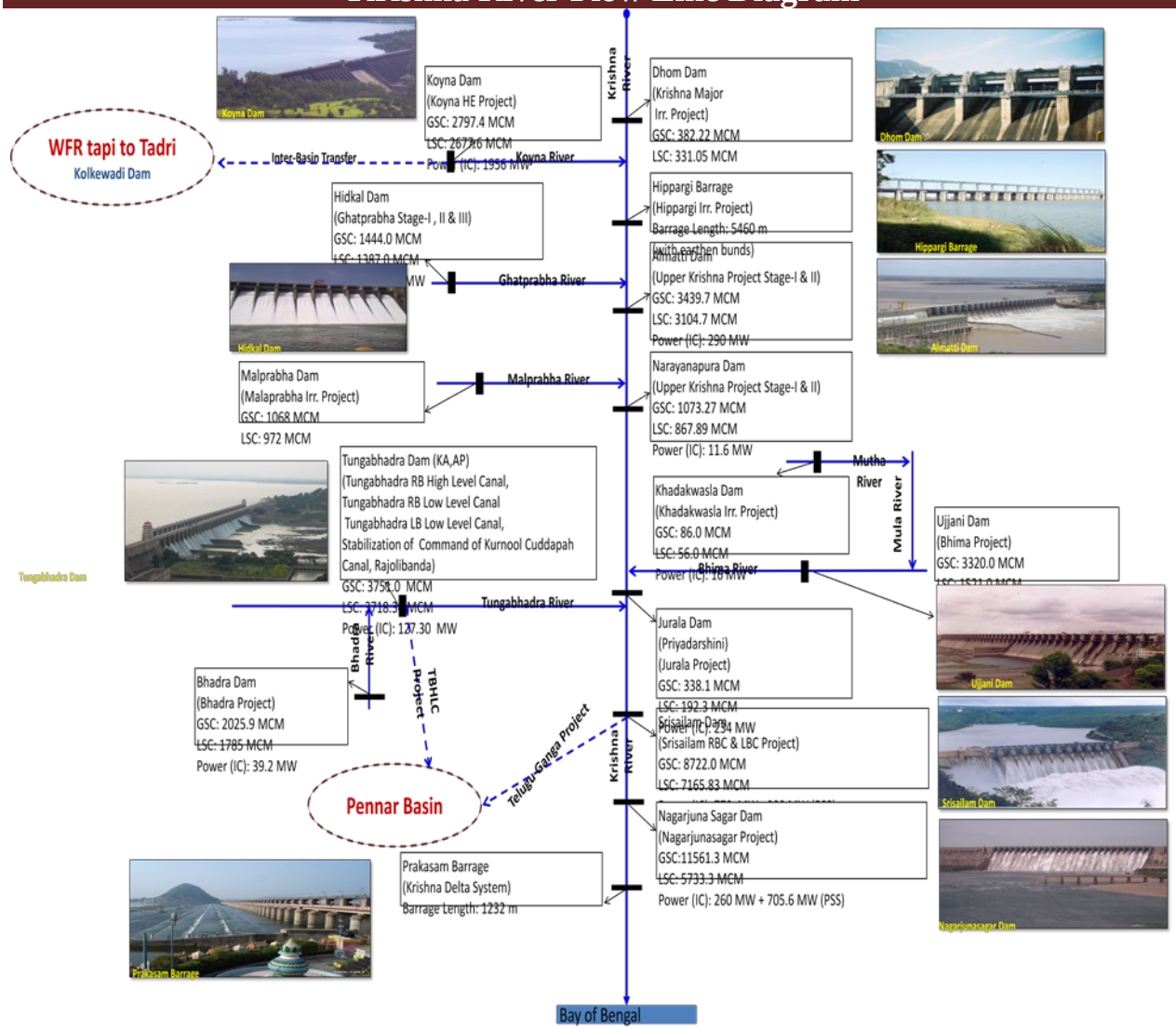
2.5.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for five sites of Krishna basin (Fig 2.5.1 to Fig 2.5.8).

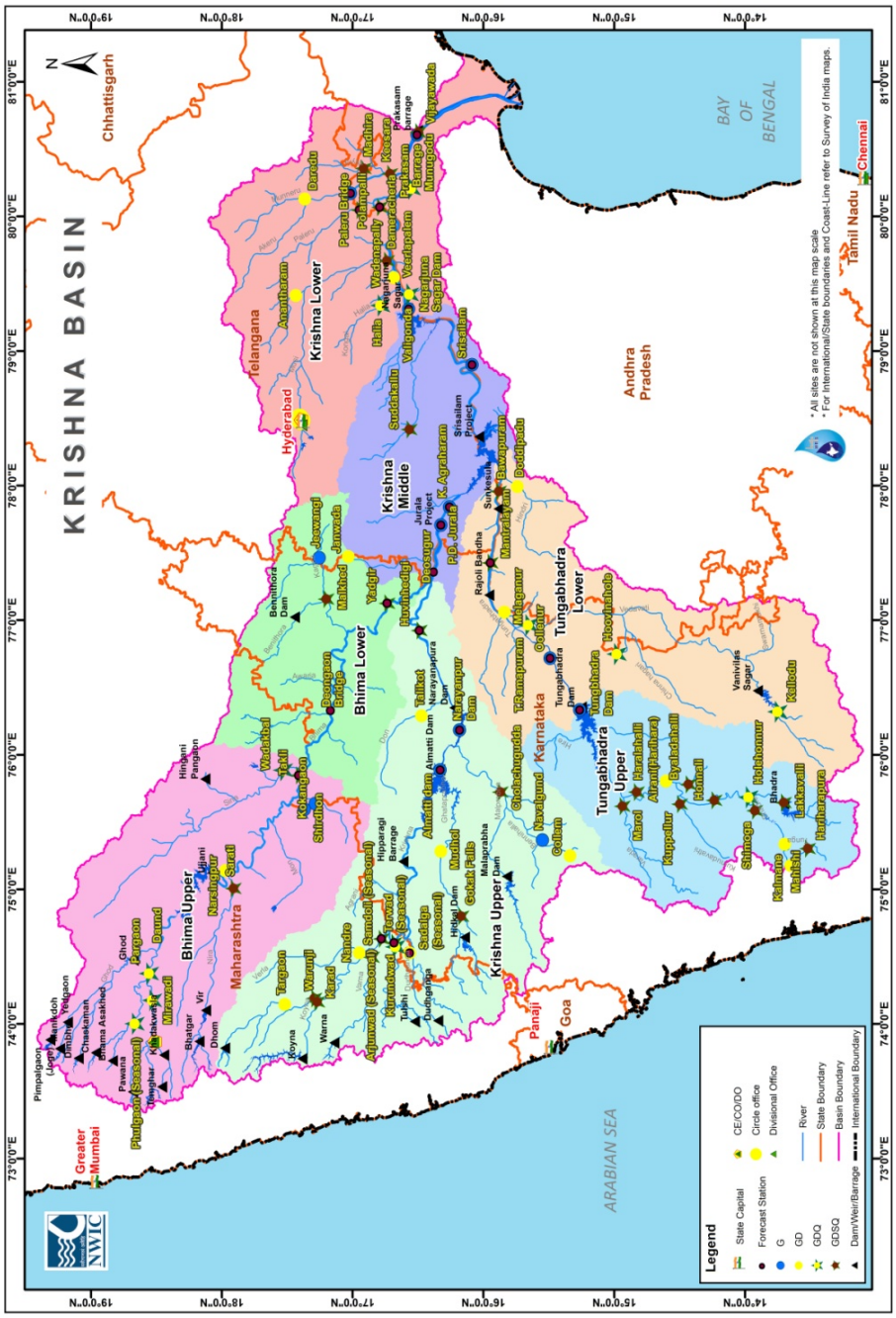


Source:- NWIC, Ministry of Jal Shakti, New Delhi


State-wise Krishna Basins (sq. km.)
51388
(19.81%)
69044
(26.61%)
25385
(9.78%)
113622
(43.80%)
Maharashtra
Karnataka
Andhra Pradesh
Telangana

Krishna River Flow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Basin: Krishna (Water Quality Parameter : pH)

Fig 2.5.1 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for pH at Krishna Basin

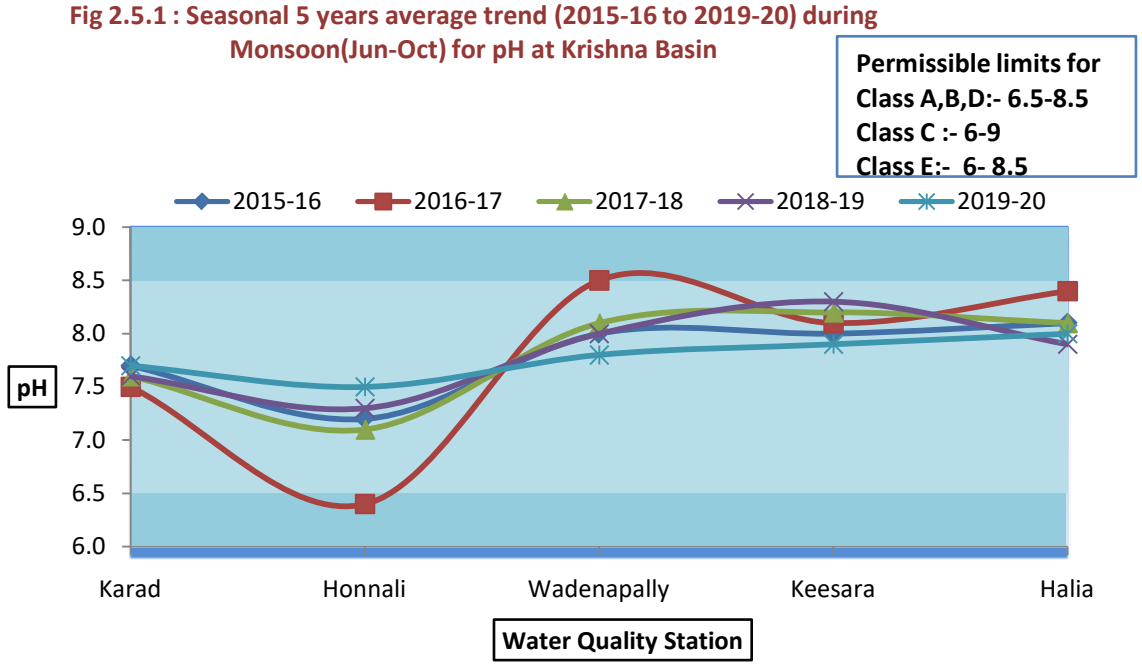
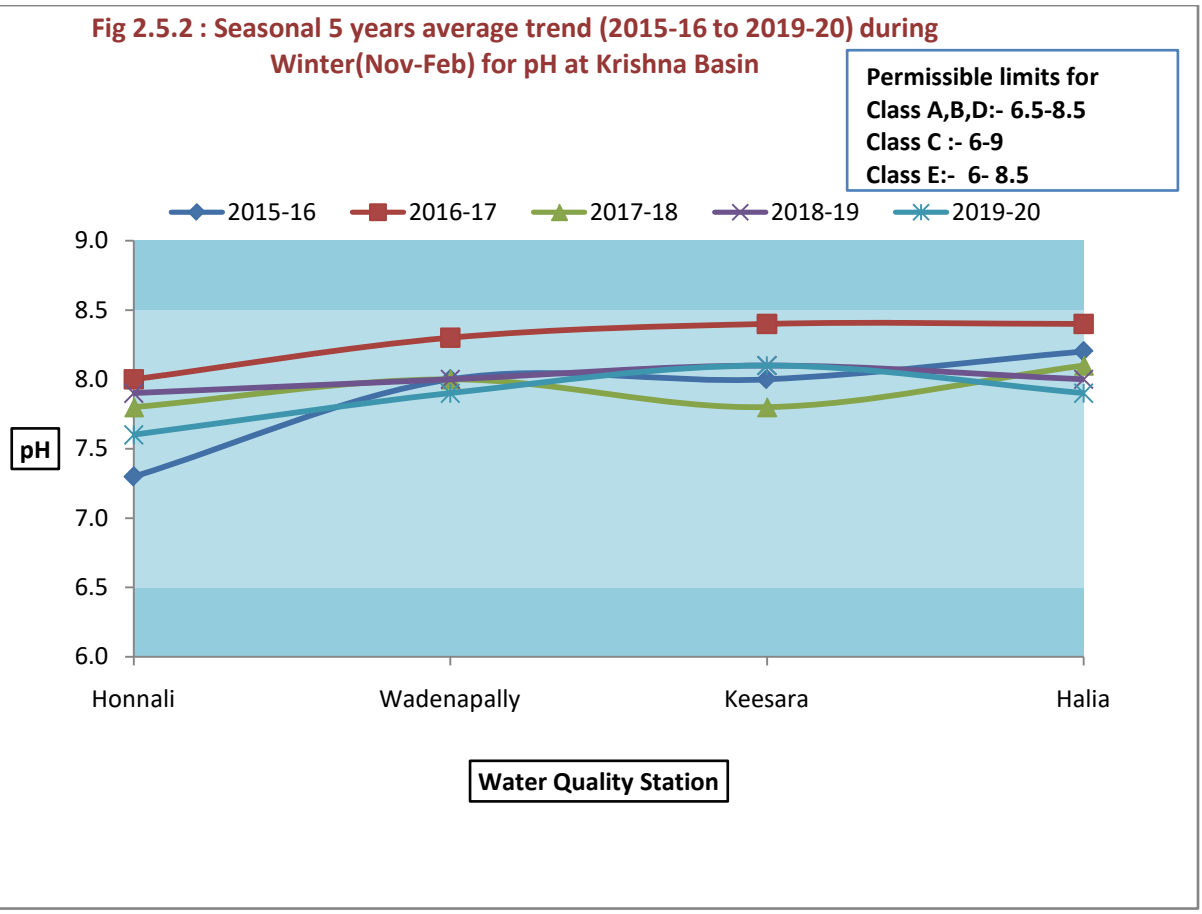


Fig 2.5.2 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for pH at Krishna Basin



Basin: Krishna (Water Quality Parameter : Biological Oxygen Demand)

Fig 2.5.3 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for BOD at Krishna Basin

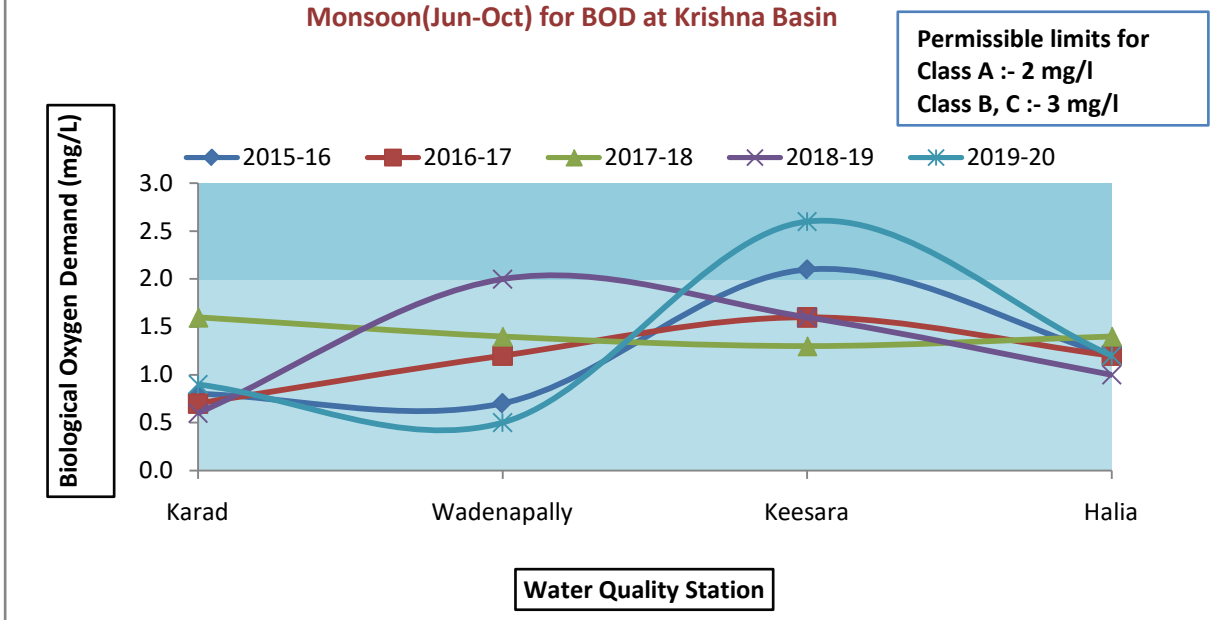
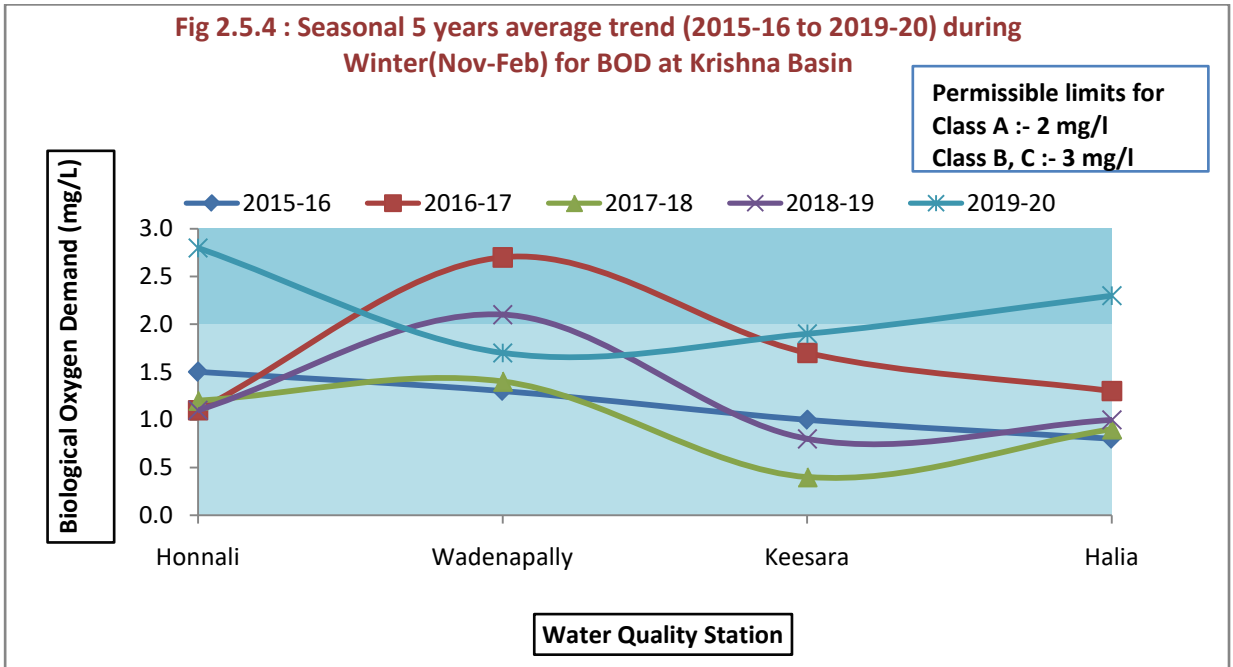


Fig 2.5.4 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for BOD at Krishna Basin



Basin: Krishna (Water Quality Parameter : Dissolved Oxygen)

Fig 2.5.5 : Seasonal 5 years average trend (2015-16to 2019-20) during Monsoon(Jun-Oct) for DO at Krishna Basin

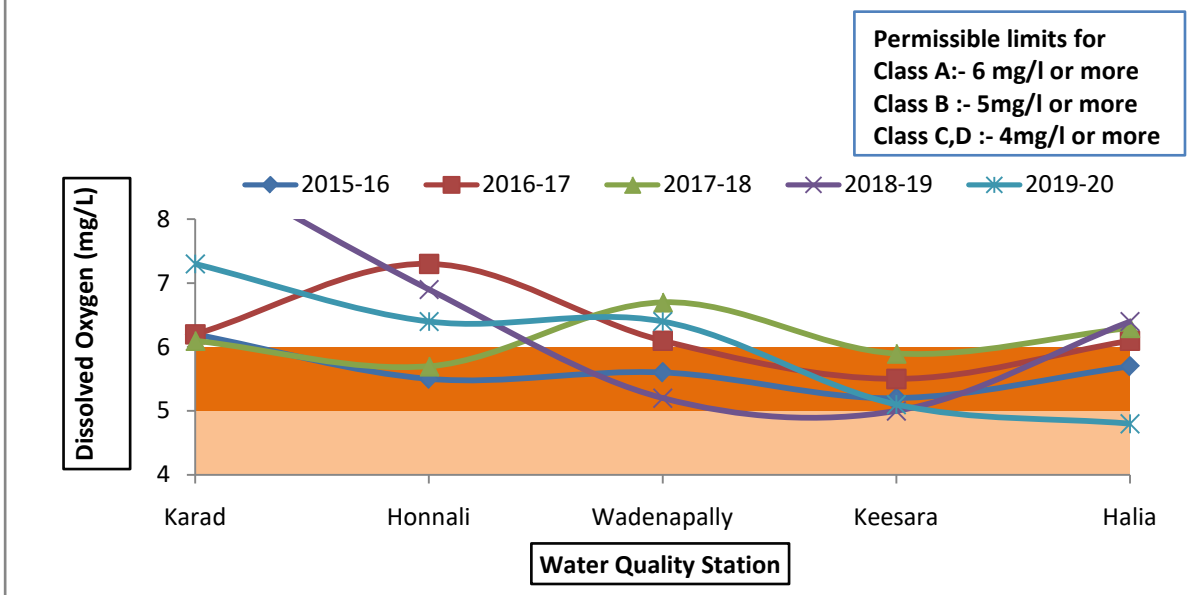
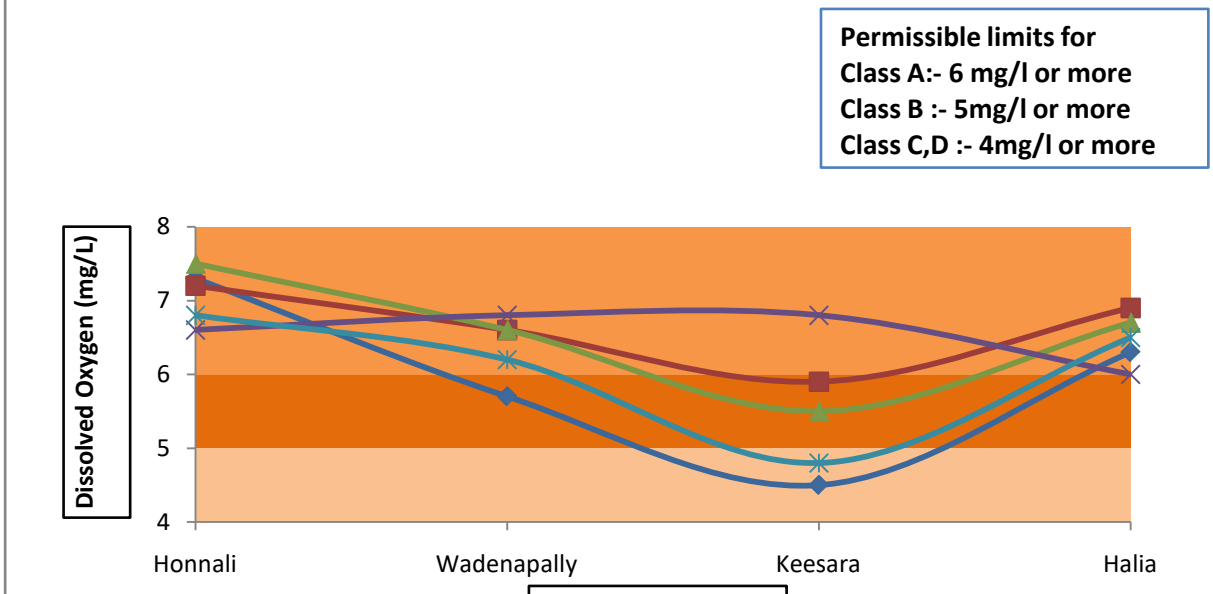


Fig 2.5.6 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for DO at Krishna Basin



Basin: Krishna (Water Quality Parameter : Total Hardness)

Fig 2.5.7 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for Total Hardness at Krishna Basin

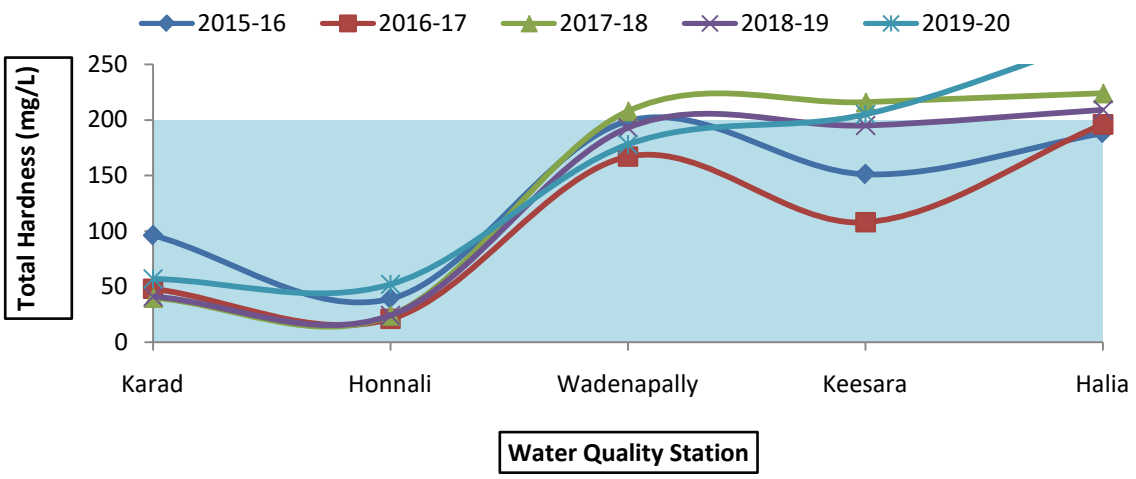


Fig 2.5.8 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter (Nov-Feb) for Total Hardness at Krishna Basin

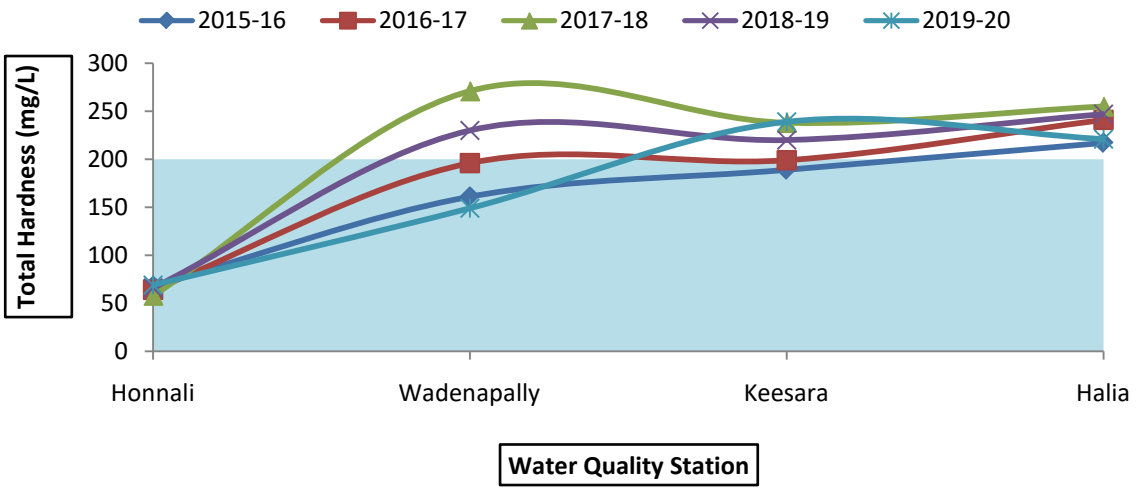
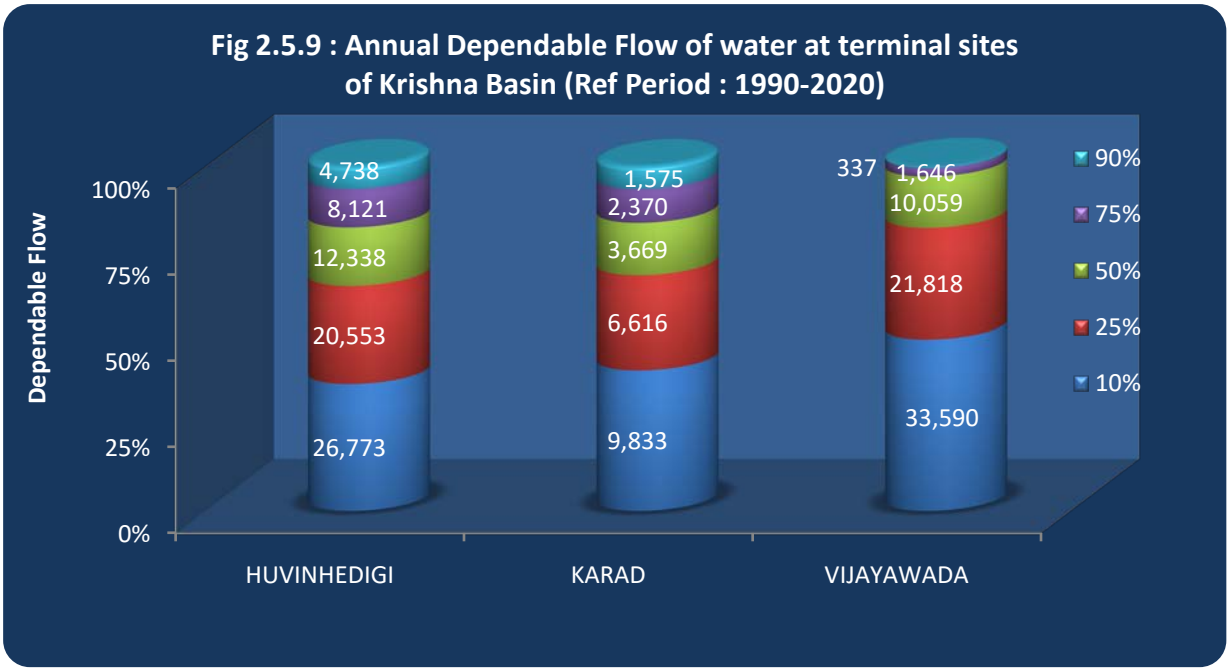


Table 2.5.1: Annual Dependable Flow of Water at Terminal Sites of Krishna Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	HUVINHEDIGI	6/1990 to 5/2020	26772.730	20553.285	12338.094	8121.119	4738.315
2	KARAD		9832.889	6615.615	3668.943	2370.112	1574.994
3	VIJAYAWADA		33589.832	21817.566	10058.549	1645.870	336.839

Source : SE, Godavari Circle, Central Water Commission, Hyderabad, Krishna Basin



2.5.5 Land Use Statistics: Table 2.5.2 to Table 2.5.4 present the land use pattern, gross irrigated area and net irrigated area for Krishna basin as compared to all basins (Region-III).

TABLE 2.5.2: LAND UTILISATION PATTERN OF KRISHNA AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Krishna	158448.08	17345.46	18722.02	9044.58	21974.59	91361.44	19486.77	110848.20
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.5.3: GROSS AREA IRRIGATED BY SOURCES OF KRISHNA AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Krishna	12587.735	0	12587.735	1259.0521	17169.124	3741.5242	20910.649	4217.9423	38975.378
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.5.4: NET AREA IRRIGATED BY SOURCES OF KRISHNA AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Krishna	10860.724	0	10860.724	1003.5407	14262.998	2462.7736	16725.771	3573.9985	32164.035
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

2.5.6 Urban Centres: The major cities in the basin are Pune, Hyderabad &Vjayawada.

2.5.7 Industries: The main industries in the catchment are Textiles, Sugar, Chemical, Cement factories, Automobiles, Engineering goods, Nuclear energy-related.

2.5.8 Minerals: The important minerals found in the catchment are gold, bauxite, lime stone, iron ore, manganese ore, quartz, copper, red oxide, soapstone, etc.

2.6 CAUVERY BASIN

Location: The Cauvery river originates at Talakaveri in Coorg District of Karnataka in Brahmagiri Range of hills in the Western Ghats at an elevation of 1,541 metres and drains a total of 81,155 Sqkm area of which 34,273 Sq km lies in Karnataka, 43,856 sq km in Tamil Nadu, 2,866 sq km in Kerala and 160 sq km in the Union Territory of Puducherry. The basin lies between east longitudes $75^0$30' to 79^0 45' and north latitudes 10^0 5' to 13^0 30'. The Cauvery basin is bounded by Tungabhadra sub-basin of Krishna basin in the northern side and Palar sub-basin in the southern side. The Western Ghats form the western boundary. The Nilgiris, an offshore of Western Ghats, extend eastwards to the Eastern Ghats and divide the basin into two natural and political regions i.e. Karnataka plateau in the north and the Tamil Nadu plateau in the south. In Tamil Nadu, the eastern part of the basin is in the elevation range of 0 to 150 metre sloping gently up from the sea.

At Shivanasamudram, the river branches off into two parts and falls through a height of 91 metres. in a series of falls and rapids. The falls at this point is utilised for power generation. The power station at Shivanasamudram was built as early as 1902. The two branches of the river join after the fall and flow through a wide gorge and continues its journey and forms the boundary between Karnataka and Tamil Nadu States for a distance of 64 kms. At Hogennekkal Falls, it takes southernly direction and enters the Mettur Reservoir, which was constructed in 1934. A tributary called Bhavani joins Cauvery on the right bank about 45 kms below MetturReservoir, thereafter it takes easternly course to enter the plains of Tamil Nadu. Two more tributaries Noyyal and Amaravathi join on the right bank and here the river widens with sandy bed and flows as "Akhanda Cauvery".

Immediately after crossing Tiruchirappalli district, the river divides into two parts, the northern branch is called "The Coleron" and the southern branch remains as Cauvery and from here the Cauvery Delta begins. After flowing for about 16 kms, the two branches join again to form "Srirangam Island". On the Cauvery branch lies the“GrandAnicut” said to have been constructed by a Chola King in 2^{nd}Century AD. Below the Grand Anicut, the Cauvery branch splits into two, Cauvery and Vennar. These branches divide and sub-divide into small branches and form a network all over the delta.

The total length of the river from the origin to its outfall into the sea is 800 kms of which 320 kms is in Karnataka, 416 kms in Tamil Nadu and 64 kms forms the common border between the Karnataka and Tamil Nadu states. The Cauvery basin is fan shaped in Karnataka and leaf shaped in Tamil Nadu. The run-off does not drain off quickly because of its shape and therefore no fast rising floods occur in the basin. In the Cauvery basin, four distinct seasons occur viz. (i) Cold weather, (ii) Hot weather, (iii) South West Monsoon and (iv) North-East Monsoon. The basin is mainly influenced by South-West Monsoon in Karnataka & Kerala and North-East Monsoon in Tamil Nadu.

The Cauvery river system consists of 21 principal tributaries each with a catchment area exceeding 250 sq km. The largest of all of them is the Catchment Area Shimsha, lying wholly in Karnataka, the Amaravathi rising in Kerala but lying mostly in Tamil Nadu and the Kabini rising in both Kerala and Tamil Nadu but lying mostly in Karnataka. The Bhavani is the fourth largest and the second longest. It rises in Kerala and Karnataka but lies mostly in Tamil Nadu. The longest tributary, the Hemavathi (245 kms) is the fifth largest river in the catchment area and lies wholly in Karnataka. From the point of view of flow contribution to

the system, apart from the head reach of the Cauvery main, the most important tributaries are i) the Hemavathi, ii) the Kabini and iii) the Bhavani.

2.6.1 Irrigation Projects: Krishna Raja Sagar Dam, Bhavani Sagar Dam, Hemavathi Dam, Grand Anicut, Lower Coleroon Anicut, Kabini Dam, Harangi Dam and Mettur Dam are the major projects in the catchment areas of the river basin.

2.6.2 Hydrological Observation (H.O.) Sites: There are 54 H.O. sites in the basin, the details of which are given as below:

(As on September 2020)

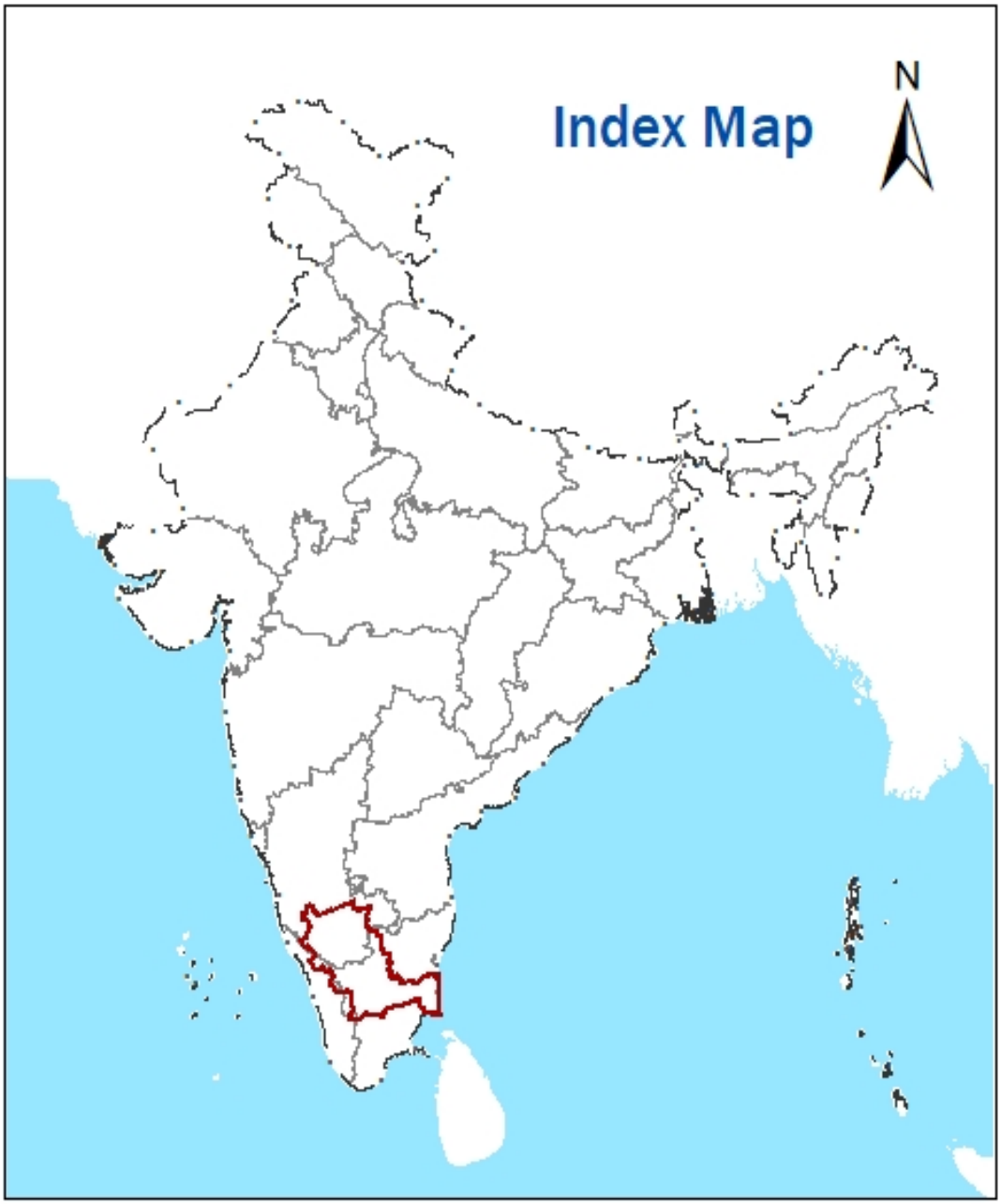
Site Type	No. of Hydrological Observations
G	00
GD	13
GDQ	17
GDS	00
GDSQ	24
GQ	00
SG&Met	00
WQSS	00
Total	**54**

Source:RDC-II, CWC

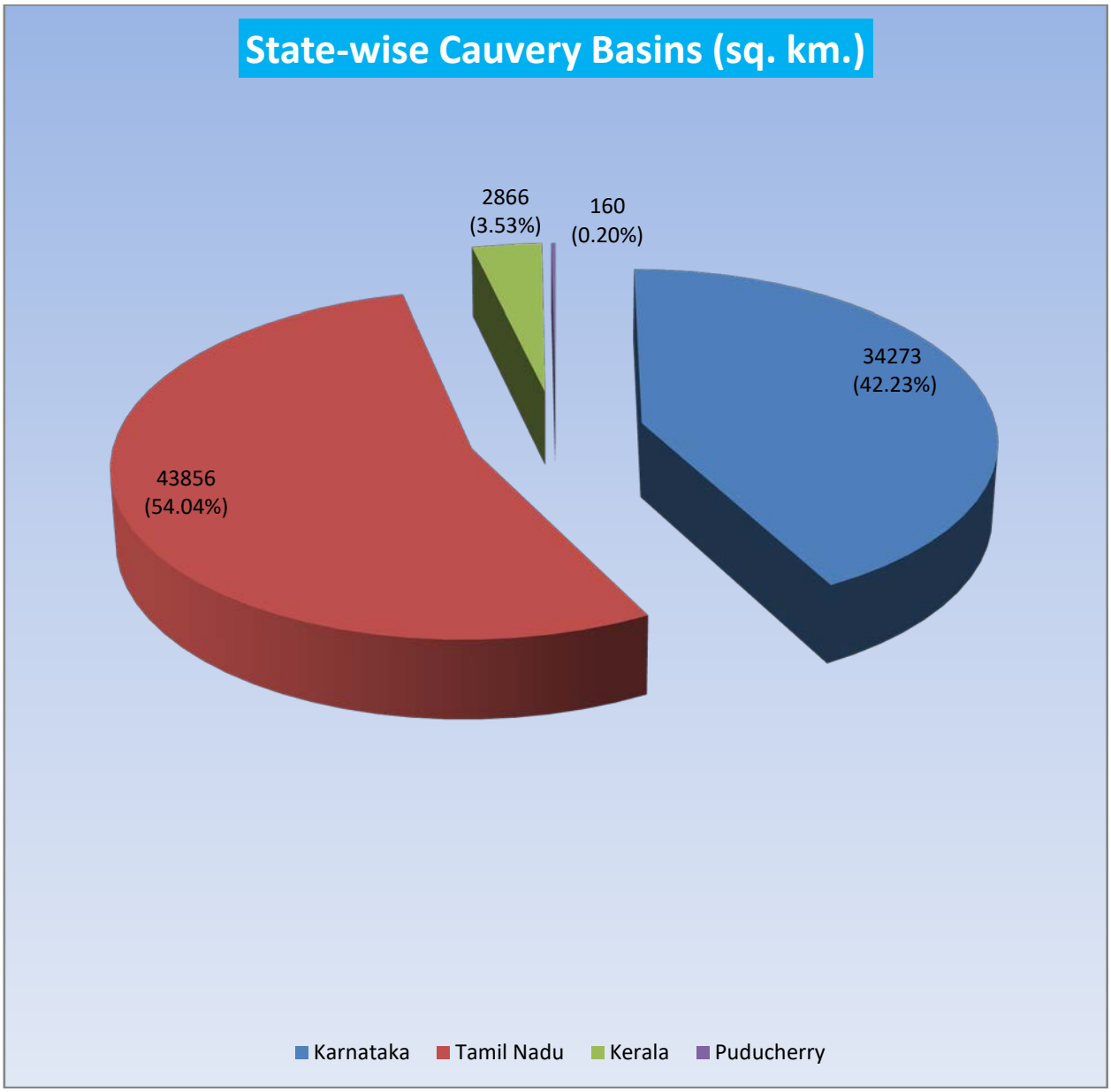
2.6.3 Peak Water level: In the Cauvery basin, it is remarkable to note that four sites i.e. MH Halli, Thimmanahalli, Sakleshpur and Kudige out of 54 reported sites have registered peak water level above 800 metres.The peak water level was 992.02 at Jannapura as on 02-11-2018.

2.6.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for four sites of the Cauvery basin (Fig 2.6.1 to Fig 2.6.12).

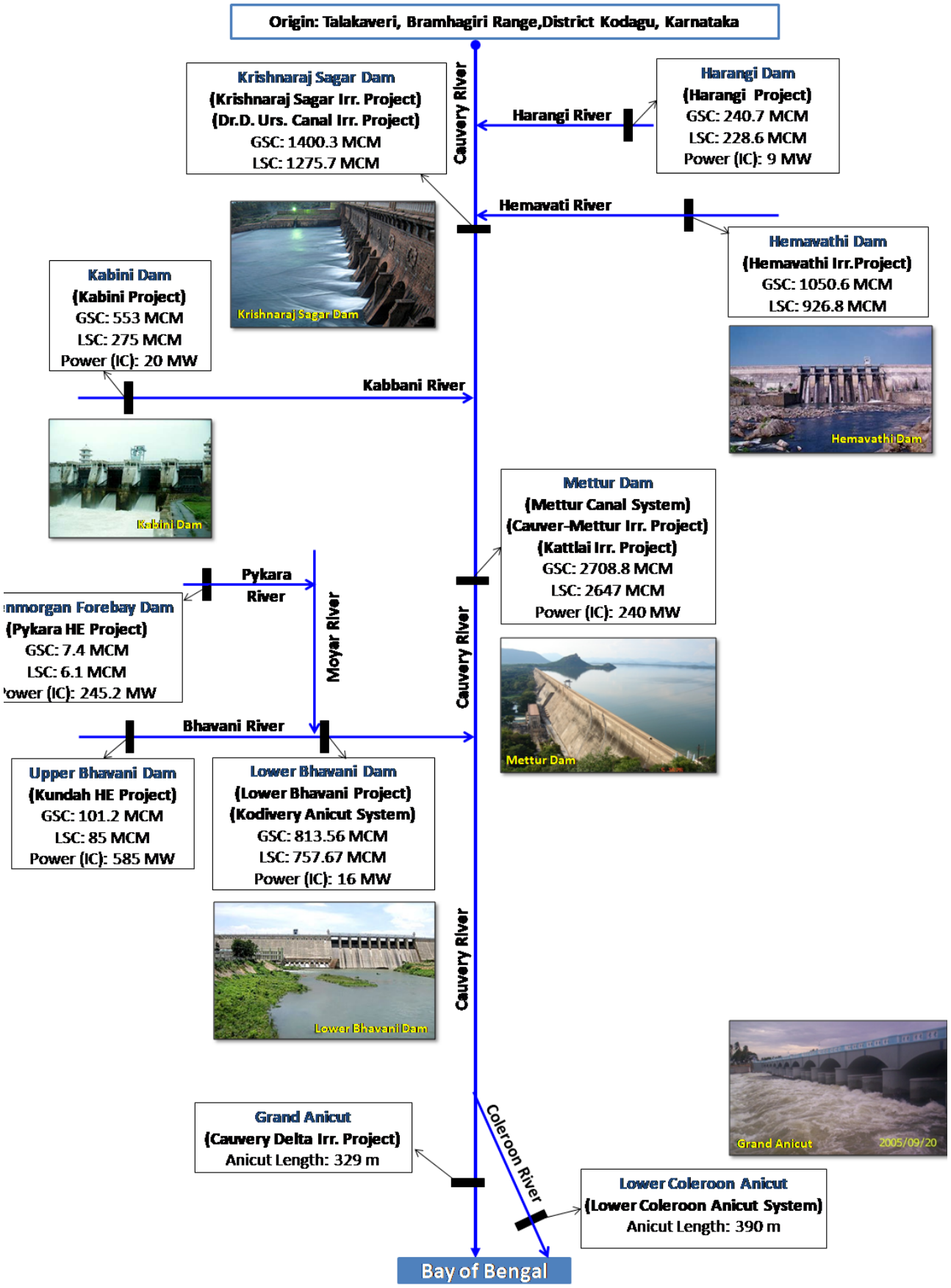


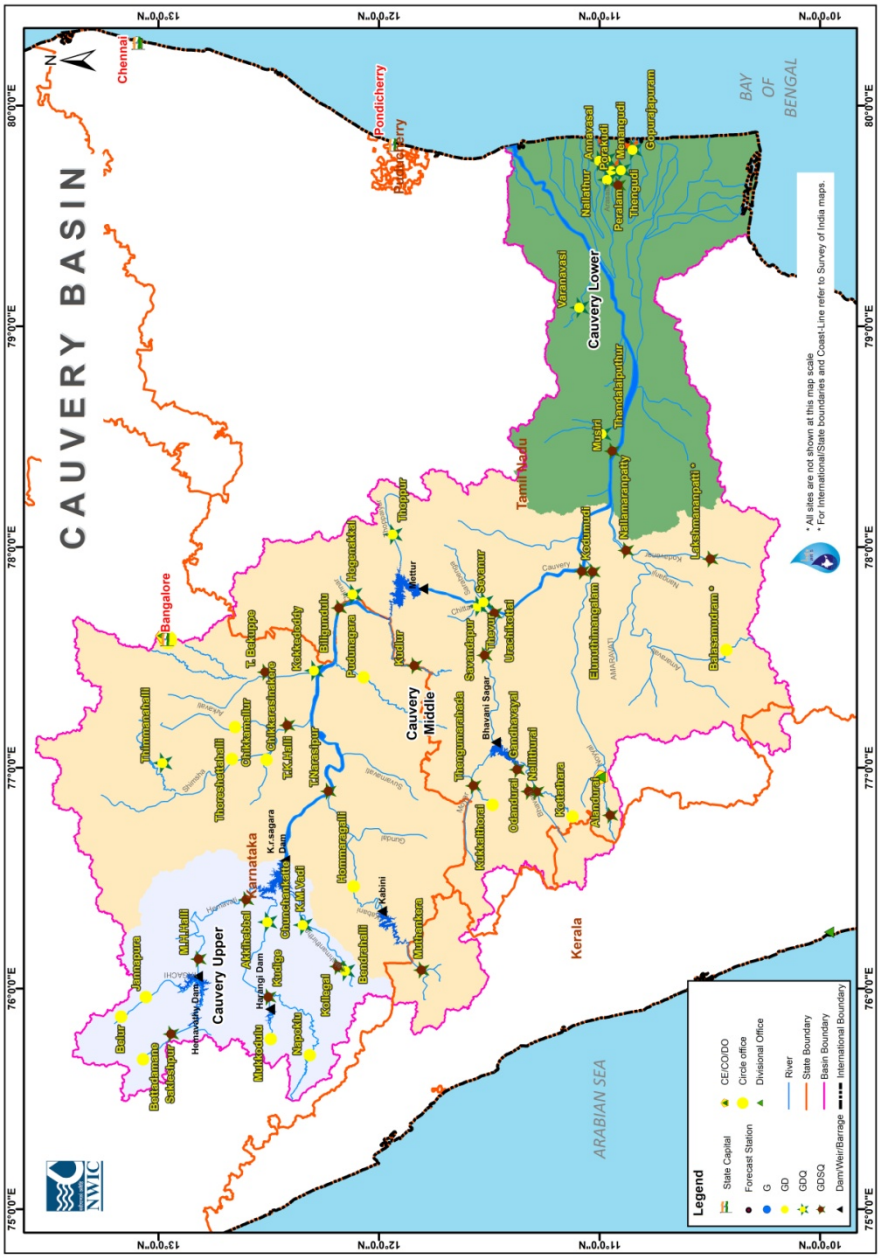


Source:- NWIC, Ministry of Jal Shakti, New Delhi


State-wise Cauvery Basins (sq. km.)
2866
(3.53%)
160
(0.20%)
34273
(42.23%)
43856
(54.04%)
Karnataka
Tamil Nadu
Kerala
Puducherry

Cauvery River Flow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Basin: Cauvery (Water Quality Parameter : pH)

Fig 2.6.1 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for pH at Cauvery Basin

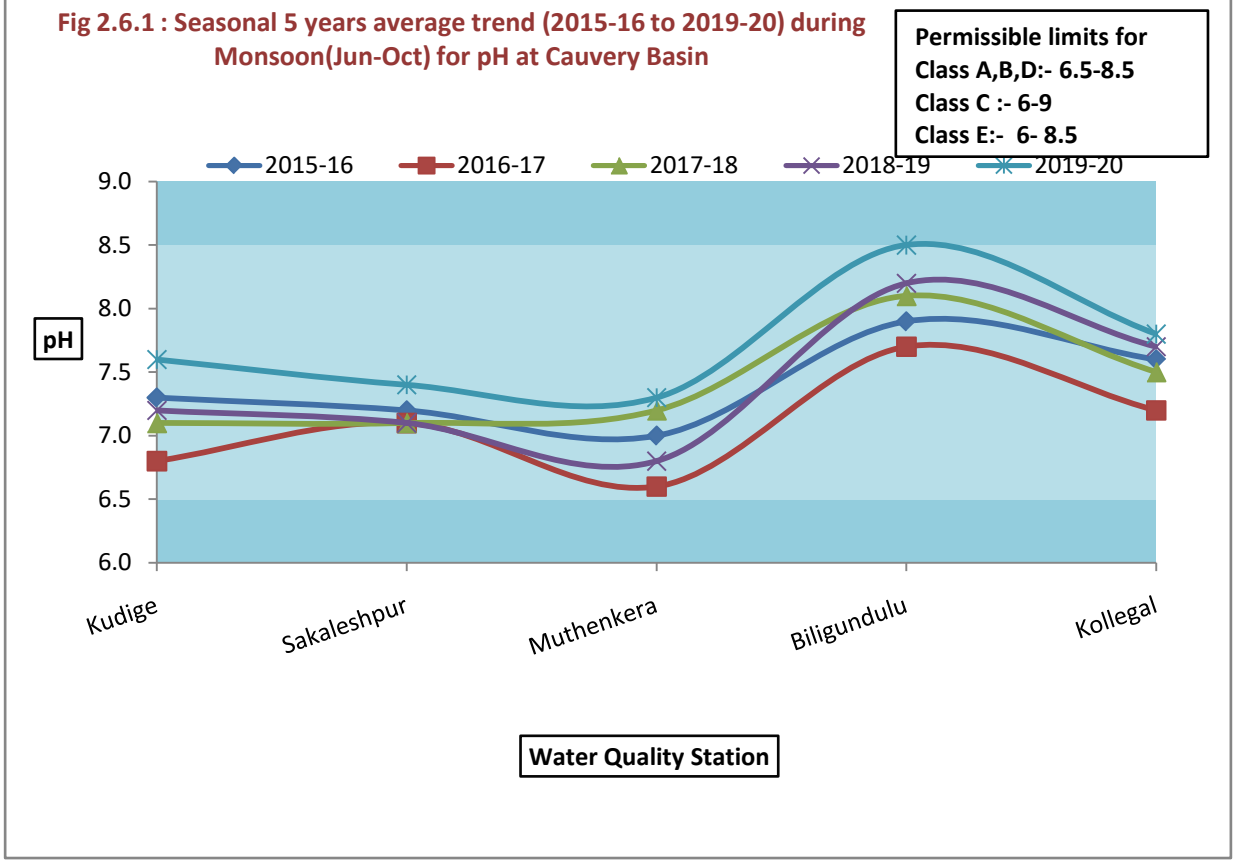


Fig 2.6.2 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for pH at Cauvery Basin

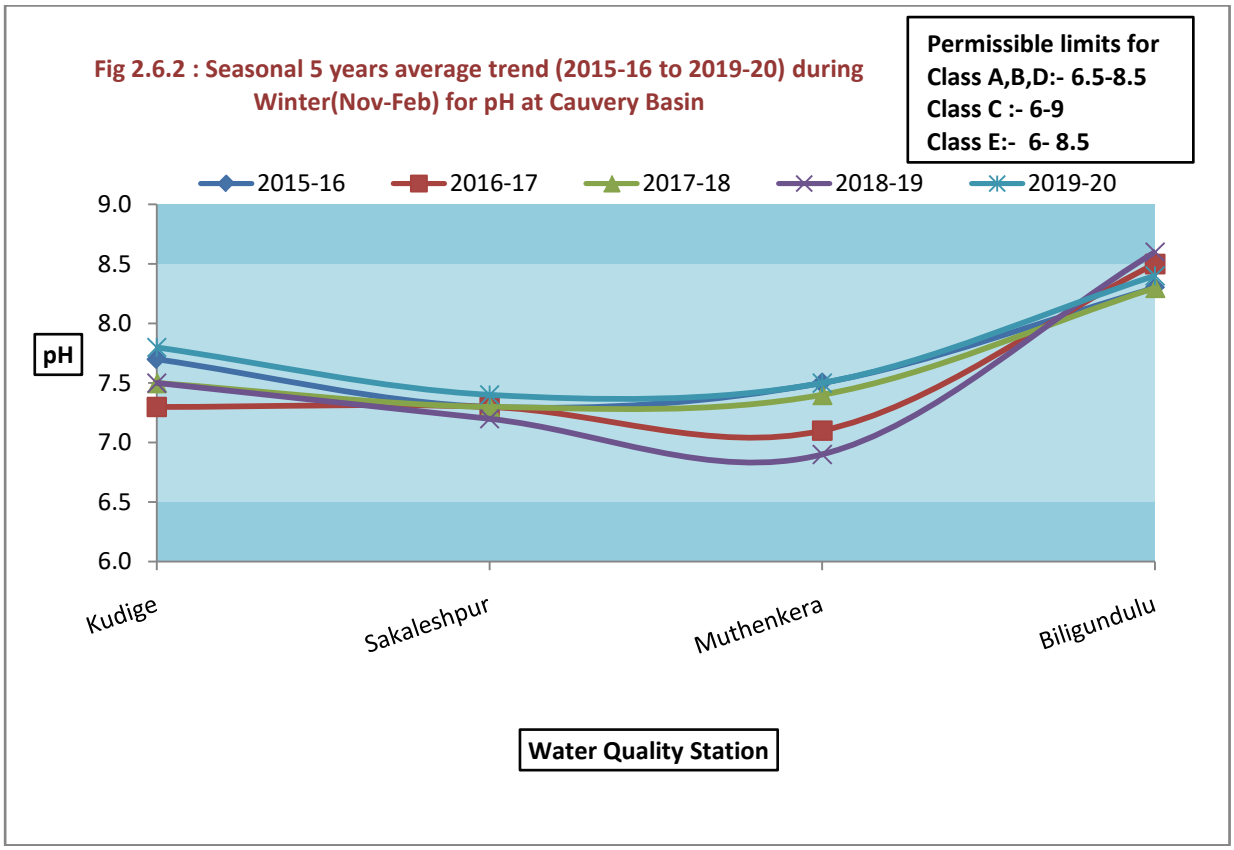
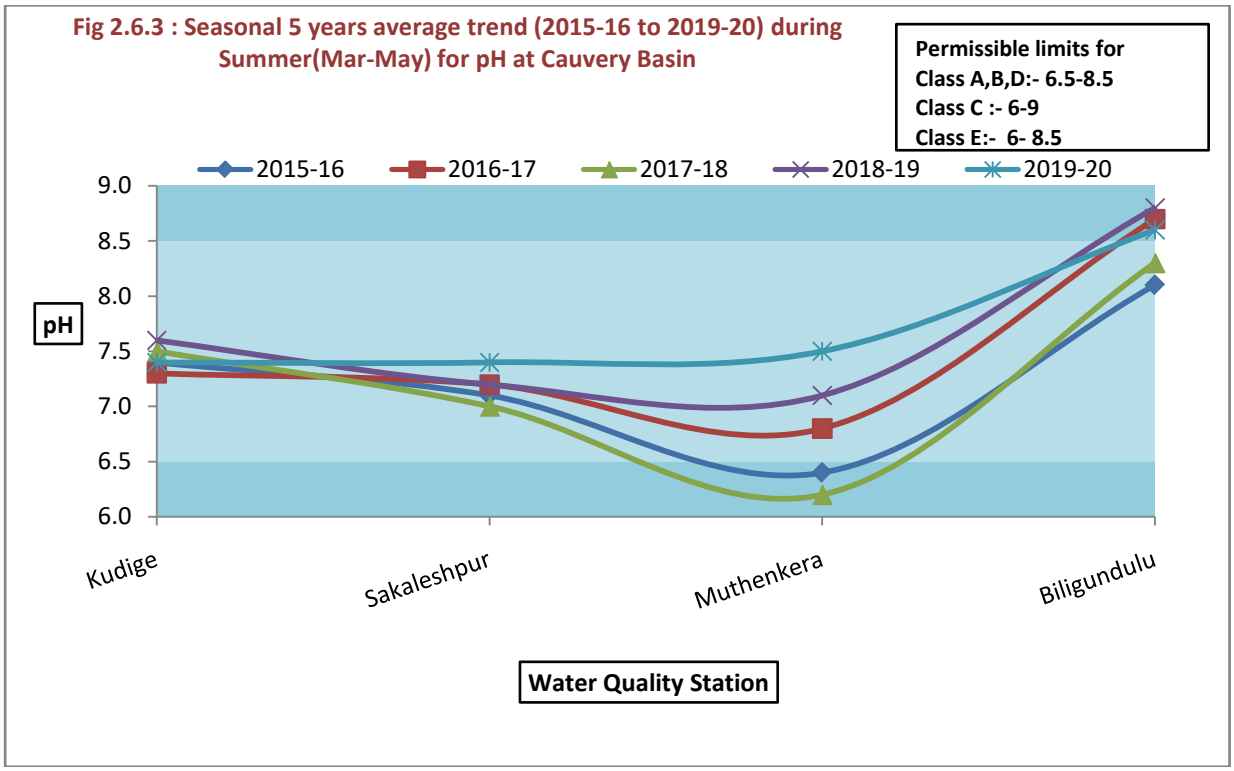


Fig 2.6.3 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for pH at Cauvery Basin



Basin: Cauvery (Water quality Parameter : Biological Oxygen Demand)

Fig 2.6.4 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for BOD at Cauvery Basin

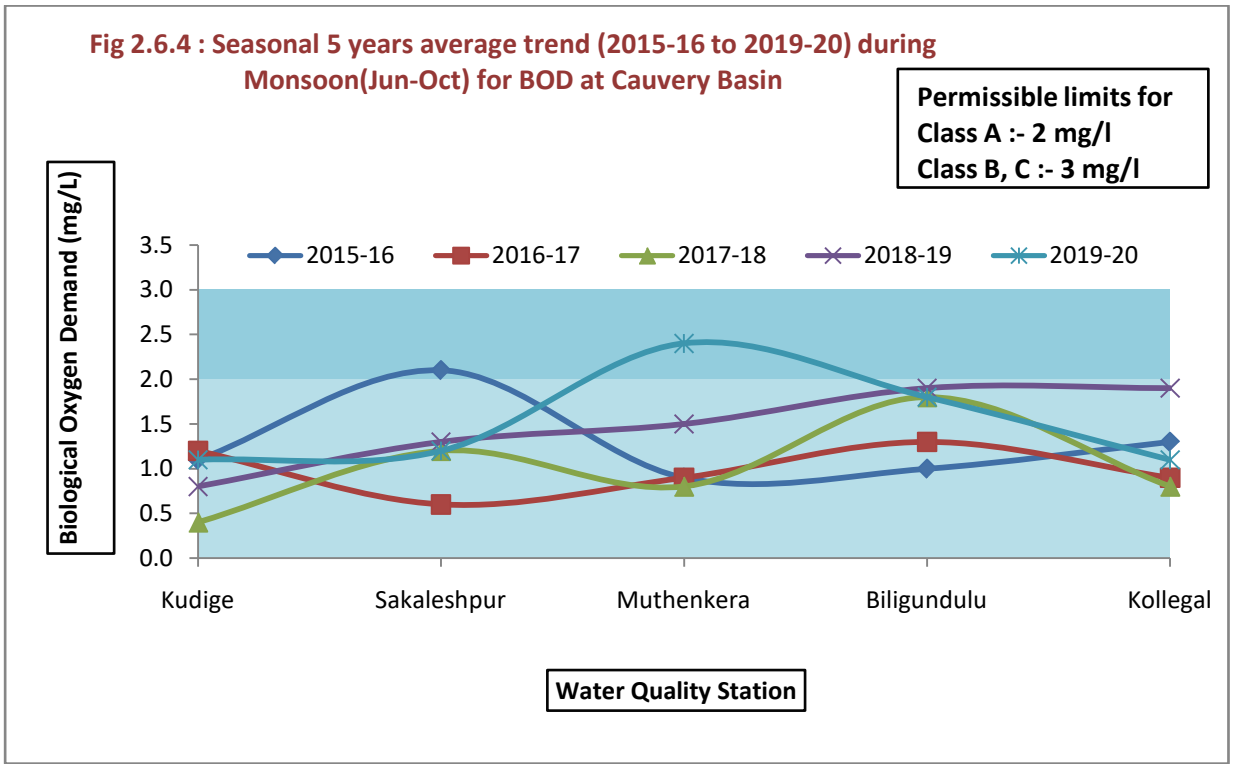


Fig 2.6.5 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for BOD at Cauvery Basin

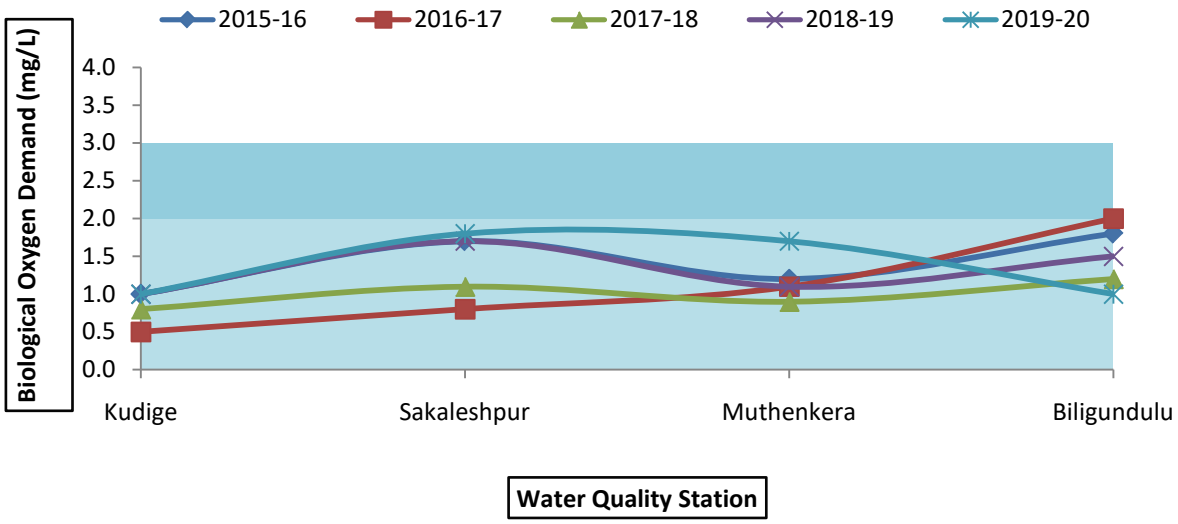
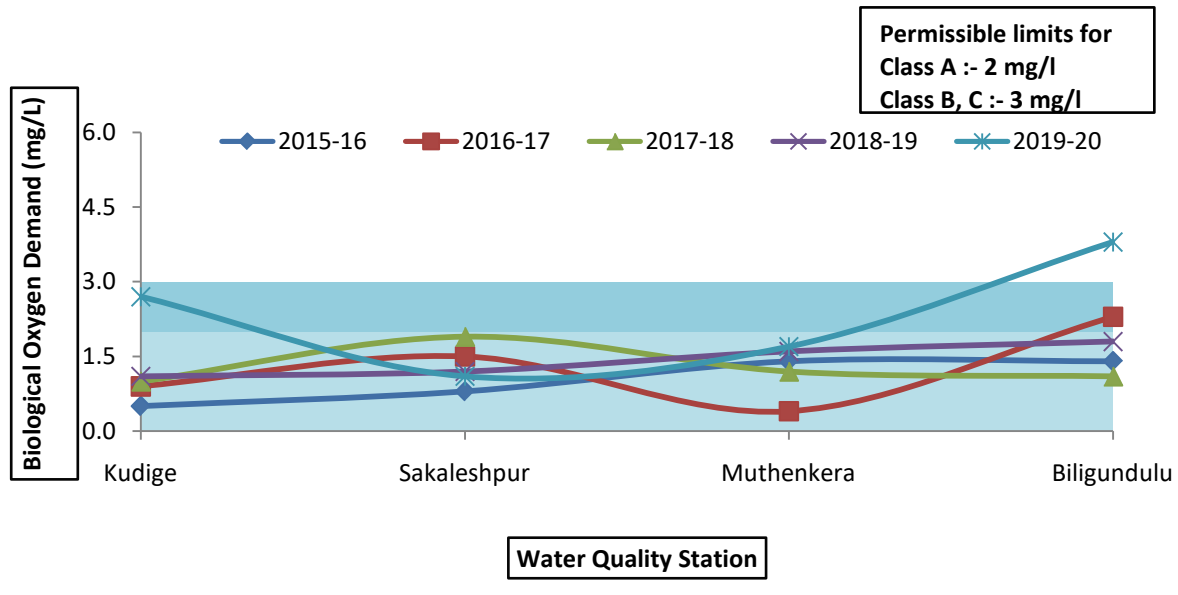


Fig 2.6.6 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for BOD at Cauvery Basin



Basin: Cauvery (Water Quality Parameter : Dissolved Oxygen)

Fig 2.6.7 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for DO at Cauvery Basin

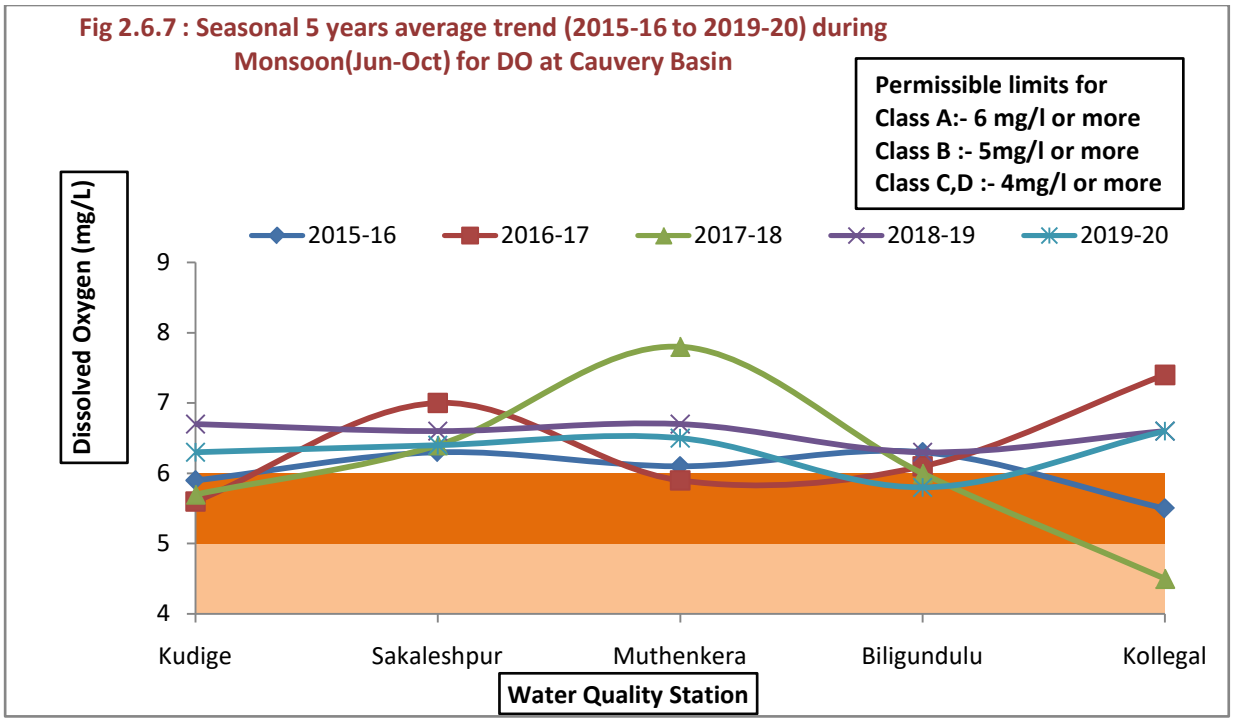


Fig 2.6.8 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for DO at Cauvery Basin

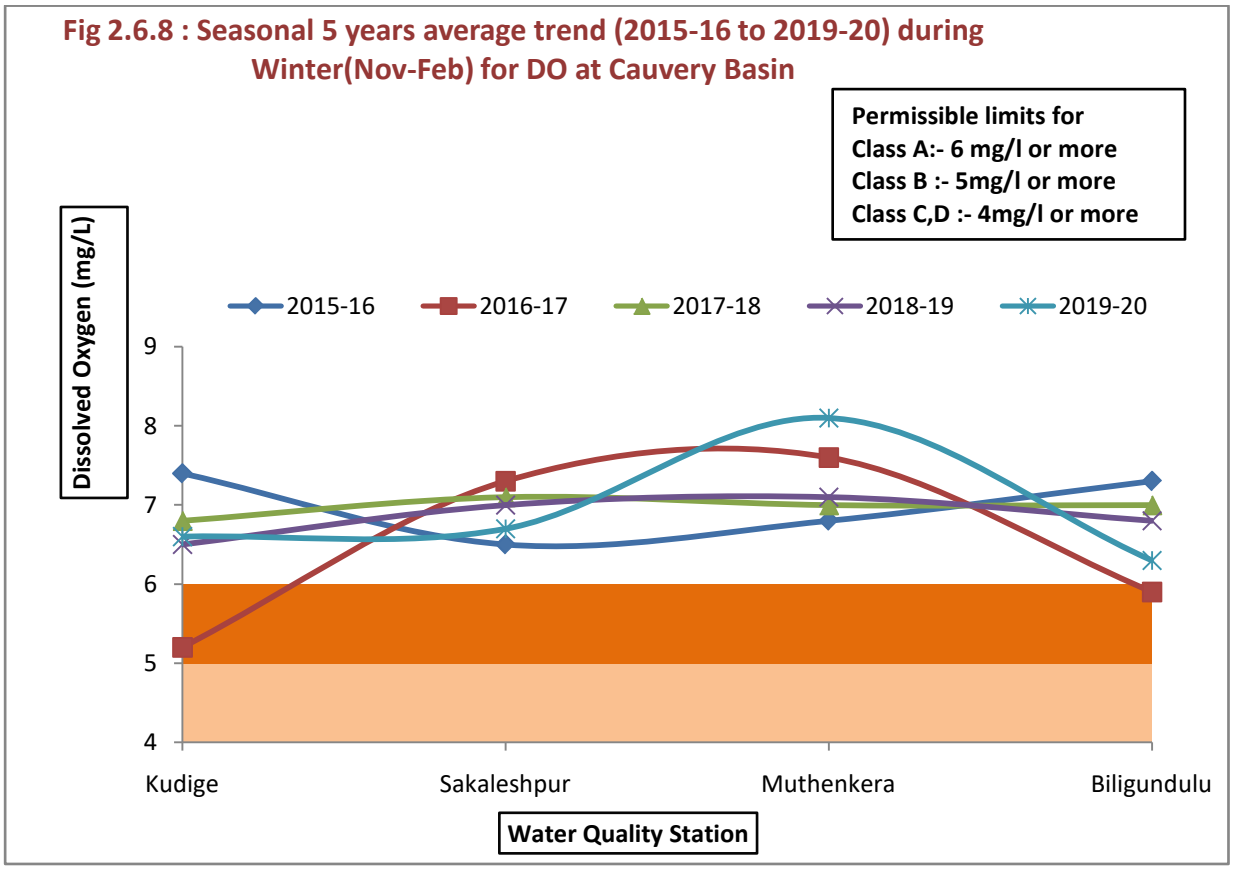
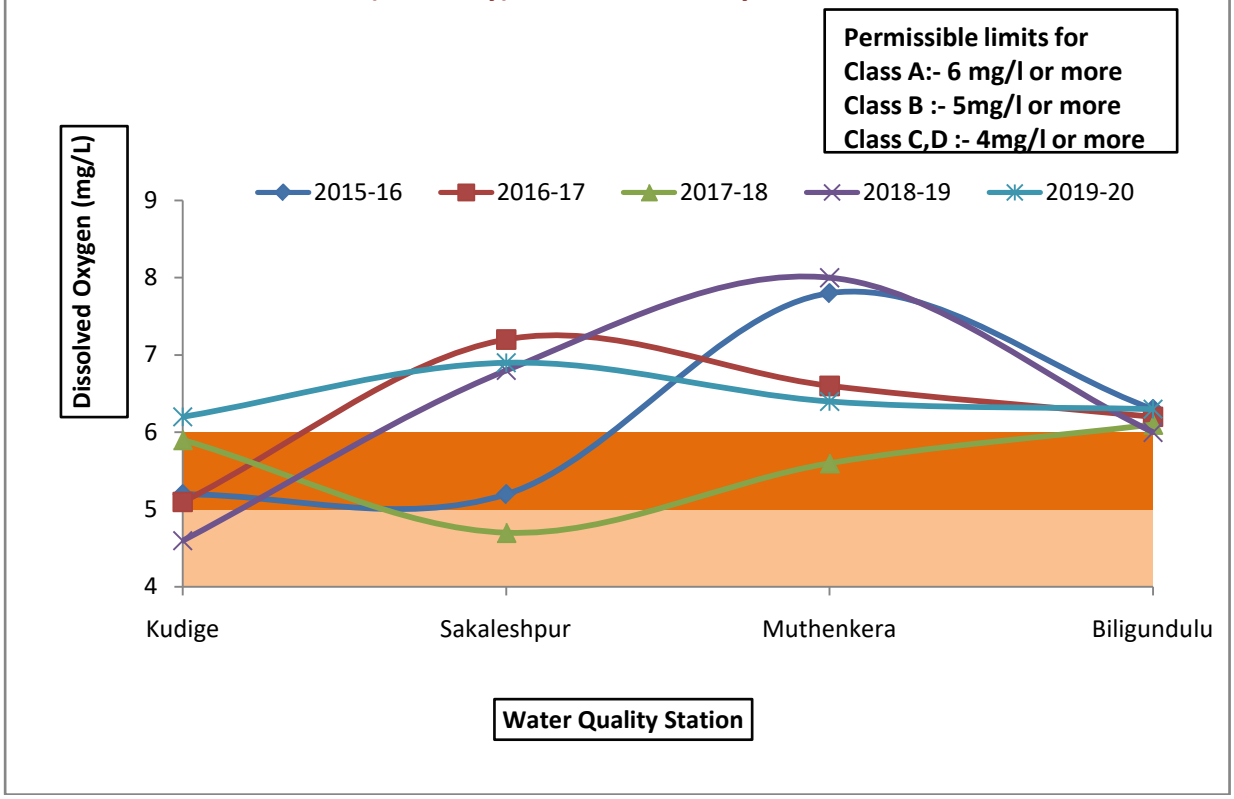


Fig 2.6.9 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for DO at Cauvery Basin



Basin: Cauvery (Water Quality Parameter : Total Hardness)

Fig 2.6.10 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for Total Hardness at CauveryBasin

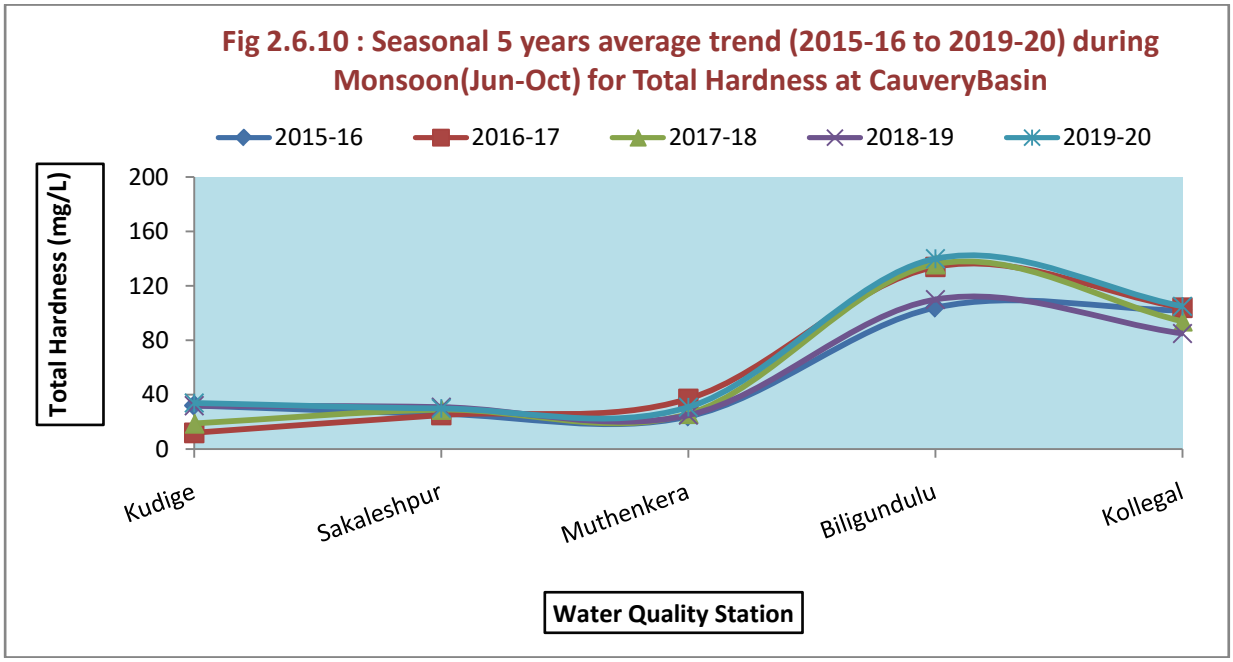


Fig 2.6.11 : Seasonal 5 years trend (2015-16 to 2019-20) during Winter(Nov-Feb) for Total Hardness at CauveryBasin

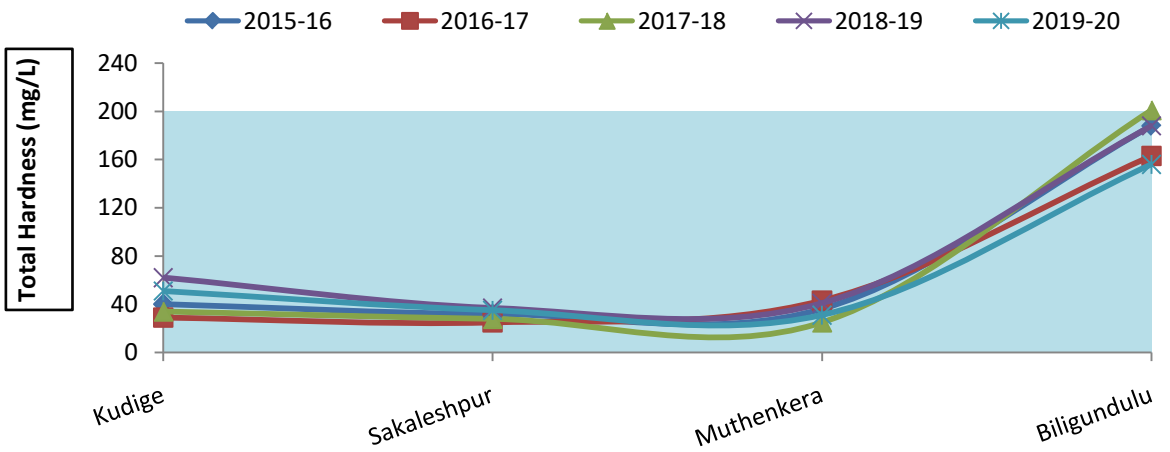


Fig 2.6.12 : Seasonal 5 years trend (2015-16 to 2019-20) during Summer(Mar-May) for Total Hardness at CauveryBasin

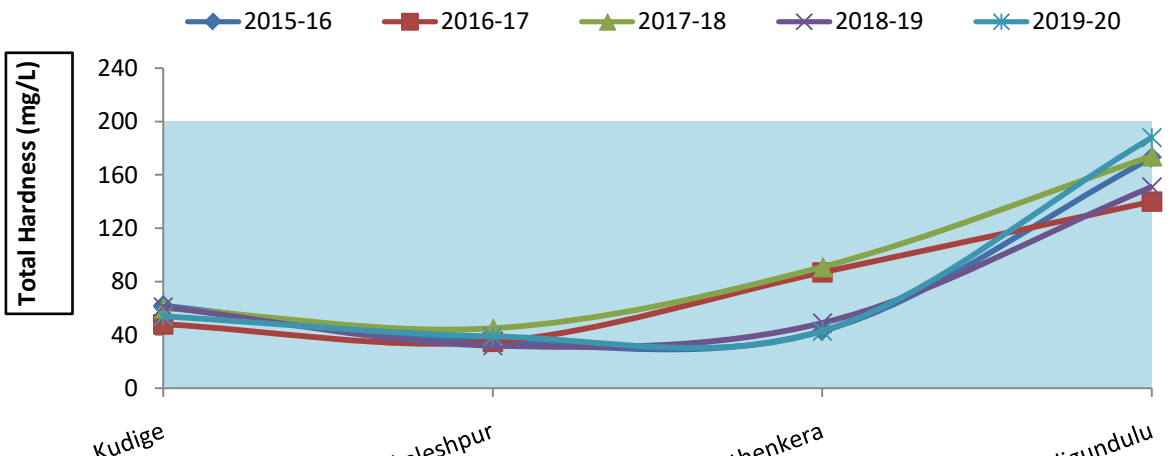
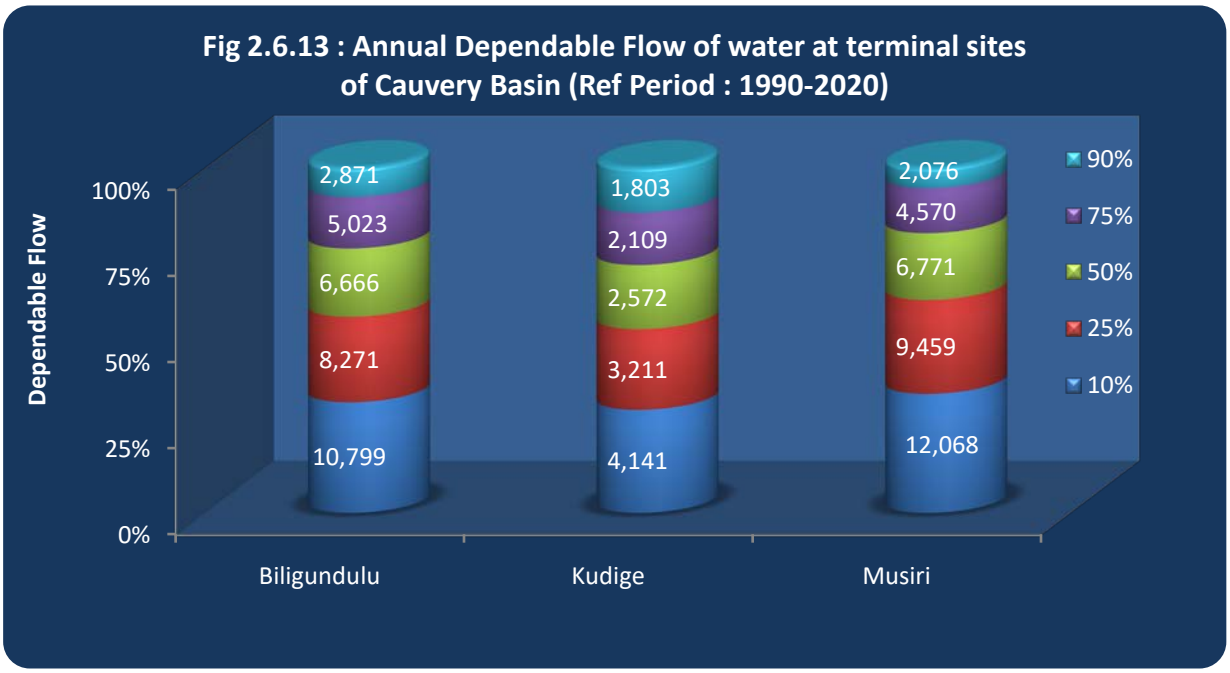


Table 2.6.1: Annual Dependable Flow Of Water at Terminal Sites Of Cauvery Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	BILIGUNDULU	6/1990 to 5/2020	10799.443	8270.786	6665.949	5022.765	2871.040
2	KUDIGE		4140.520	3211.187	2571.861	2109.297	1802.534
3	MUSIRI		12068.151	9458.569	6770.711	4570.125	2075.729

Source : SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore



2.6.5 Land Use Statistics: Table 2.6.2 to Table 2.6.4 below present the land use pattern, gross irrigated area and net irrigated area for the Cauvery basin as compared to all basins (Region-III).

TABLE 2.6.2: LAND UTILISATION PATTERN BY CAUVERY AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Cauvery	85567.32001	15926.05293	14096.19611	6044.402995	14599.90091	34900.76706	8862.584839	43763.3519
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte..of Economics & Statistics, M/o. A & FW.

TABLE 2.6.3: GROSS AREA IRRIGATED BY SOURCES OF CAUVERY AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Cauvery	7443.32	10.10	7453.43	687.25	4470.07	4557.01	9027.08	109.23	17276.99
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.6.4: NET AREA IRRIGATED BY SOURCES OF CAUVERY AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Cauvery	6011.33	10.02	6021.35	647.18	3697.49	3966.76	7664.25	232.88	14565.67
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.6.6 Urban Centre: Important cities on the basin are Coimbatore, Bangalore & Tiruchirapally.

2.6.7 Industries: Some of the main industries in the basin are Paper mills, Sugar mills, Chemical Factories, and Cotton mills. Mining activity in the basin includes Stone mining for building construction works.

2.6.8 Minerals: The important minerals in the basin are Stone Mining.

2.7 PENNAR BASIN

Location: The Pennar River is one of the major East Flowing Rivers in Southern India. It rises in the Chenanakesava hill of the Nandidurg range in Karnataka, flows in the north westerly direction through Kolar and Tumkur districts of Karnataka; it enters erstwhile Andhra Pradesh in the Hindupur taluk of Anantapur district, runs eastwards before draining into the Bay of Bengal near Nellore. The Basin lies between east longitude 74^0 14' to 80^0 10' and north latitude 13^0 16' to $15^0$52'. The fan shaped basin is bounded by the Erramala range on the North, by the Nallamala and Velikonda ranges of the Eastern Ghats on the East, by the Nandidurg hills on the South and by the narrow ridge separating it from the Vedavati valley of the Krishna Basin on the West. The other hill ranges in the basin to the South of the river are the Seshachalam and Paliconda ranges.

The total length of Pennarriver is 597 Km of which 61 Km runs in Karnataka and the rest in Andhra Pradesh. This river has six major tributaries namely, the Jayamangali, the Kunderu and the Sagileru joining from the left, the Chitravathi, the Papagni and the Cheyyeru joining on the right.

2.7.1 Major Projects: Tungabhadra RB High level Canal stage – I & II, Somasila, Pulivendula Branch Canal**,** Pennar Delta are the major projects in the catchment area of the basin.

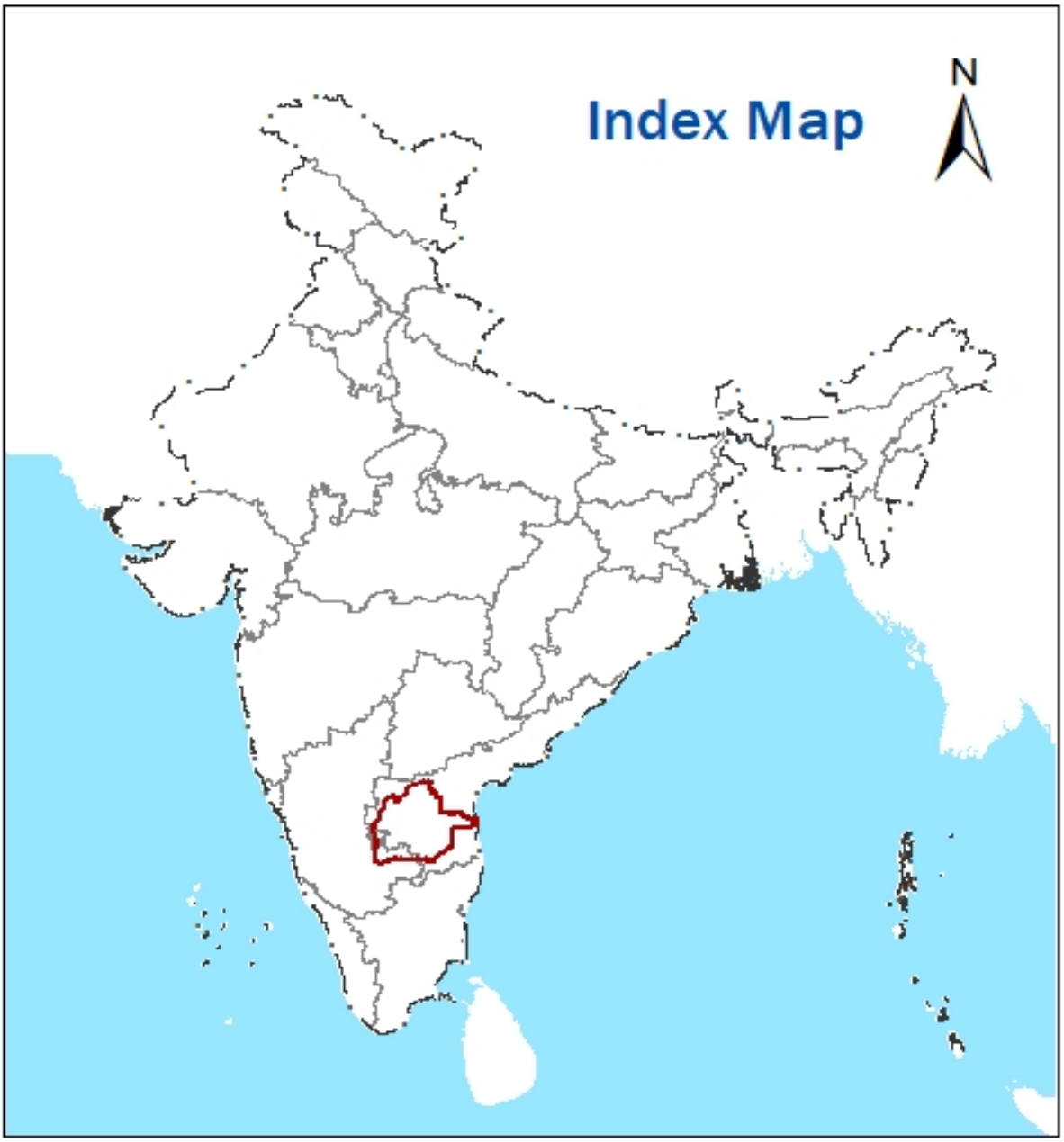
2.7.2 Hydrological Observation Stations: Central Water Commission is operating 12 Hydrological Observation sites on Main Pennar and its tributaries located, the details of which are given as:

(As on September 2020)

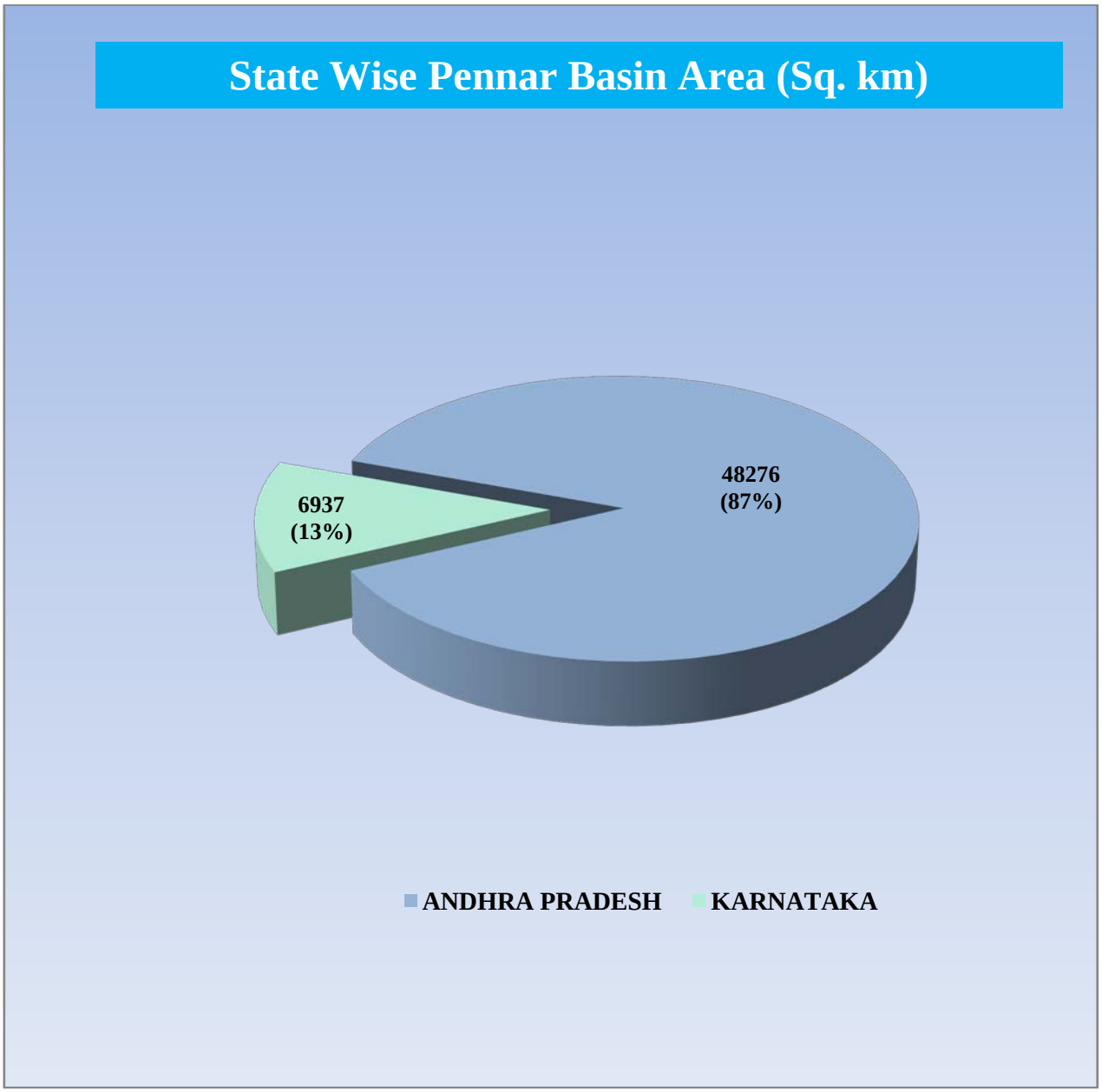
Site Type	No. of Hydrological Observations
G	00
GD	04
GDQ	04
GDS	00
GDSQ	04
GQ	00
SG&Met	00
WQSS	00
Total	**12**

Source:RDC-II, CWC

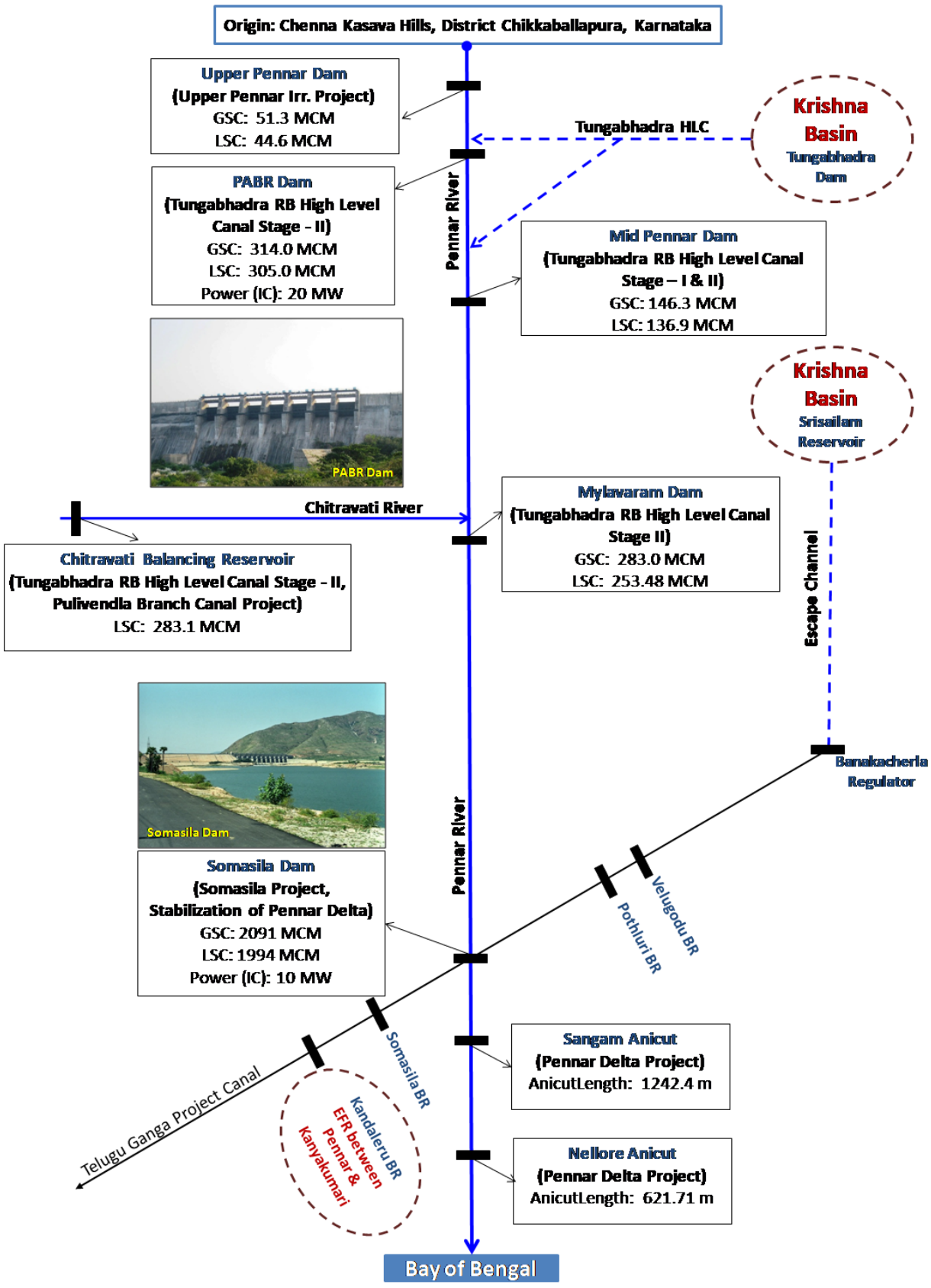
2.7.3 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for three sites of the Cauvery basin (Fig 2.7.1 to Fig 2.7.3)

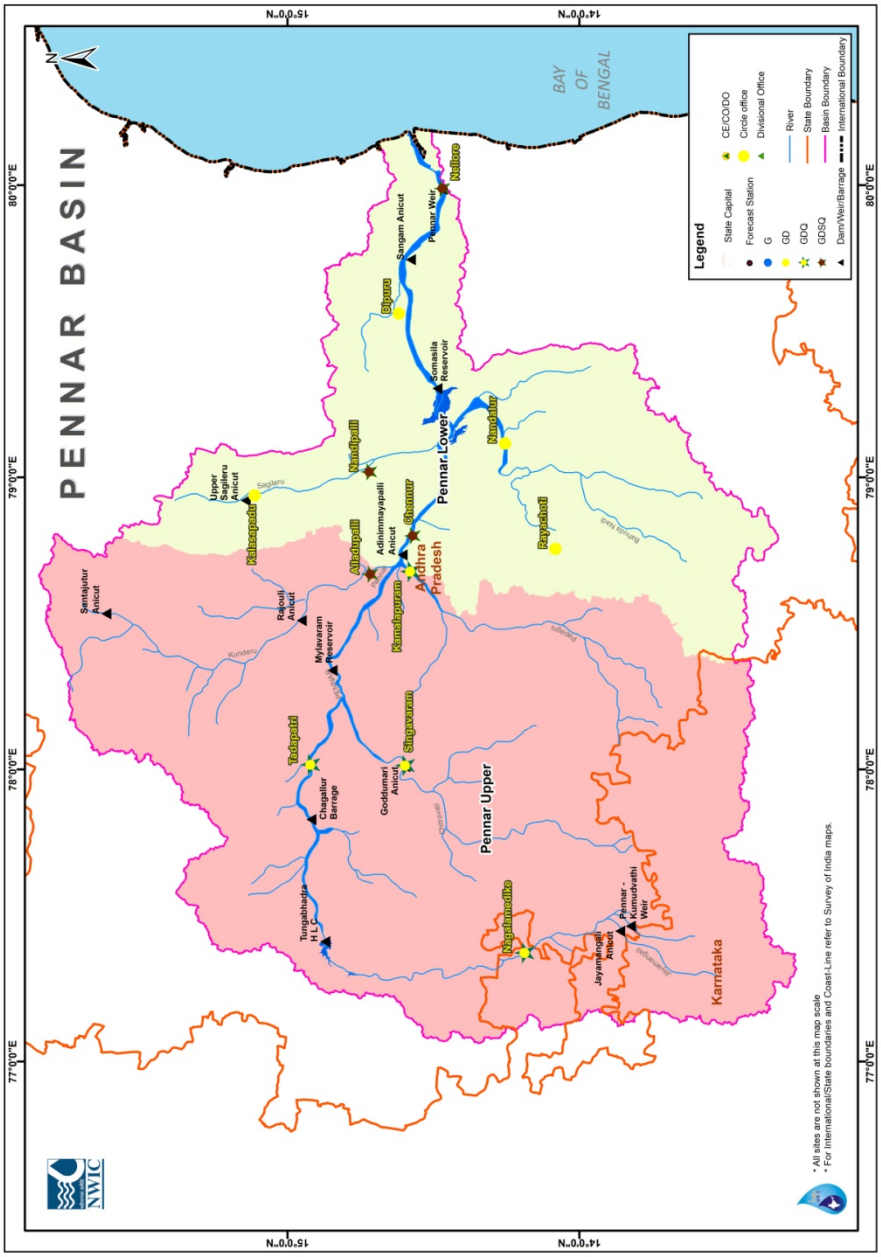


Source:- NWIC, Ministry of Jal Shakti, New Delhi


State Wise Pennar Basin Area (Sq. km)
48276
(87%)
6937
(13%)
ANDHRA PRADESH
KARNATAKA

Pennar River Flow Line Diagram

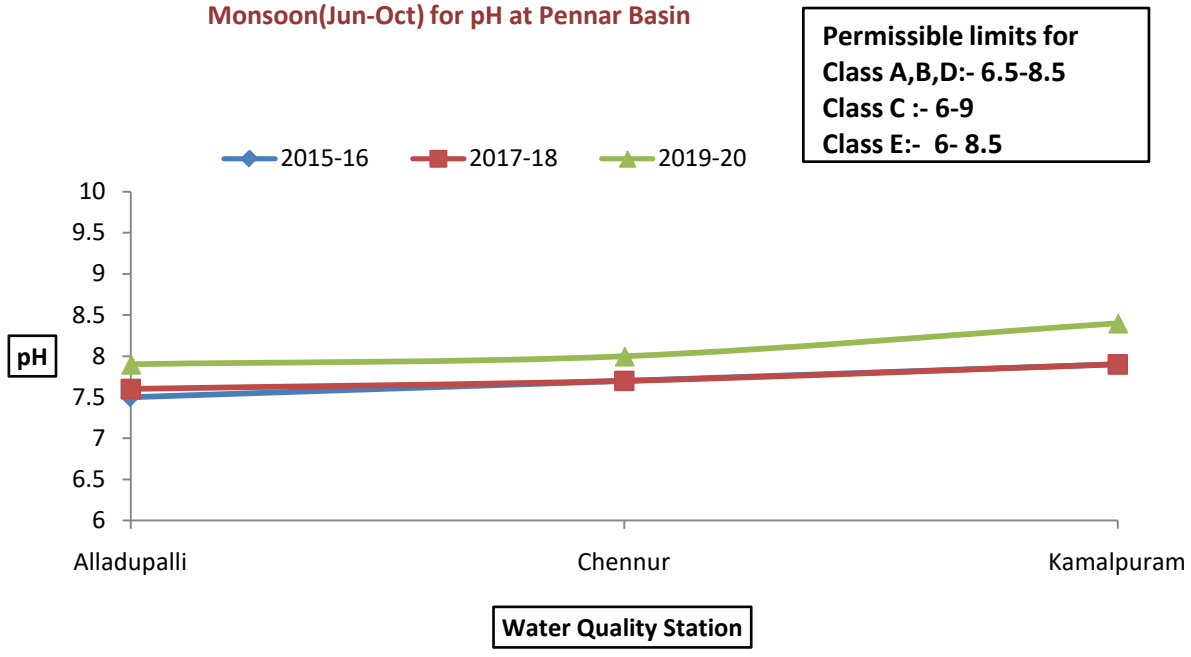




Source:- NWIC, Ministry of Jal Shakti, New Delhi

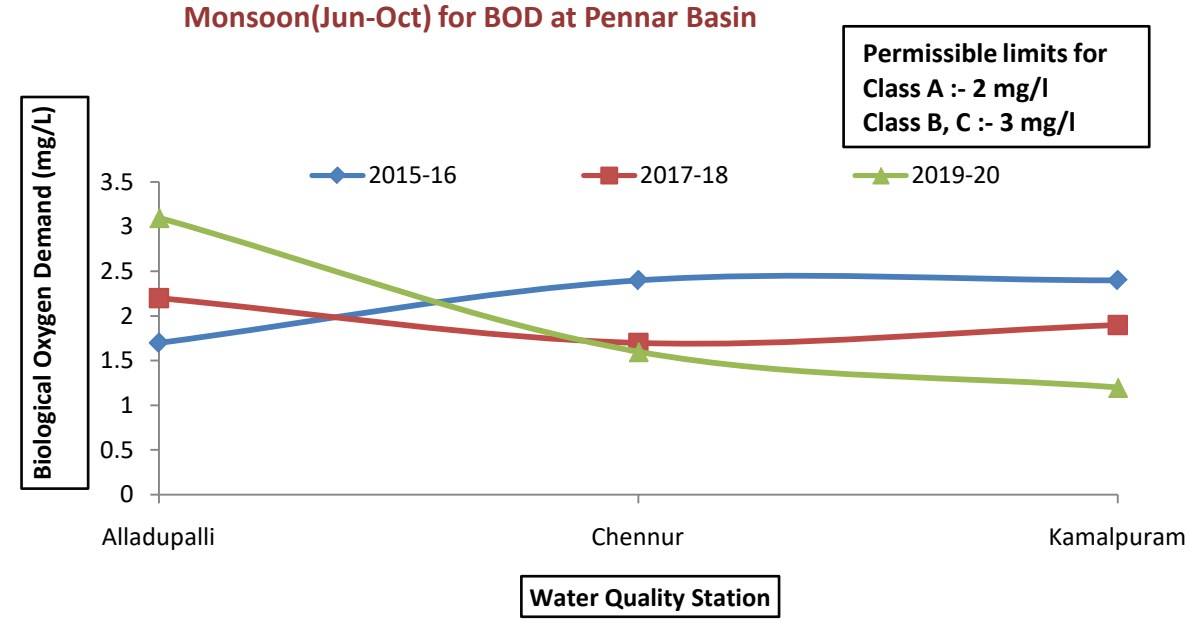
Basin: Pennar (Water Quality Parameter: pH)

Fig 2.7.1 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for pH at Pennar Basin



Basin: Pennar (Water Quality Parameter: BOD)

Fig 2.7.2 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for BOD at Pennar Basin



Basin: Pennar (Water Quality Parameter: Total Hardness)

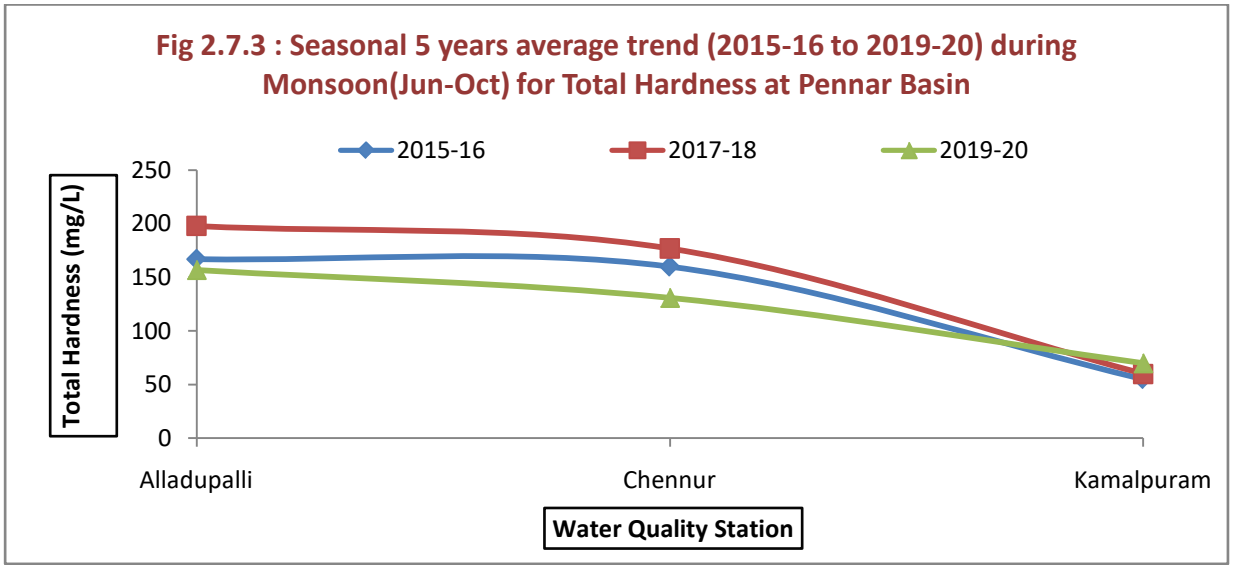
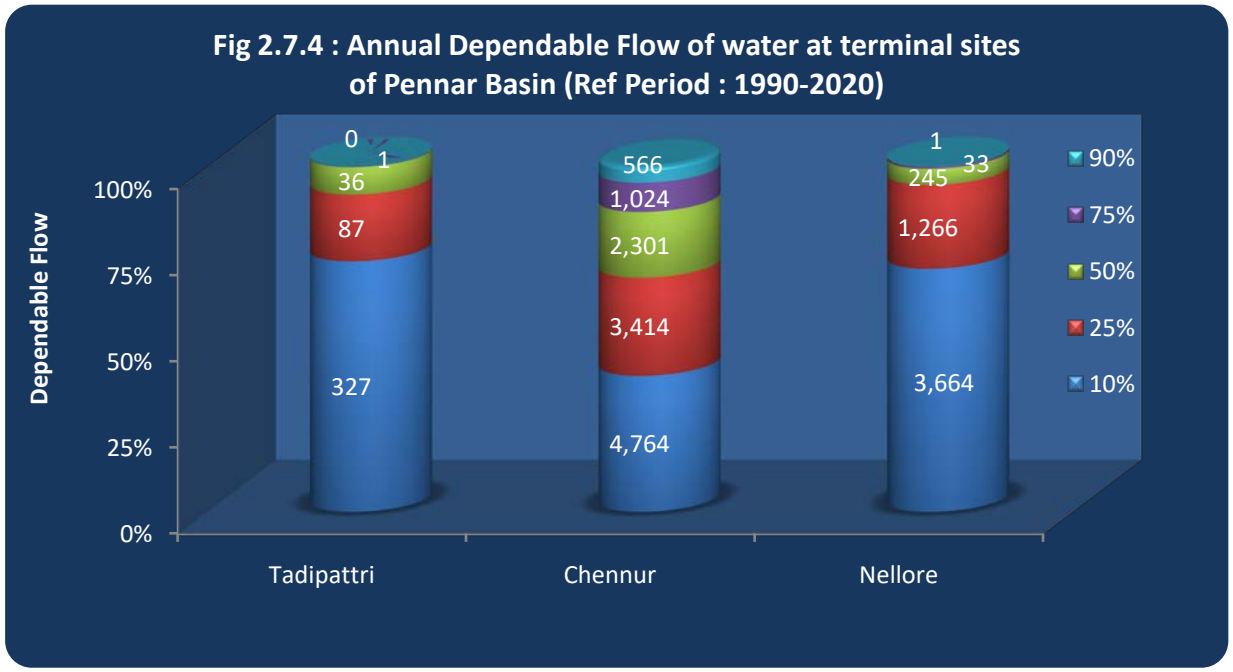


Table 2.7.1: Annual Dependable Flow Of Water at Terminal Sites Of Pennar Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	TADIPATTRI	6/1990 to 5/2020	327.224	87.381	35.985	0.792	0.000
2	CHENNUR		4763.686	3413.823	2301.228	1024.175	566.456
3	NELLORE		3663.844	1266.355	245.019	32.503	1.199

Source : SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore



2.7.4 Land Use Statistics: Table 2.7.2 to Table 2.7.4 present the land use pattern, gross irrigated area and net irrigated area for the Pennar basin as compared to all basins(Region-III).

TABLE 2.7.2: LAND UTILISATION PATTERN OF PENNAR AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Pennar	54771.18	11176.11	11251.15	3138.05	10213.28	18992.58	1797.24	20789.82
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.7.3: GROSS AREA IRRIGATED BY SOURCES OF PENNAR AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Pennar	1121.98	0.00	1121.98	341.89	5104.62	144.73	5249.35	118.89	6832.11
All Basins	59279.05075	2333.8788	61612.93	12136.185	73794.548	44262.67	118057.22	11963.22	203769.5525

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.7.4: NET AREA IRRIGATED BY SOURCES OF PENNAR AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Pennar	962.33	0.00	962.33	330.20	4145.69	124.11	4269.80	107.43	5669.76
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.7.5 Minerals: The important minerals are found in basins are Guvalacheruvu Quartzite, Vempally dolamite, Lime Stone.

2.8 EAST FLOWING RIVERS BETWEEN MAHANADI AND PENNAR BASIN

Location: The basin spreads over states of erstwhile Andhra Pradesh and Odisha having an area of 86,643 Sq. km and stretches between 78° 40’ to 85° 1’ east longitudes and 14° 34’ to 20° 22’ north latitudes. It is bounded by the Eastern Ghats on the north and west, by Nallamala Range and Andra plains on the south and by the Bay of Bengal on the east.

This composite basin comprises of three river systems. The river systems between Mahanadi and Godavari covers an area of 49,685 Sq. km and the river systems between Krishna and Pennar extends over an area of 24,669 Sq. km. In addition, there is also a small area between Godavari and Krishna drained mainly by the small stream of Palleru. This minor portion of the basin has an area of about 12,289 Sq. km. The independent rivers (directly draining into Bay of Bengal) in the basin from north to south are the Rushikulya, Bahuda, Vamsadhara, Nagavati, Sarada, Varaha, Tandava, Eluru, Gundlakamma, Tammileru, Musi, Paleru and Manneru etc.

The major part of basin is covered with agricultural land accounting for 59.85% of the total area and 3.66% of the basin is covered by water bodies. The basin spreads over 19 districts (2011) comprising 11 of erstwhile Andhra Pradesh and 8 of Odisha state. Brief descriptions of the major independent rivers are given below.

2.8.1 Rushikulya: The Rushikulya River is one of the east-flowing rivers in Odisha. It covers the entire catchment area in the districts of Kandhamal and Ganjam. The river flows through Purushottampur, Pratappur and joins with the Bay of Bengal at Ganjam district. The river Rushikulya originates at an elevation of about 1000 metre near Matabarhi village of Kandhmal district of Odisha State and lies within the geographical co-ordinates of 19^0 07' to 20^0 19' north latitude and 84^0 01' to 85^0 06' east longitude. The total catchment area is 7700 sq km. The Barhanadi, Ghodapada, Baghua and Pathama are the main principal tributaries.

2.8.2 Vamsadhara: The Vamsadhara River is an important east-flowing river between Mahanadi and Godavari. The river originates near Lanjigarh village in Kalahanadi district in Odisha and traverses a total distance of about 221 km before it joins the Bay of Bengal at Kalingapatnam in erstwhile Andhra Pradesh. It has five principal tributaries viz. Chauldua, Phalphalia, Ganguda (Harbhangi), SannaNadhi and Mathendrathanaya. Most of its catchment area falls on the left. The basin is narrow and full of undulations. It is situated within the geographical co-ordinates of 18^0 15' to 19^0 55' north latitudes and 83^0 20’ to 84^0 20' east longitudes. The total catchment area of this basin works out to 10,830 Sq km.

2.8.3 Sarada: The Sarada River, an east-flowing medium-sized river, lies in the district of Visakhapatnam of erstwhile Andhra Pradesh. The geographical co-ordinates of the river are north latitude 17^0 25' to 18^0 17' and east longitude 82^0 32' to 83^0 06'. The basin is surrounded by Nagavali in the north, Gostari, Gambi Ramgedda, Megadnigedda in the east, Bay of Bengal in the south and Machhkund sub-basin of the Godavari in the west. The catchment area of the basin is 2665 sq km. It rises at an elevation of 1000 metre near Longuparu village and traverses a distance of 104 km before joining the sea. The average rainfall is 1000 mm.

2.8.4 Nagavali: The Nagavali river is a medium sized east-flowing river in peninsular India and lies within the geographical co-ordinates of north latitude $18^0$10' to $19^0$44' and east longitudes of $82^0$53'

and 84^{0}05'. It is surrounded by Vamsadhara in the north, Champavathi and Peddagedda in the south, Godavari in the west and the Bay of Bengal in the East. It drains parts of the districts of Kalahandi, Rayagada, Koraput of Odisha and Srikakulam, Vijayanagaram and Visakhapatanam of erstwhile Andhra Pradesh state. The total catchment area is 9510 sq km with an average rainfall of 1000 mm. The Nagavali river originates near the Lakhbahal in Kalahandi district (Odisha) at an elevation of about 1300m. The total length of the river run is 217 km. The important tributaries are Nagavali, Janjhvati, Suvarnamukhi, and Vegavathi.

2.8.5 Gundlakama: The Gundlakama river rises near Iskagundam village in Kurnool district at an elevation of 600 metres from the eastern slopes of the Nallamala hills at north latitude 15^0 38$^{'}$ and east longitude 78^0 47$^{'}$ and flows in a north-east, east and southern direction for a total length of 220 km to join the Bay of Bengal. The total area drained by this river is 8,494 sq km and the total catchment area for the river is 7681 sq. km. The Kandleru is its important left bank tributary. There is one H.O. site for each for Gauge, Discharge, Sediment and Water Quality.

2.8.6 Paleru: The Paleru river rises from near Gogulapalle Village in Nellore District of Andhra Pradesh at an elevation of 325 metres and flows for a total length of 104 Km. The catchment area of the river is 2,483 Sq. Km which lies entirely in Andhra Pradesh. The river basin lies at north latitude 15^{0}17$^{'}$ and east longitude 79^{0}13$^{'.}$ Paleru Bitragunta Irrigation Project is a medium project which benefitted the Prakasam district.

2.8.7 Irrigation Projects: The Rushikulya Irrigation System is the only Major Irrigation Project in the catchment area of the Rushikulya River Basins. The Gotta barrage project in Vamsdhara basin, the Thotapally, Narayan Puram and Jaiyavathi are the major irrigation projects in the catchment areas of the Nagavali river basin.

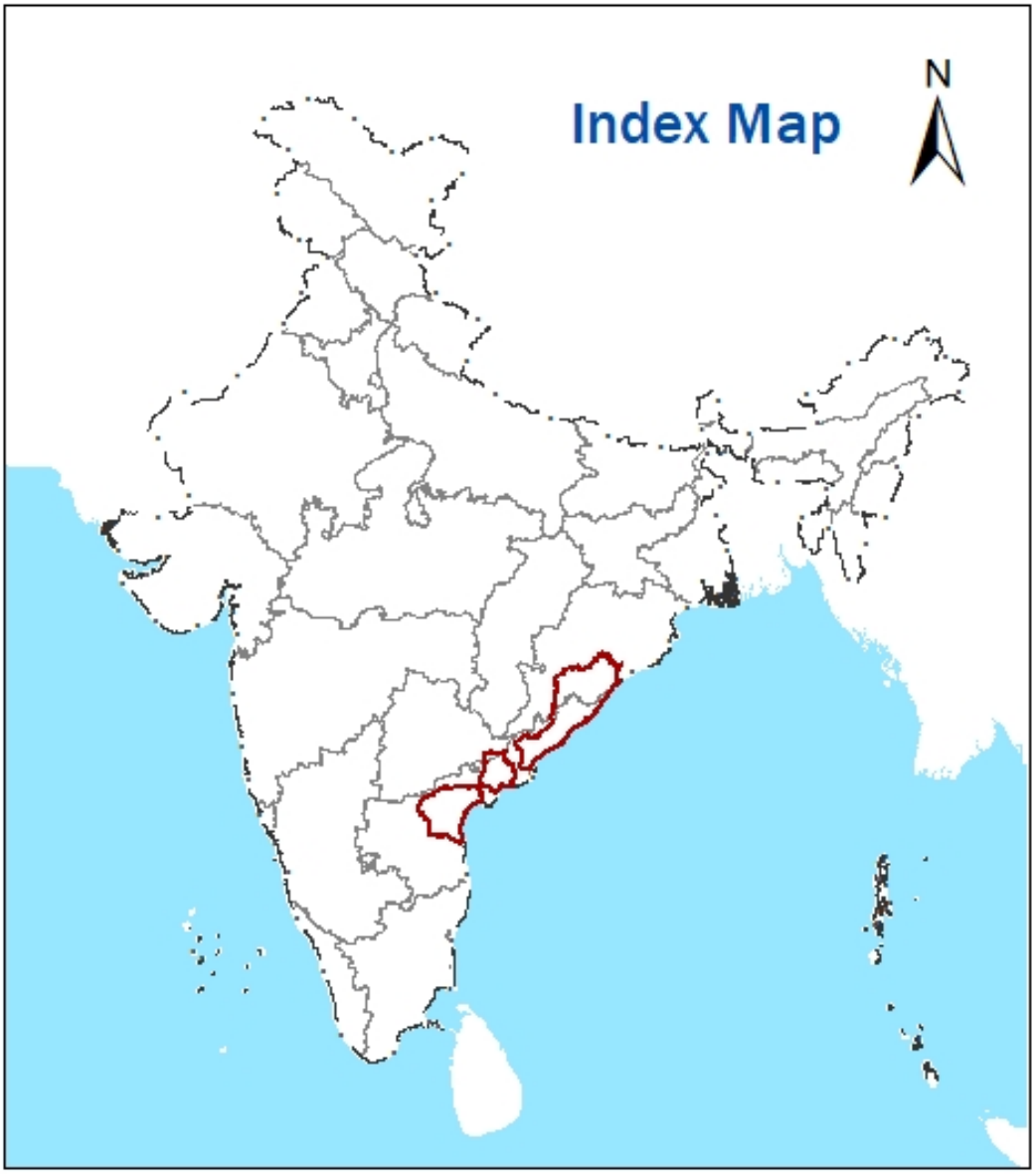
2.8.8 Hydrological Observation (H.O.) Sites: There are 20 H.O. sites in the basin, the details of which are given as below:

(As on September 2020)

Site Type	No. of Hydrological Observations
G	13
GD	02
GDQ	00
GDS	00
GDSQ	05
GQ	00
SG&Met	00
WQSS	00
Total	**20**

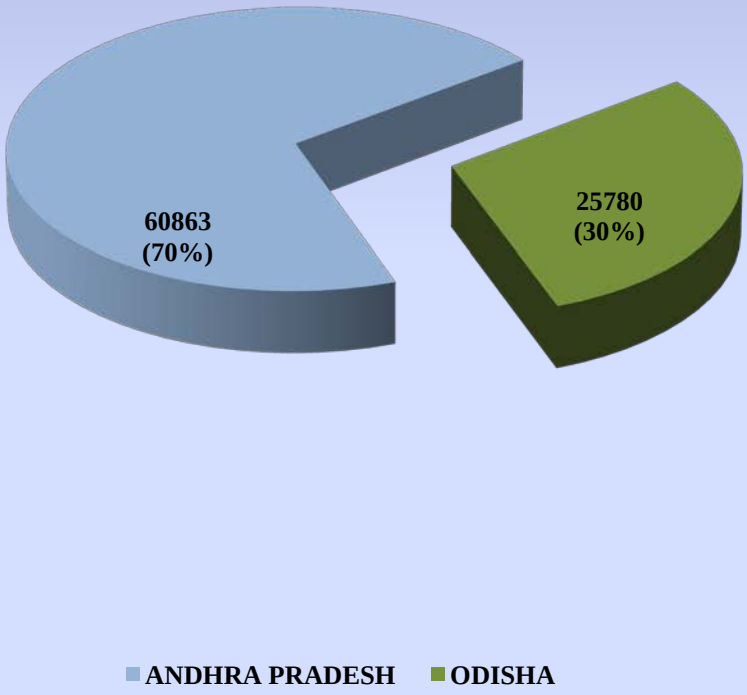
Source:RDC-II, CWC

2.8.9 Peak Water Level :- Among 6 Hydrological sites in this basin, the peak water level was maximum at 101.42 meter on 21.05.2010 at Marella site and minimum was 12.61 meter on 14.10.2014 at Srikakullam during reference period 2019-20.

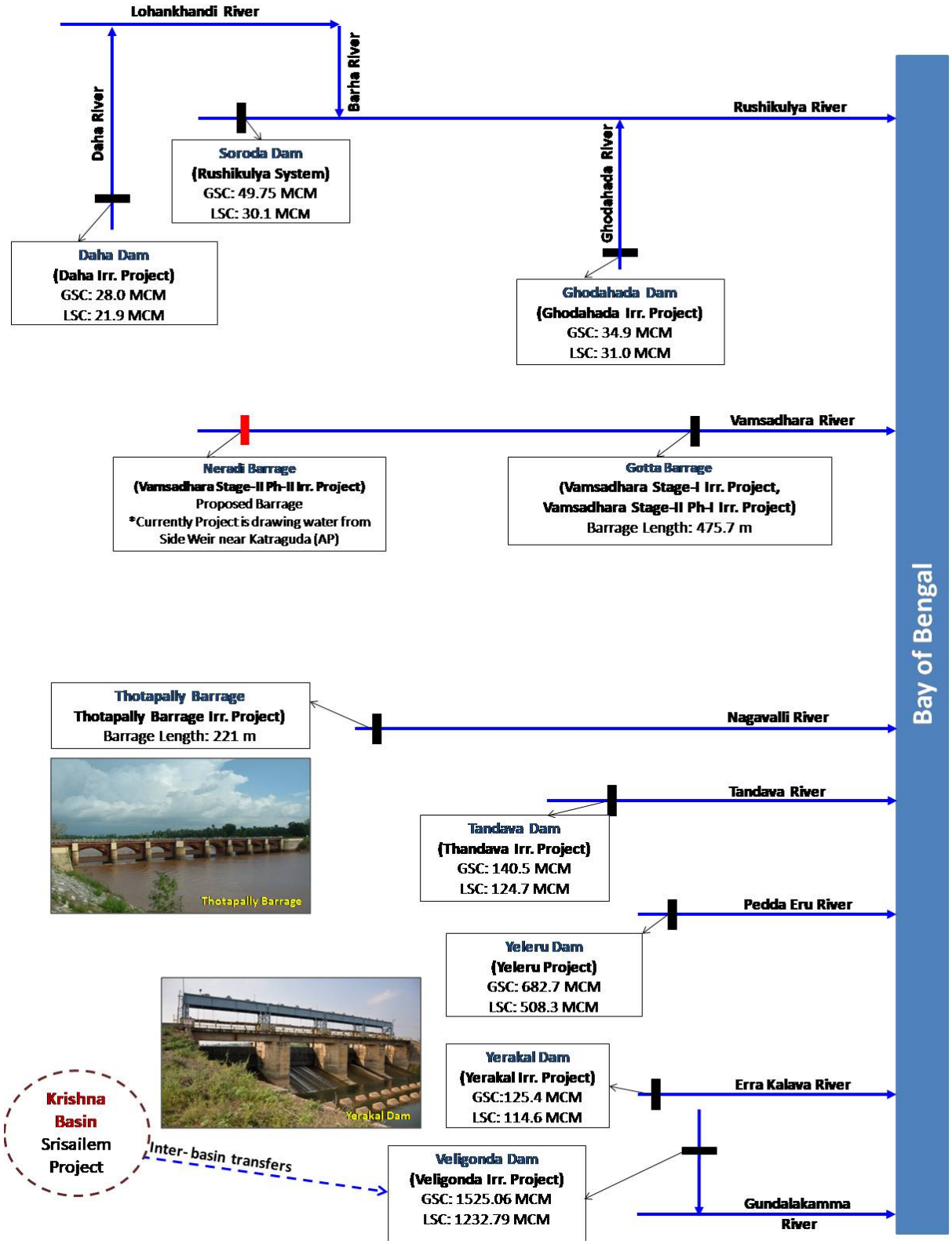


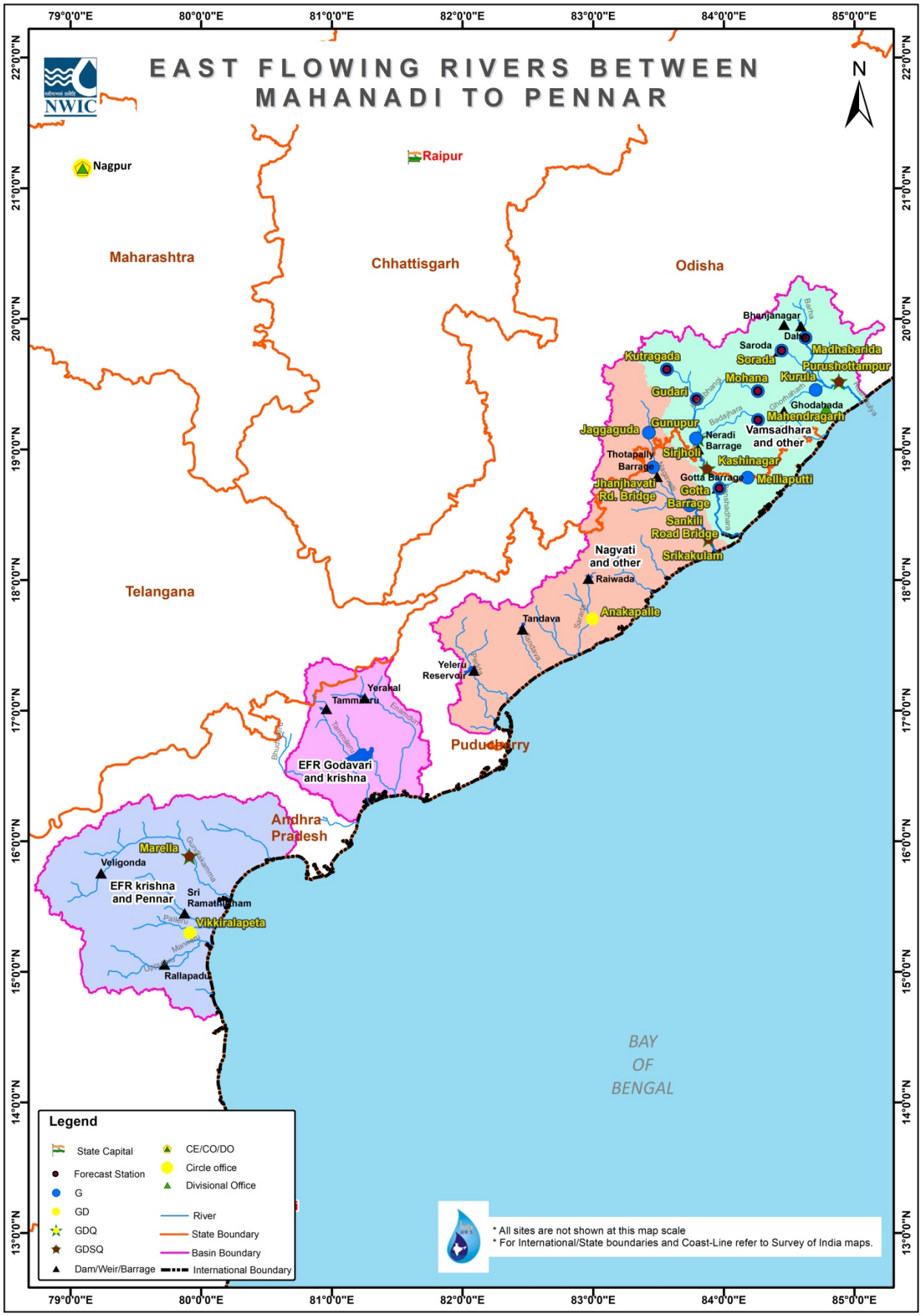
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise EFR between Mahanadi and Pennar Basin Area (Sq. km)



EFR between Mahanadi and Pennar Flow Line Diagram



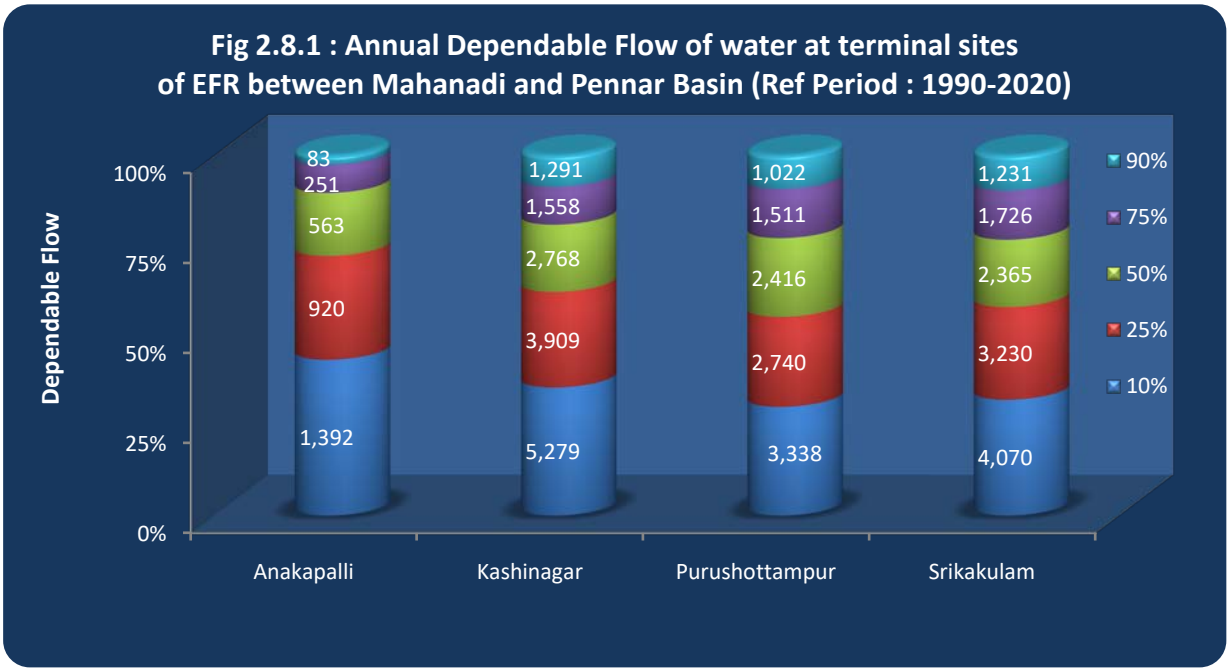


Source:- NWIC, Ministry of Jal Shakti, New Delhi

Table 2.8.1: Annual Dependable Flow of Water at Terminal Sites of EFR between Mahanadi and Pennar Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	ANAKAPALLI	06/1990 to 05/2020	1392.012	920.414	562.620	251.147	82.964
2	KASHINAGAR		5278.692	3908.652	2768.169	1557.942	1291.220
3	PURUSHOTTAMPUR		3337.641	2739.532	2416.245	1511.420	1022.484
4	SRIKAKULAM		4069.627	3230.441	2364.881	1726.297	1230.897

Source : SE (Coord.), Cauvery & Southern RivrsOrganisation, CWC, Bangalore



2.8.10 Land Use Statistics: Table 2.8.2 to Table 2.8.4 present the land use pattern, gross irrigated area and net irrigated area of the basin as compared to all basins(Region-III).

TABLE 2.8.2: LAND UTILISATION PATTERN OF EFR FROM MAHANADI TO PENNAR AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
EFRfrom Mahanadii to Pennar	76725.00	16512.72	18373.90	4677.66	9452.40	27708.32	8383.32	36091.64
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.8.3: GROSS AREA IRRIGATED BY SOURCES OF EFR FROM MAHANADI TO PENNAR AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
EFR from Mahanadi to Pennar	7572.4865	960.06305	8532.5495	2272.9052	4053.5112	554.4761	4607.9873	720.5594	16134.001
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.8.4: NET AREA IRRIGATED BY SOURCES OF EFR FROM MAHANADI TO PENNAR AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
EFR from Mahanadi to Pennar	6231.529	0	6231.529	1894.9888	3937.4716	238.16343	4175.635	3939.8125	16241.965
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

2.8.11 Urban Centres: Behrampur city, Ganjam and Sorada are situated in the basin. Srikakulam, Gunupur,Visakhapatnam and Vijayanagaram are other important towns located in the basin.

2.8.12 Industries: Major industries in the basin are chemical, sugar, Spinning Mills and Steel plants.

2.8.13 Minerals: The basin is rich in mineral wealth. The major economic minerals are clay, limestone, manganese, graphite, mica, bauxite, aluminium, fire clay, quartz, sand talc, black sand and grinding materials.

2.9 EAST FLOWING RIVERS FROM PENNAR TO KANYAKUMARI BASIN

Location: The basin extends over states of Tamil Nadu, Andhra Pradesh, Karnataka and Union Territory of Puducherry having a total area of 1,02,287.9 sq. km (GIS Calculated as per India-WRIS Database) and accounts for nearly 3.08% of the total geographical area of the country. The basin extends between 77°1' to 80°17' east longitudes and 8°11' to 14°27' north latitudes. It is bounded by the Eastern Ghats on the north, by Tamil Nadu uplands on the west, by the Indian Ocean on the south and by the Bay of Bengal on the east.

The composite basin comprises of the river systems between Pennar and Cauvery having an area of 63,646.2 Sq.km and the river systems between Cauvery and Kanyakumari with an area of 38,646.1 Sq.km. The independent rivers (directly draining into Bay of Bengal) are the Kandleru, the Swarnamukhi, the Arani, the Korttalaiyar, the Cooum, the Adyar, the Palar, the Gingee, the Ponnaiyar, the Vellar, the Varshalei, the Vaigai, the Gundar, the Vaippar and the Tambraparni. The basin is comprised of four sub-basins; Vaippar and others Sub-basin, the Palar and other sub-basin, Pamba and others sub-basin and Ponnaiyar and other sub-basin.

The major part of the basin is covered with agricultural land accounting for 66.65% of the total area, forest area comprising of 15% of the basin area and 9.02% of the basin is covered by water bodies. The utilizable surface water is around 16.50 BCM whereas average annual water potential is 16.46 BCM. The total number of watersheds in this basin is 165.

Brief descriptions of the rivers flowing in the basin are given below.

2.9.1 Swarnamukhi: The Swarnamukhi is an East Flowing river basin having a small catchment area of 3,225 sq km. It rises at an elevation of 300 metres in the Eastern Ghat ranges near Pakada village in Chittur district of erstwhile Andhra Pradesh at North latitude 13^0 25' and east longitude 79^0 09'. It runs generally in north eastern direction passing through the famous Tirupati hills before joining into the Bay of Bengal. This Independent river has no major tributaries and therefore its flow depends only on rainfall in its upper catchment.

2.9.2 Kalingi: The Kalingi river is one of the East flowing rivers in erstwhile Andhra Pradesh. It originates near Kalahasti in erstwhile Andhra Pradesh and drains completely in erstwhile Andhra Pradesh and joins in Pulicat lake after Sulurpet. The catchment area of Kalingi river is 5,927 sq km and the length is 76 km. The important tributary is Kalleru river which joins Kalingi river after Sulurpet town.

2.9.3 Palar: The Palar basin is an important basin among the 12 basins lying between the Pennar and the Cauvery basin. This basin is divided into three major topographical divisions namely, (i) the hill ranges of Eastern Ghats (ii) the plateau region and (iii) the coastal plains. Though most of the drainage area lies in Tamil Nadu, its drainage area extends to cover the southeast and southwest parts of Karnataka and erstwhile Andhra Pradesh respectively. The shape of the basin is a rhombus. The basin finds its outlet into Bay of Bengal. The Palar drains an area of 17,871 sq km out of which nearly 57 percent lies in Tamil Nadu and the balance in the states of Karnataka and erstwhile Andhra Pradesh. Each of Gauge, Discharge and Water Quality type of H.O. sites are having 3 sites.

2.9.4 Ponnaiyar: The Ponnaiyar basin is the second largest inter-state East Flowing river basin among the 12 basins lying between the Pennar and the Cauvery basins. It covers a large area in the

state of Tamil Nadu, besides the areas covered in the states of Karnataka and erstwhile Andhra Pradesh. It lies between the east longitudes 77^0 33' to 79^0 47' and north latitudes 11^0 45' to 13^0 30'. This basin is bounded in the northwest and south by various ranges of the Eastern Ghats like the Velikonda range, the Nagari hills, the Javadu hills, the Shevaroy hills, the Chitteri hills and the Kalrayan hills and in the east by the Bay of Bengal. The Ponnaiyar drains an area of 16,019 Sq km out of which nearly 77 percent lies in Tamil Nadu. The Ponniaror the Dakshina Pinakini river rises near Hongashenhalli village at an elevation of about 900m above mslin the Kolar district of Karnataka state. From its origin, the river Ponniar generally flows in the southern direction through Kolar and Bangalore districts of Karnataka to a length of 79 km before entering the Dharmapuri district of Tamil Nadu. The river flows another 247 km generally in the south east direction in the districts of Dharmapuri, Vellore, Tiruvannamalai, Cuddalore and Villupuram districts. Then, the river flows in the eastern direction below the Tirukoyilur Anicut for another 70 km before finding its way into the Bay of Bengal. The river Ponnaiyar branches into two, the Gadilam near Cuddalore and the Ponnaiyar near the Union Territory of Puducherry. On its way, the river Ponnaiyar receives a number of small streams and rivulets. Krishnagiri and Sathanur Reservoir are the major projects in the catchment areas of the river basin

2.9.5 Vellar: The Vellar River rises at an elevation of 900 metres near the village of Tumba in the Chottori hills, of the Eastern Ghats in the Salem district of Tamil Nadu. It flows generally in an easterly direction for a total length of 210 Km through Salem and Cuddalore districts in Tamil Nadu and finally outfalls into the Bay of Bengal near Porto Nova in Cuddalore district. It drains a total catchment area of about 8,922 sq km. The Gomukinadhi and Manimukthanadi are the important left bank tributaries and Swetanadhi and Chinnar are the right bank tributaries of the Vellar. There is one H.O. site each for Gauge, Discharge and Water Quality.

2.9.6 Vaigai: The Vaigai basin is an important basin among the 12 basins lying between the Cauvery and Kanyakumari. The basin is bounded by the Varushanadu hills, the Andipatti hills, the Cardaman hills and the Palani hills on the west and the Palk Strait and Palk Bay on the east. This basin is divided into two major topographical divisions namely (i) the hilly areas and (ii) the plains. The basin is elongated in shape and drains into the Palk Bay. The Vaigai drains an area of 7,741 sq km which entirely lies in the state of Tamil Nadu.

The Vaigai river rises on the eastern slopes of the Varushanadu hills at an elevation on 1,200m above msl near Kottamalai in the Madurai district at north latitude 9^0 32' and east longitude 77^0 23' and flows in the northernly and north easternly directions up to its confluence with the Varahanadi and then takes a turn towards east and south-east to flow through Madurai, Sivagangai and Ramanathapuram districts. On its way, the Vaigai receives two important tributaries namely the Suruliyar and the Manjalar on its left bank, besides a large number of small streams and rivulets. The river has been dammed downstream of its confluence with the Suruliyar tributary.

The Suruliyar and the Manjalar, the two important left bank tributaries together account for nearly 20 percent of the total catchment area of the Vaigai. The Suruliyar is the principal tributary of the Vaigai also rises in the eastern slopes of the Varushanadu hills and flows in the north and north eastern direction. It receives Theniar on its left bank just before its confluence with the Vaigai. The Manjalar another major tributary rises in the Palani hills and flows generally in the easterly direction before joining the Vaigai below the Vaigai dam. The Vaigai also receives another minor tributary namely the Varahanadi on its left bank below the Vaigai dam. The Vaigai Reservoir is a major project in the catchment area of the basin. There are H. O. sites with 3 for each of Gauge, Discharge, Sedimentation and Water Quality.

2.9.7 Vaippar: The Vaippar river rises on the eastern slopes of the Varushanadu hill ranges of the Western Ghats near Sivagiri in Thirunelveli district in Tamilnadu at an elevation of about 900m. It

flows generally in an easterly direction for a length of about 125 km through Thirunelveli, Virudhunagar and Tuticorin districts in Tamilnadu and joins the Gulf of Mannar near Kalattur. The river basin is located on the south of Vaigai. It drains a total catchment area of 5,069 sq km. The catchment area lies entirely in Tamilnadu. The Arjunanadhi and Vijayanadhi are the important tributaries on the left bank. There is one H.O. site for each of Gauge, Discharge and Water Quality.

2.9.8 Tambraparani: The Tambraparani river rises on the eastern slopes of the Western Ghats at an elevation of about 1,400m at north latitude 8^0 46' and east longitude 77^0 15' near Alwarkurichi village in Thirunelveli district of Tamilnadu to flow in a generally easterly direction for a total length of 130 km and joins the Gulf of Mannar. The Chittar and Manimuthar are the left & right bank tributaries of this river. The total area drained by the Tambraparani is 5,482 sq km. There is one H.O. site for each of Gauge, Discharge, Sedimentation and Water Quality.

2.9.9 Varahanadi: The main river Varahanadi originates from the Northern part of Pakkammalai hills at an elevation of 5660 metres above m.s.l, in the western slopes past of Gingee Taluk. The total area of the basin is 2564 Sq. Kms. The total length of Varahanadi up to its outfall into Bay of Bengal, a little South of Puducherry state, is about 78.50 kms. There is one H.O. site on this stream at Kumarapalayam being operated by Central Water Commission. There is one H.O. site for each of Gauge, Discharge and Water Quality.

2.9.10 Irrigation Projects: The Somashila in the sub-basin of Pennar, Krishnagiri and Sathanur in the sub-basin of Ponniar, Vaigai reservoir in the sub-basin of Vaigai are the major projects in the catchment areas of the west flowing river basin.

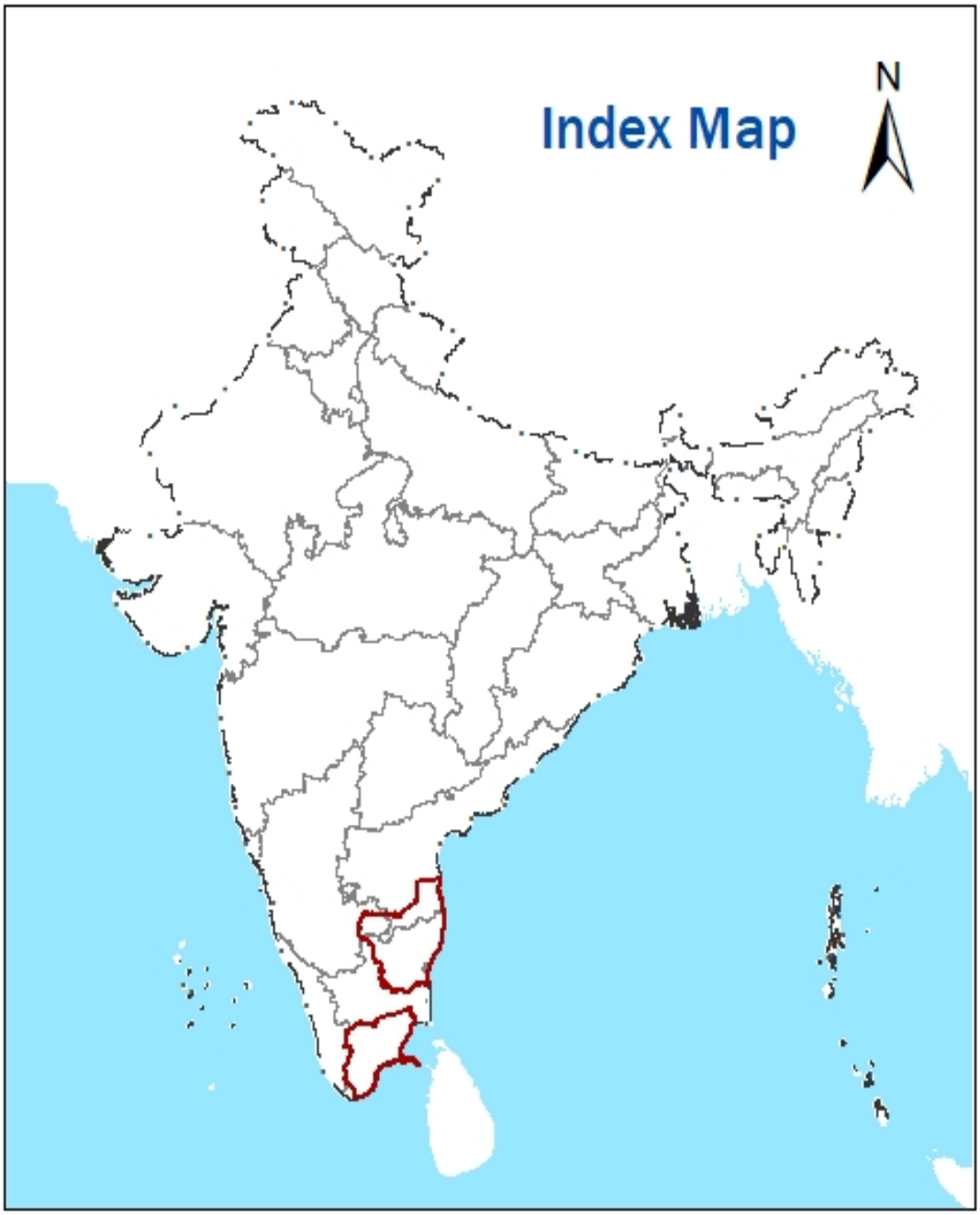
2.9.11 Hydrological Observation Sites: There are 38 sites in this basin, the details of which are given as below:

(As on September 2020)

Site Type	No. of Hydrological Observations
G	00
GD	19
GDQ	10
GDS	00
GDSQ	08
GQ	00
SG&Met	01
WQSS	00
Total	**38**

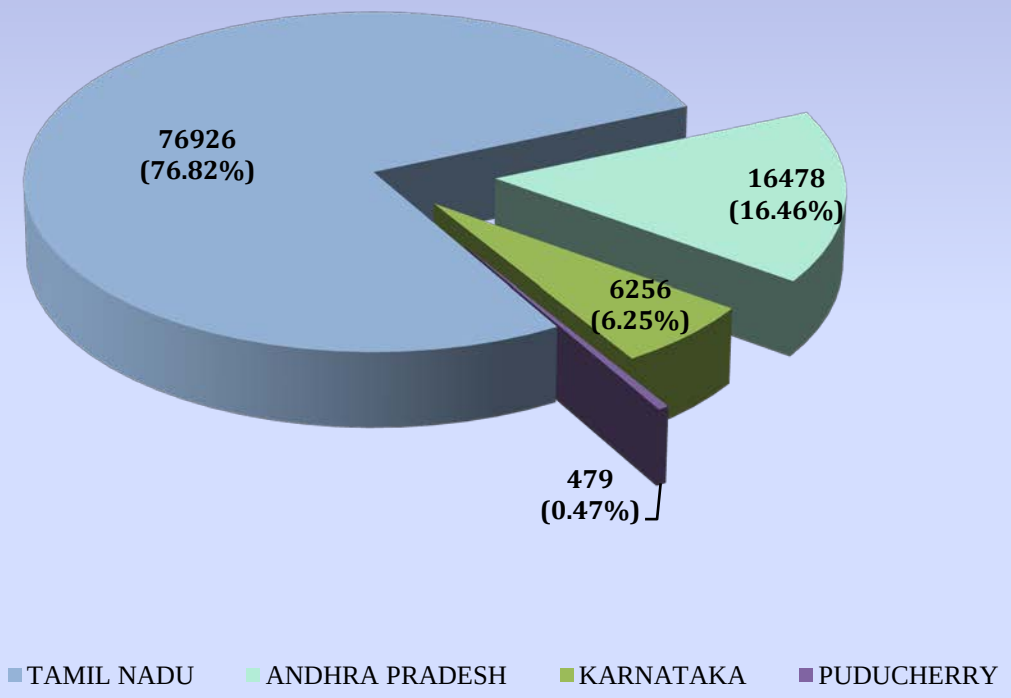
Source:RDC-II, CWC

2.9.12 Peak Water Level: Most of the sites have not registered significant peak water level in the basin. Only four sites have registered 200 metres or above peak water level out of 37 reported sites during the reference period 2019-20. The maximum peak water level was observed at 'Singasadana palli site (844.46 metres) on 19.04.2019, which is highly significant as compared to observations made at other reporting sites.

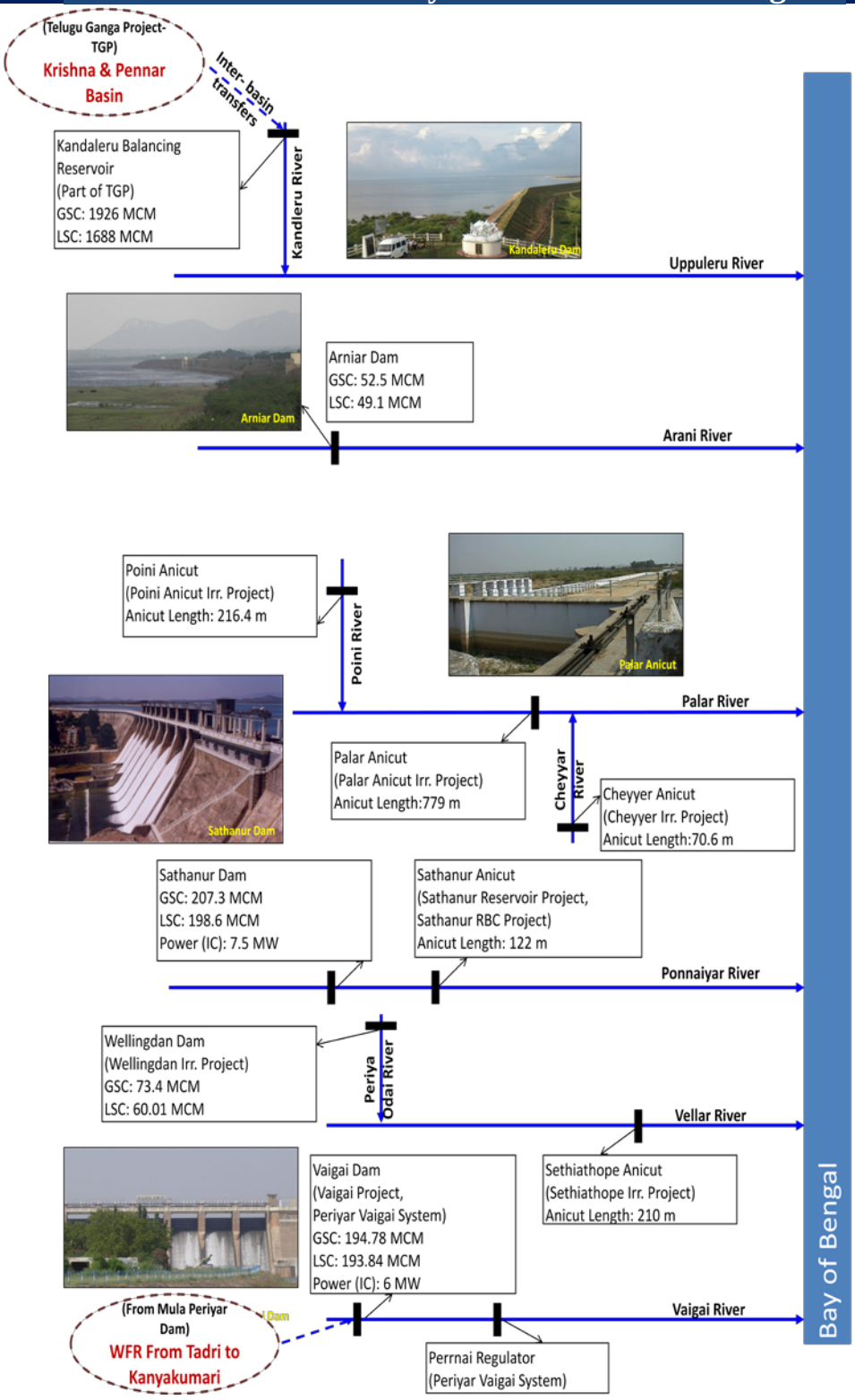


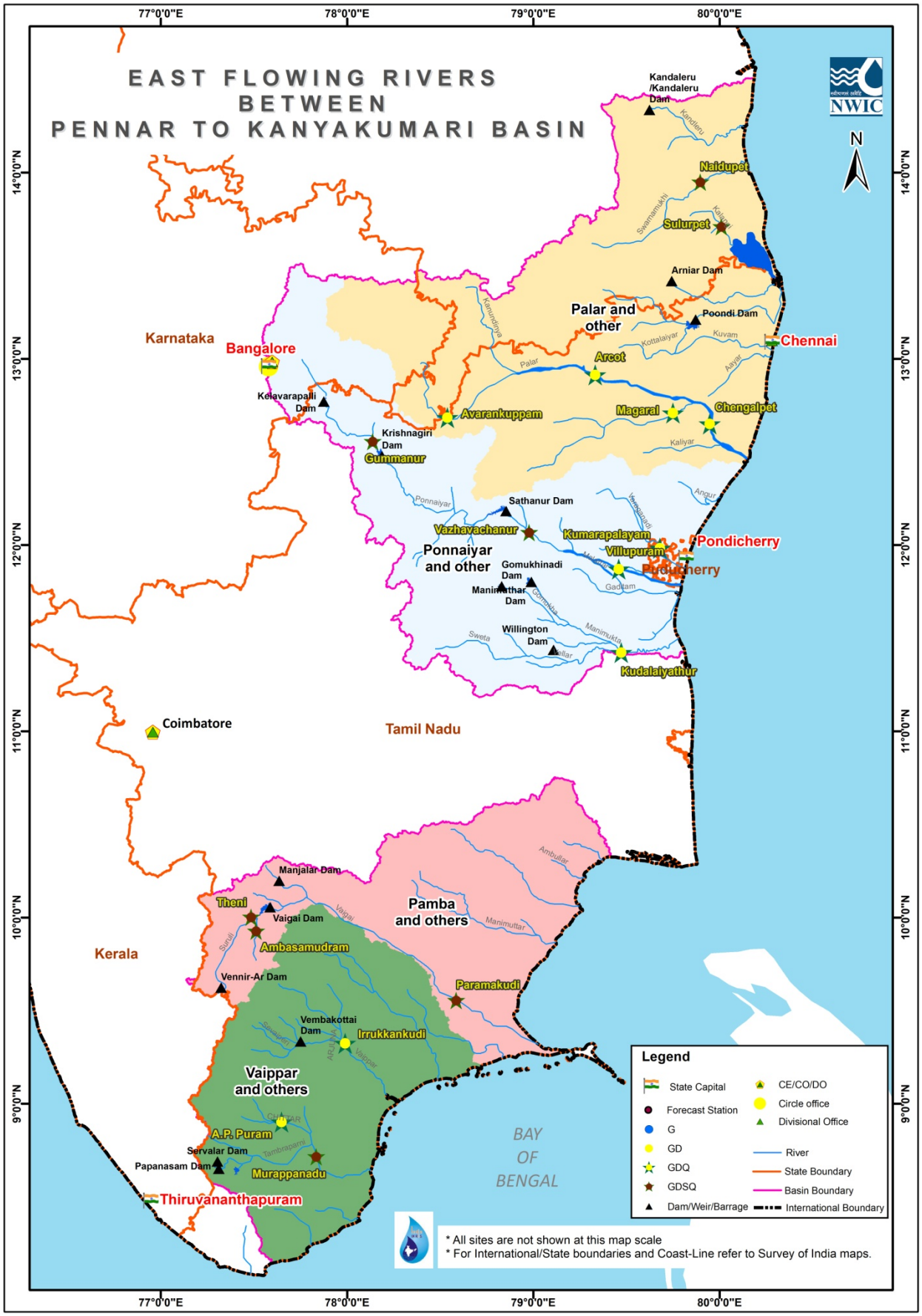
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise EFR from Pennar to Kanyakumari Basin Area (Sq. km)



EFR from Pennar to KanyakumariFlow Line Diagram



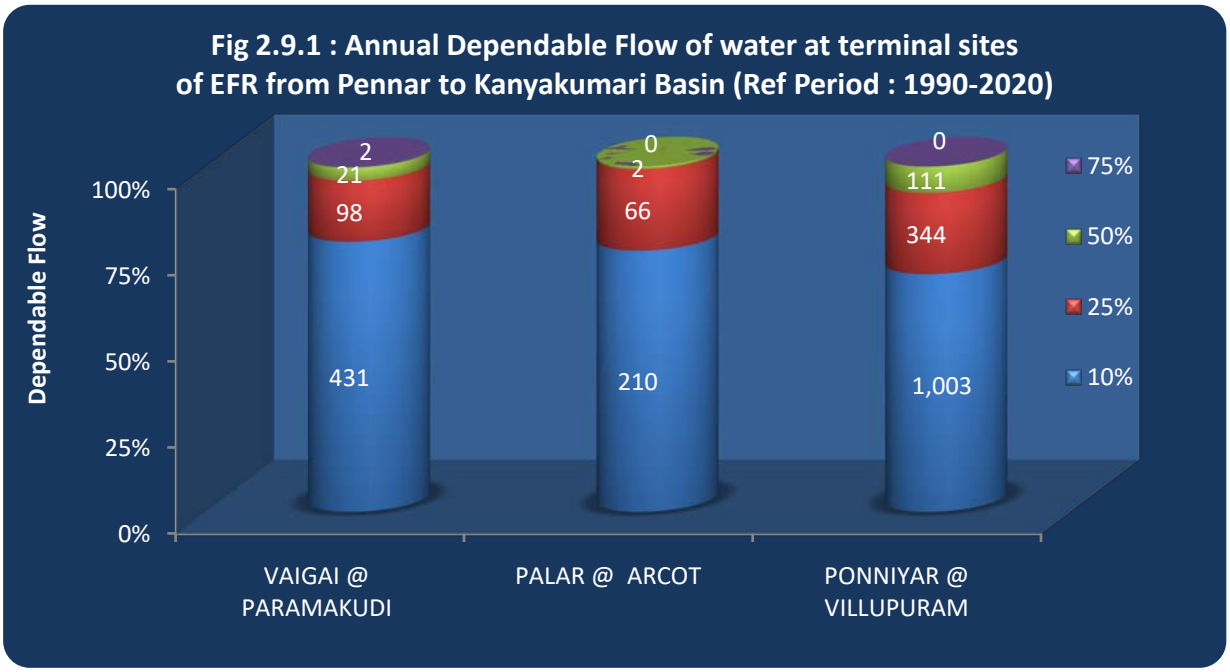


Source:- NWIC, Ministry of Jal Shakti, New Delhi

Table 2.9.1: Annual Dependable Flow Of Water at Terminal Sites Of EFR from Pennar to Kanyakumari Basin

Sl. No.	River @ Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	VAIGAI @PARAMAKUDI	6/1990 to 5/2020	431.188	97.815	21.109	1.528	0.000
2	PALAR @ ARCOT		209.589	65.624	2.013	0.000	0.000
3	PONNIYAR @ VILLUPURAM		1002.732	343.870	111.274	0.000	0.000

Source : SE (Coord.), Cauvery & Southern RivrsOrganisation, CWC, Bangalore



2.9.13 Land Use Statistics: Table 2.9.2 to Table 2.9.4 present the land use pattern, gross irrigated area and net irrigated area for the basin as compared to all basins (Region-III).

TABLE 2.9.1: LAND UTILISATION PATTERN OF EFR BETWEEN PENNAR & KANYAKUMARI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
EFR between pennar and kanyakumari	101846.797	16303.5767	23632.0623	6383.47371	22018.6577	33509.0272	6543.21256	40052.2398
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.9.2: GROSS AREA IRRIGATED BY SOURCES OF EFR BETWEEN PENNAR & KANYAKUMARI AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
EFR between pennar and kanyakumari	2211.2168	1.8746737	2213.0914	3937.6693	6790.9928	9792.8839	16583.877	29.46304	22764.101
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A &FW.

TABLE 2.9.3: NET AREA IRRIGATED BY SOURCES OF EFR BETWEEN PENNAR & KANYAKUMARI AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
efr between pennar and kanyakumari	1619.143	4.311	1623.454	3655.78	4537.07	7991.36	12528.43	22.9543	17830.62
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

2.9.14 Minerals: Important minerals found in the basin are Lime Stone, Sand Stone, Quartzite and Dolomite.

2.10 NARMADA BASIN

Location: The Narmada is the largest west flowing and fifth largest river of India. It drains an area of 98,796 sq km out of which nearly 87% lies in Madhya Pradesh besides some areas in the states of Maharashtra and Gujarat. The Narmada basin lies between east longitudes 72^0 32' to 81^0 45' and north latitudes $21^0$20' to $23^0$45'. It flows through Deccan trap in between Vindhya and Satpura ranges of hills before flowing into the Gulf of Cambay in the Arabian Sea.

The Narmada originates from a Kund (spring) at an elevation of 1057m at Amarkantak in the Maikal hill in Shahdol district of Madhya Pradesh and flows through Madhya Pradesh, Maharashtra and Gujarat between Vindhya and Satpura hill ranges before falling into the Gulf of Cambay in the Arabian Sea, about 10 km north of Bharuch district of Gujarat. The total length of this west flowing river from its origin to its outfall into the Sea is 1,312 km. For the first 1,079 km, it runs in Madhya Pradesh and thereafter it forms the common boundary between Madhya Pradesh and Maharashtra for 35 km, and Maharashtra and Gujarat for 39 km. In Gujarat State, it stretches for 159 km. There are 41 important tributaries to the Narmada River. Significant among them are Burhner, Banjar, Hiran, Tawa, ChhotaTawa, Orsang and Kundi which are major tributaries having a catchment area of more than 3,500 sq km. The remaining tributaries are having catchment areas ranging from 500 to 2,500 sq km. The temperature of Narmada basin is like any other part of Central India. In general, the upper Narmada basin records lower temperature as compared to the middle basin and varies between 4.5^0 C to 49^0 C..

2.10.1 Irrigation Projects: Karjan, Sardar Sarover, Jobat, Man, Upper Beda, Maheshwar, Indira Sagar, Sukta, Kolar, Tawa, Barna, Bargi, Matiyari are the major projects in the catchment areas of the river basin.

2.10.2 Hydrological Observation (H.O.)Sites: There are in total 73 H.O sites in this basin, the details of which are given as:

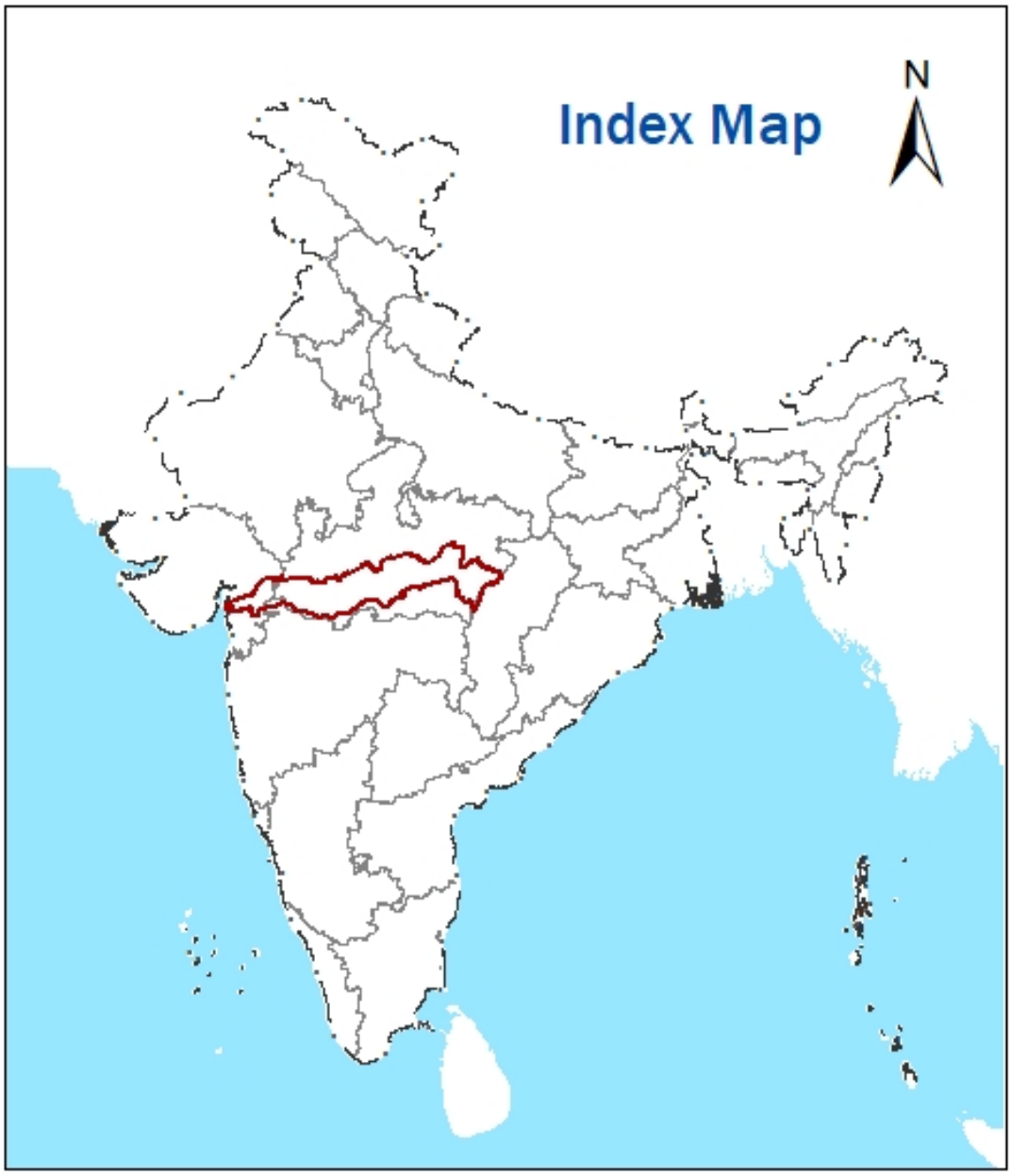
(As on September 2020)

Site Type	No. of Hydrological Observations
G	18
GD	37
GDQ	05
GDS	00
GDSQ	10
GQ	01
SG&Met	02
WQSS	00
Total	**73**

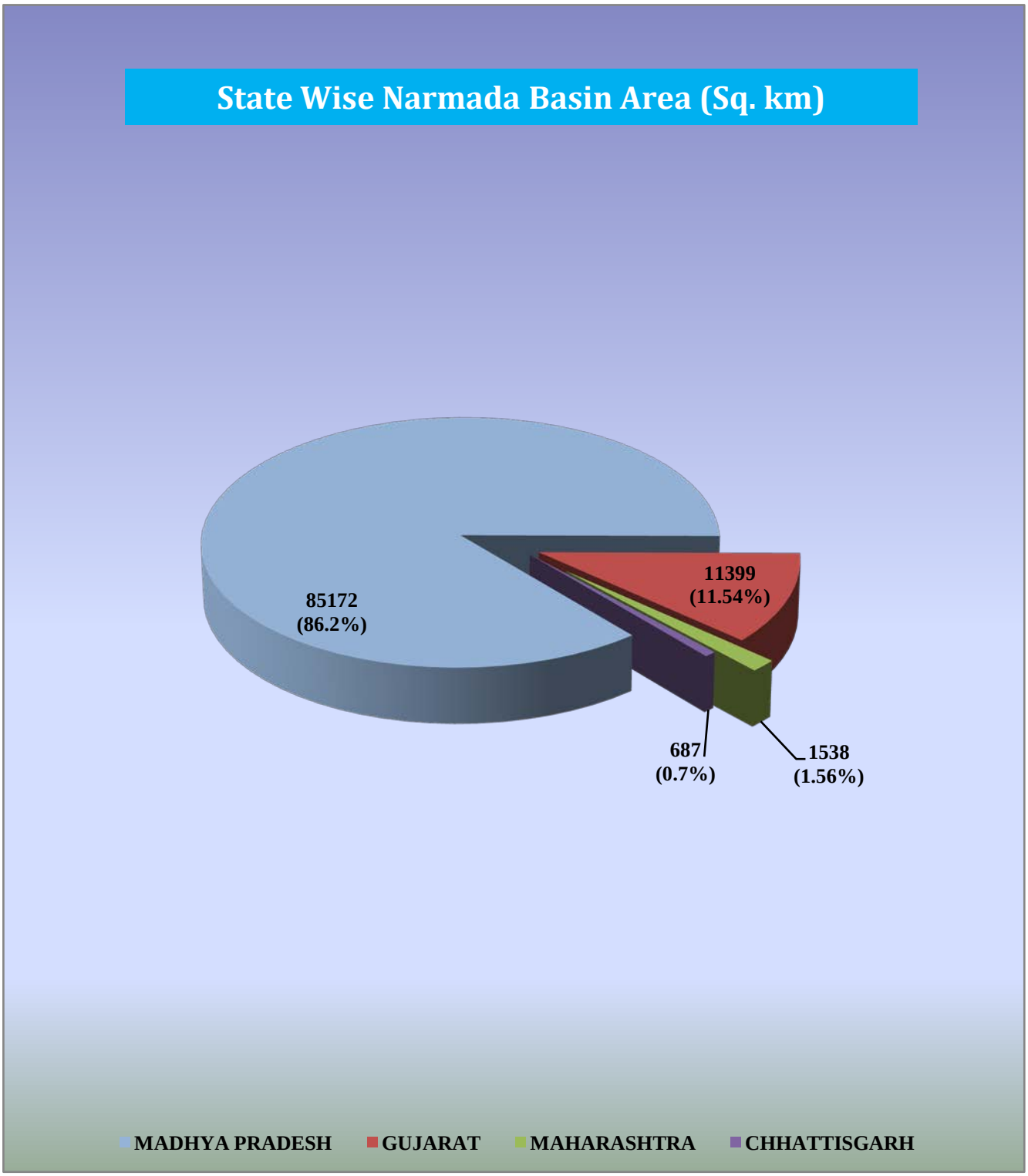
Source:RDC-II, CWC

2.10.3 Peak Water Level: This basin contains 18 sites and has an interesting fact that Dindori site which is situated at the highest latitude and longitude registered the highest peak water level of the order of 669.64 metres on 23.08.1991 during the reference period 2019-20.

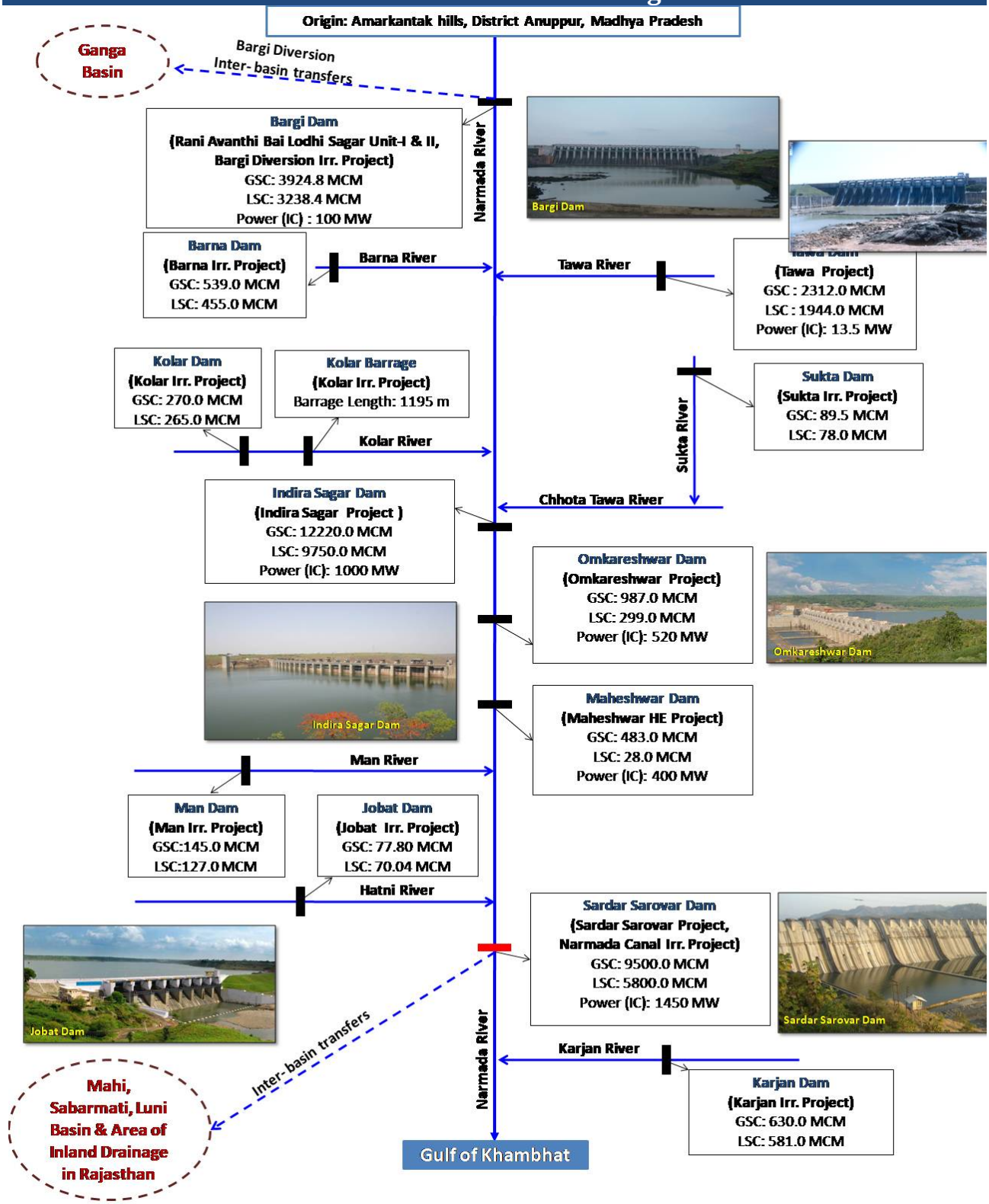
2.10.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for four sites of Narmada basin (Fig 2.10.1 to Fig 2.10.12).

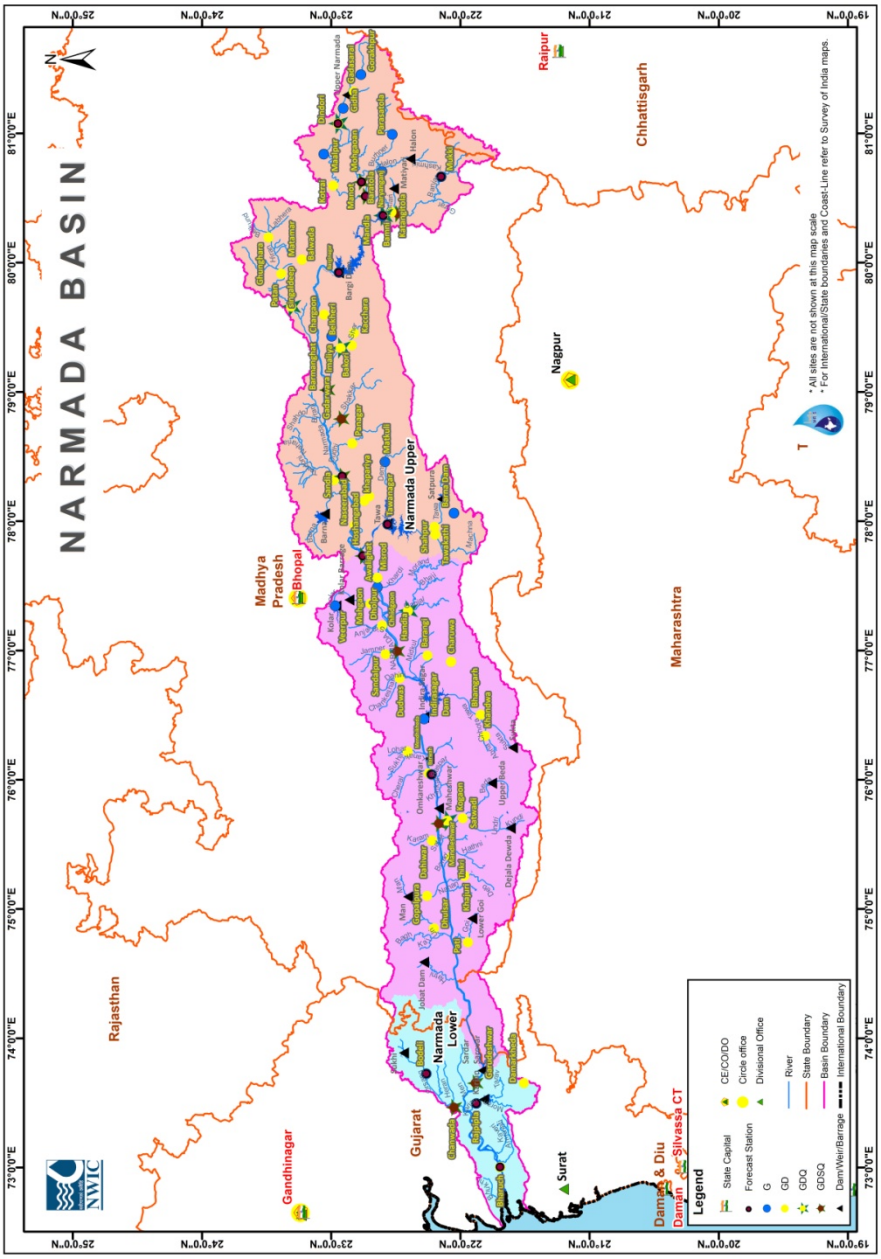


Source:- NWIC, Ministry of Jal Shakti, New Delhi


State Wise Narmada Basin Area (Sq. km)
85172
(86.2%)
11399
(11.54%)
687
(0.7%)
1538
(1.56%)
MADHYA PRADESH
GUJARAT
MAHARASHTRA
CHHATTISGARH

Narmada River Flow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Basin: Narmada (Water Quality Parameter: pH)

Fig 2.10.1 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for pH at Narmada Basin

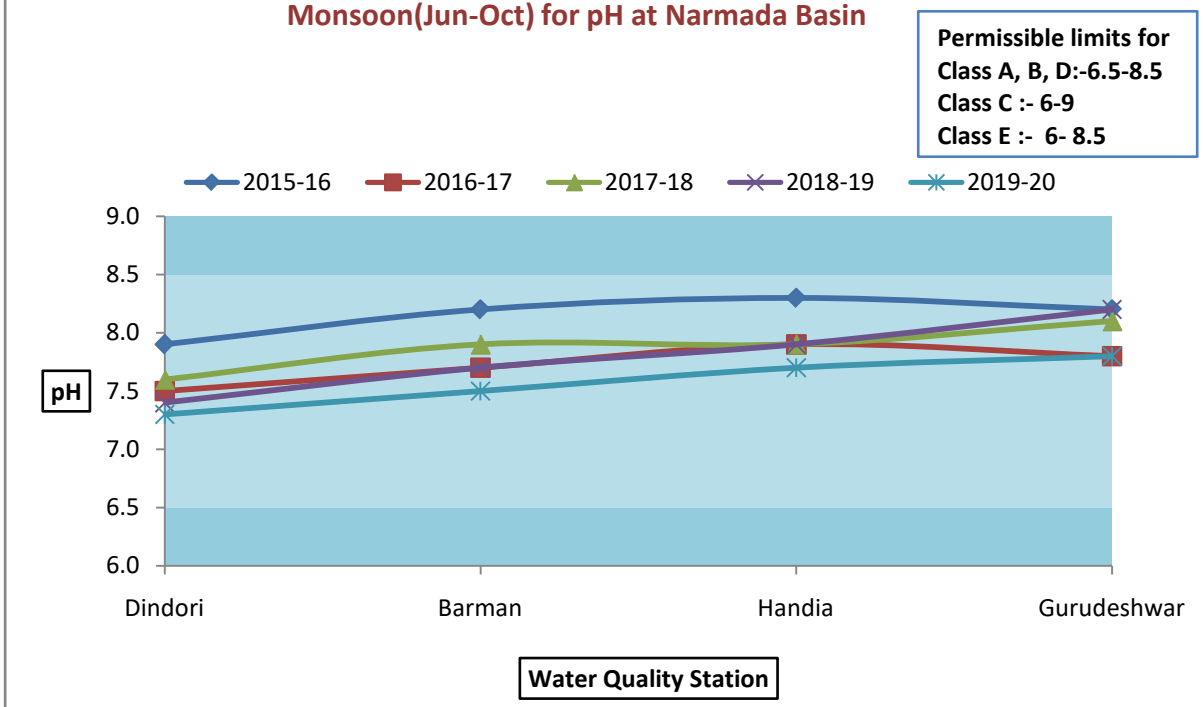


Fig 2.10.2 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter (Nov-Feb) for pH at Narmada Basin

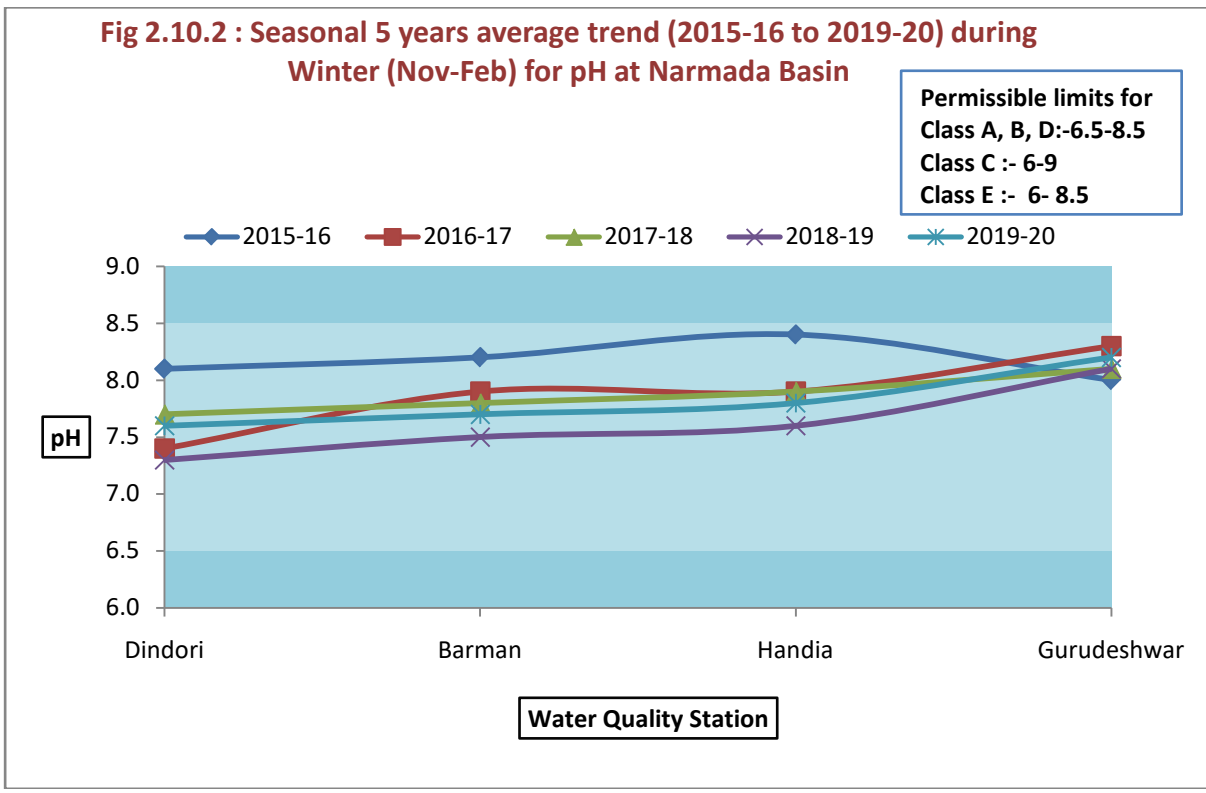
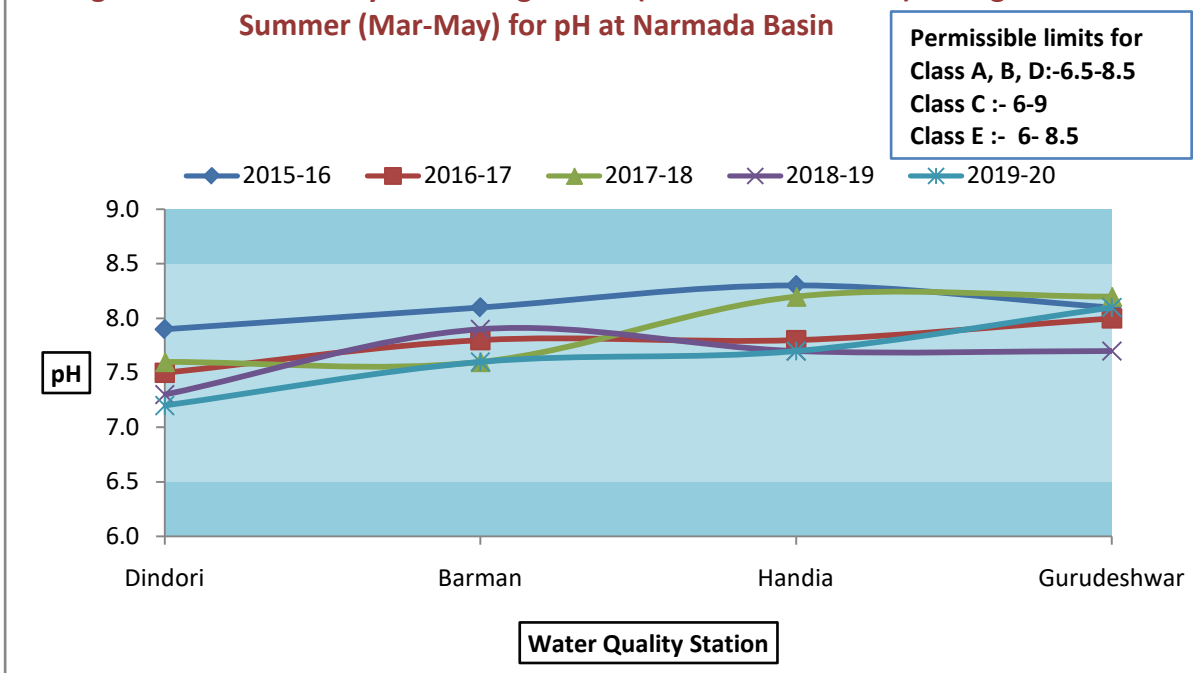


Fig 2.10.3 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer (Mar-May) for pH at Narmada Basin



Basin: Narmada (Water Quality Parameter: BOD)

Fig 2.10.4 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for BOD at Narmada Basin

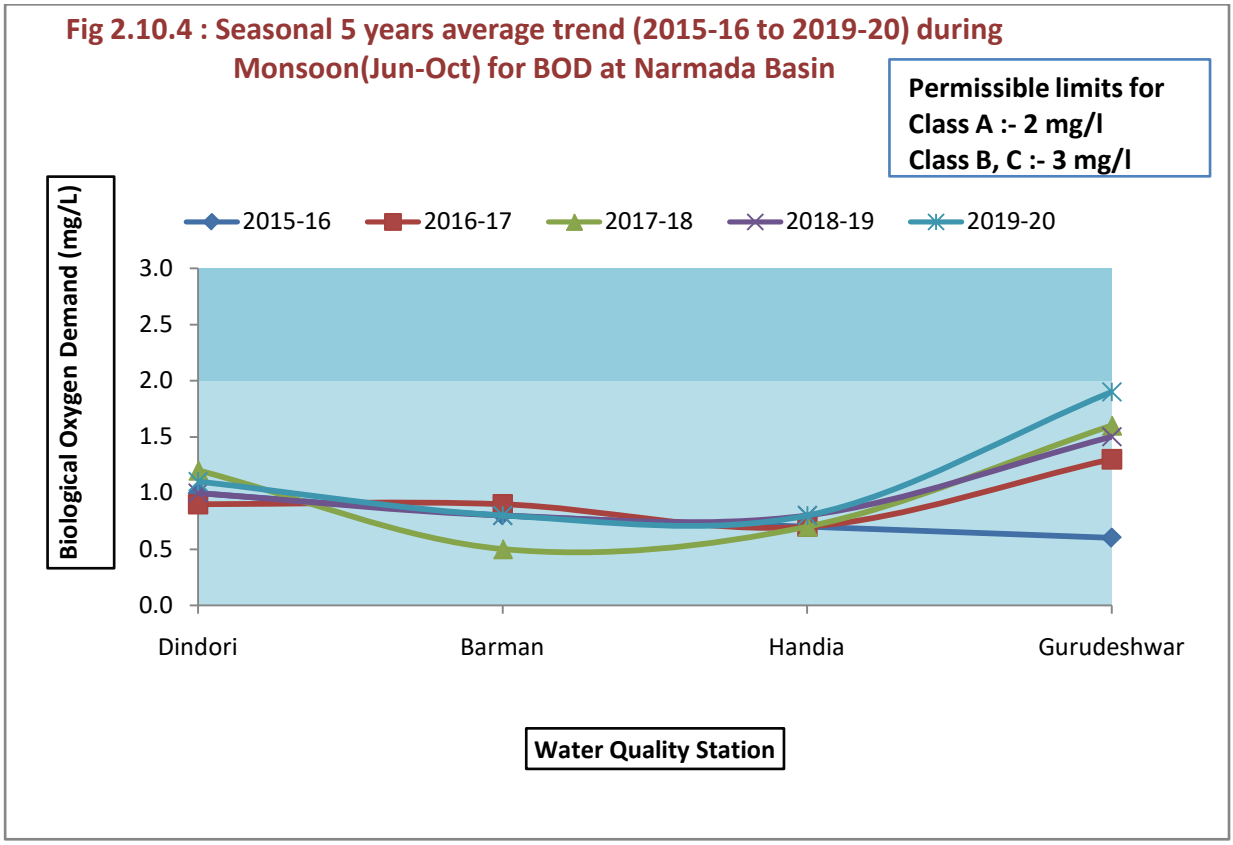


Fig 2.10.5 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter (Nov-Feb) for BOD at Narmada Basin

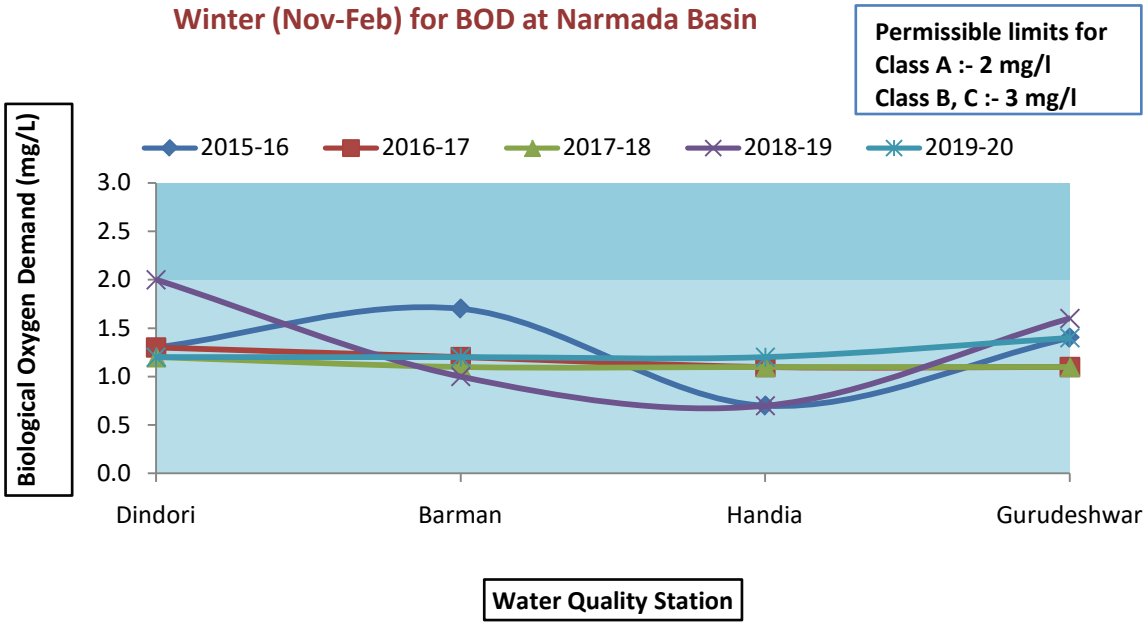
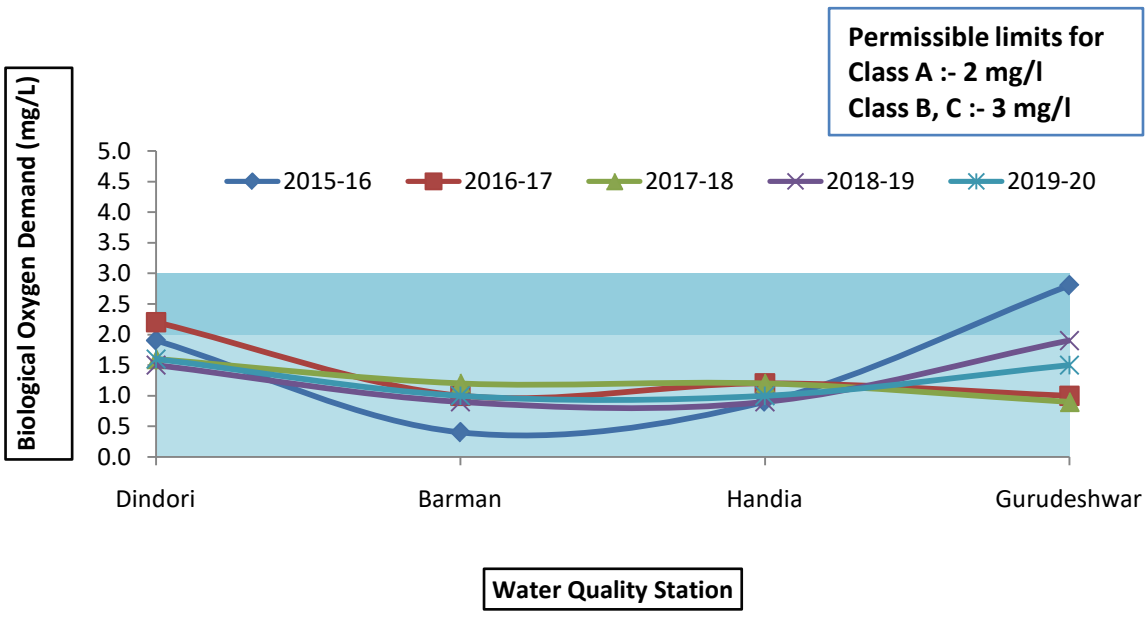


Fig 2.10.6 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for BOD at Narmada Basin



Basin: Narmada (Water Quality Parameter : Dissolved Oxygen)

Fig 2.10.7 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for DO at Narmada Basin

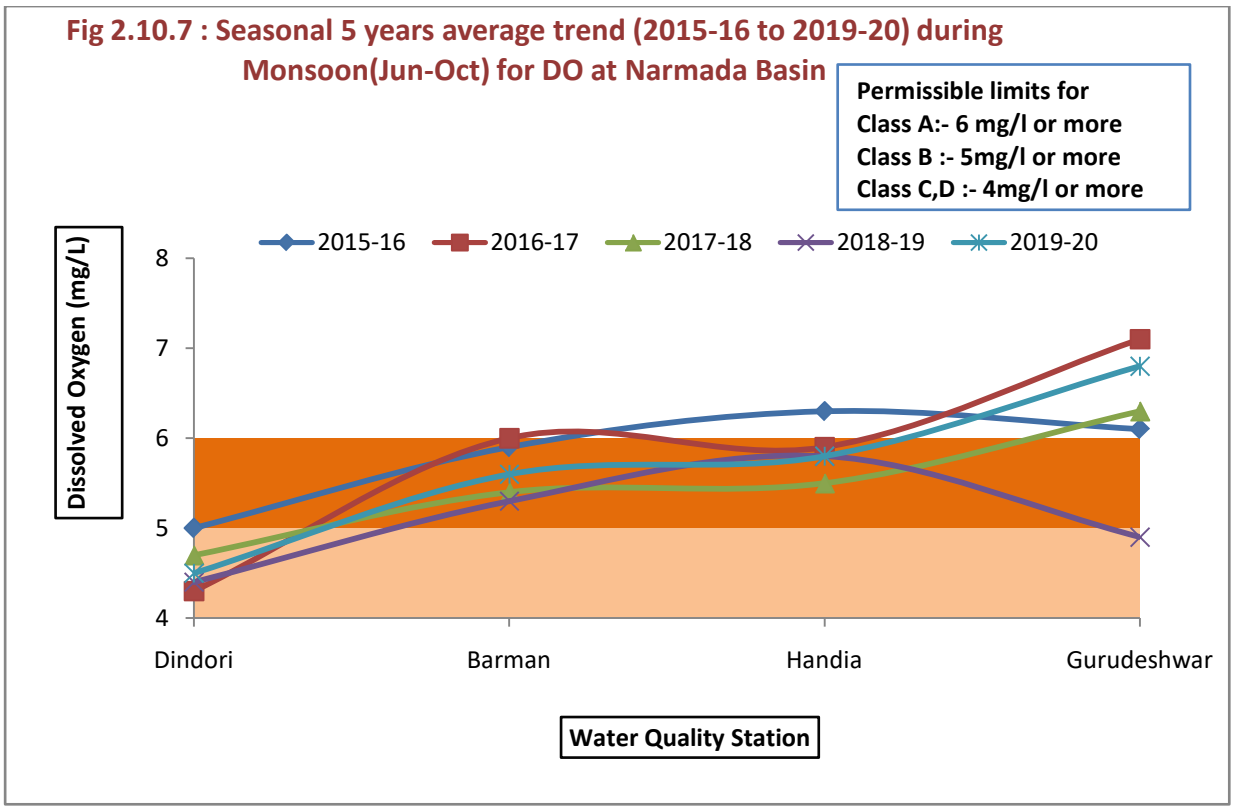


Fig 2.10.8 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for DO at Narmada Basin

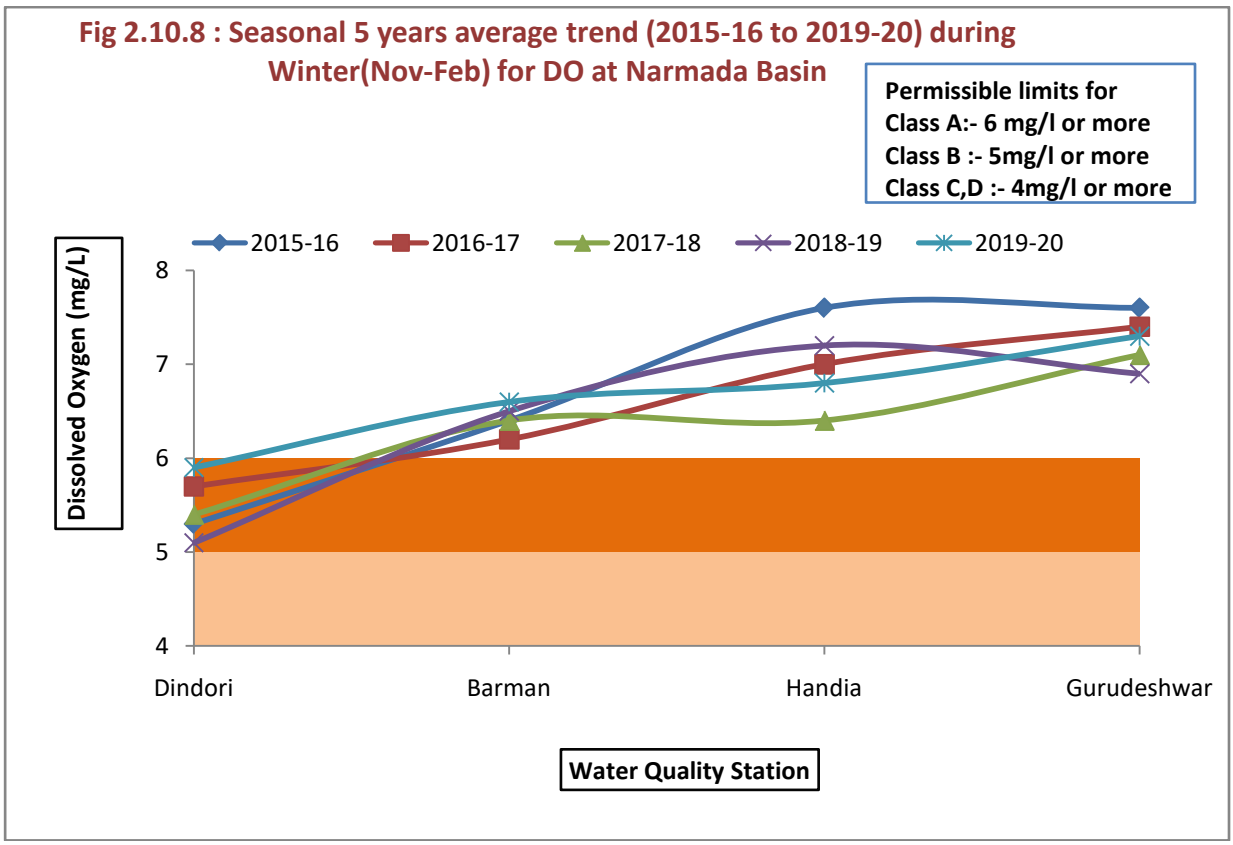
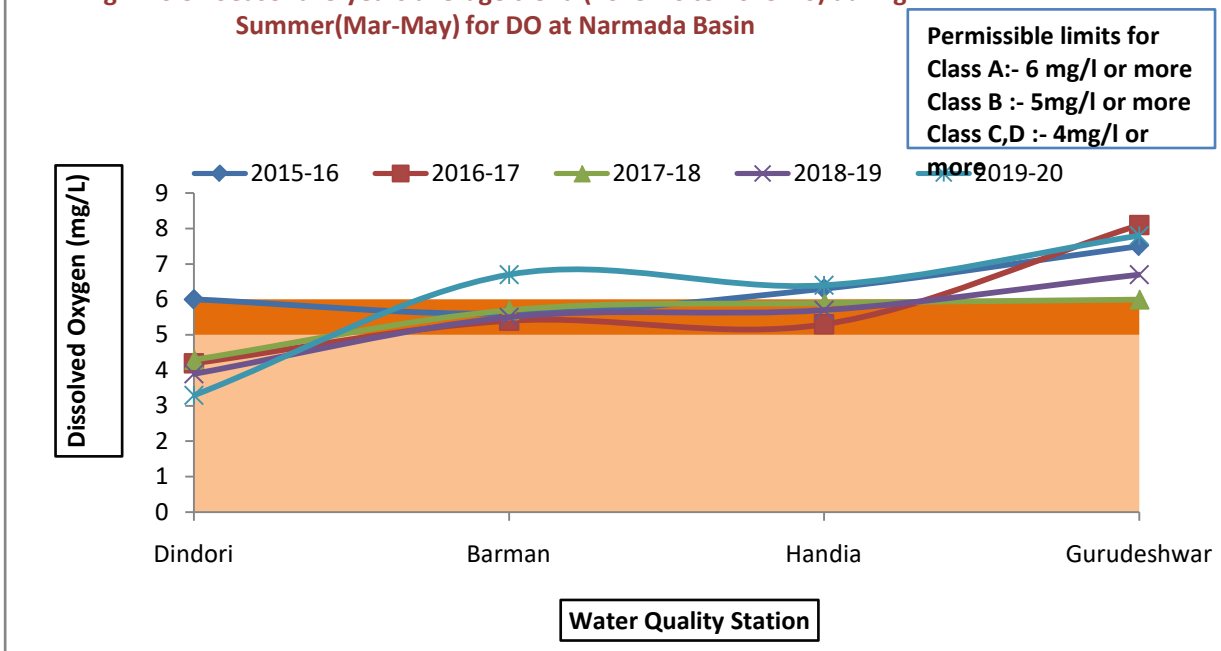


Fig 2.10.9 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for DO at Narmada Basin



Basin: Narmada (Water Quality Parameter : Total Hardness)

Fig 2.10.10 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for Total Hardness at Narmada Basin

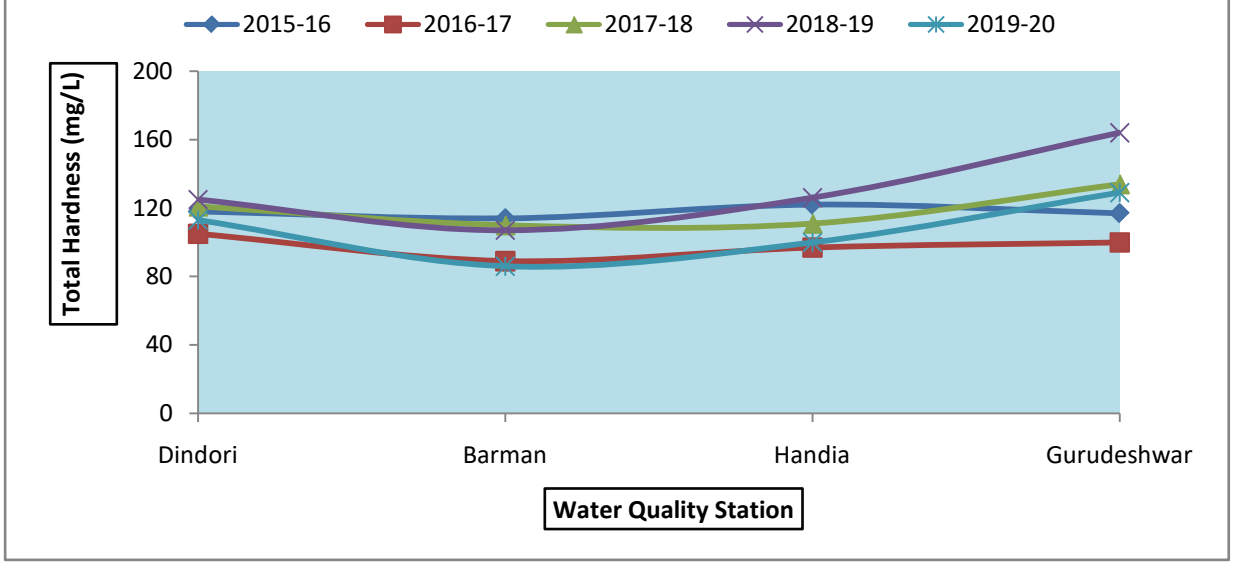


Fig 2.10.11 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter (Nov-Feb) for Total Hardness at Narmada Basin

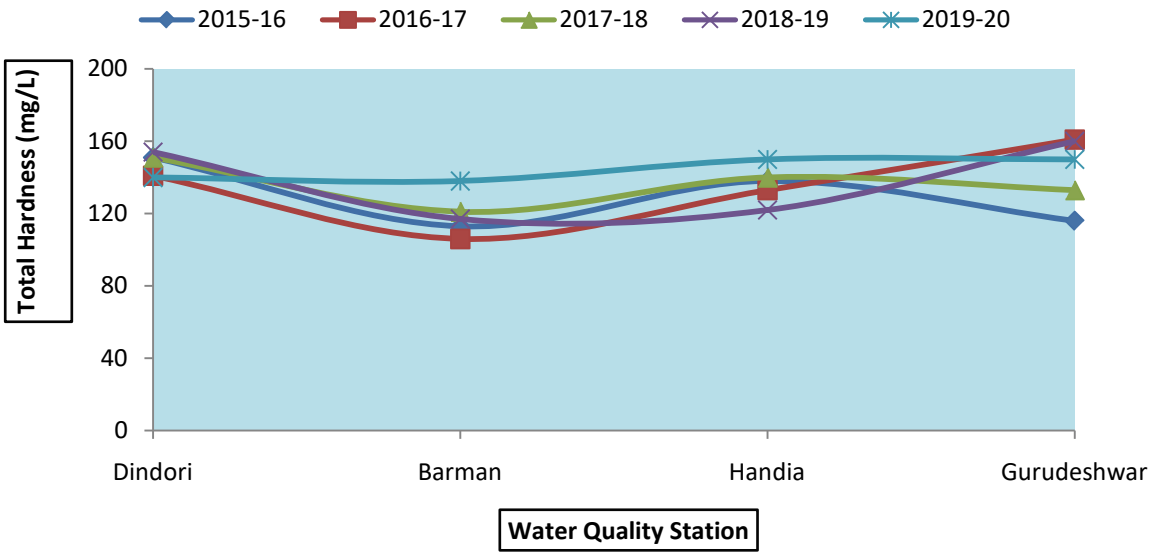


Fig 2.10.12 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for Total Hardness at Narmada Basin

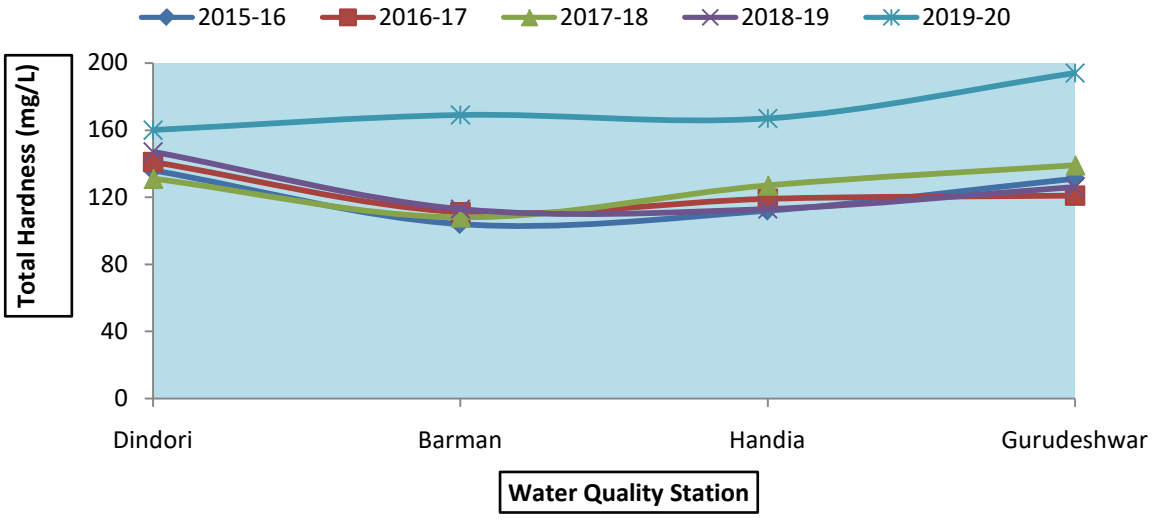
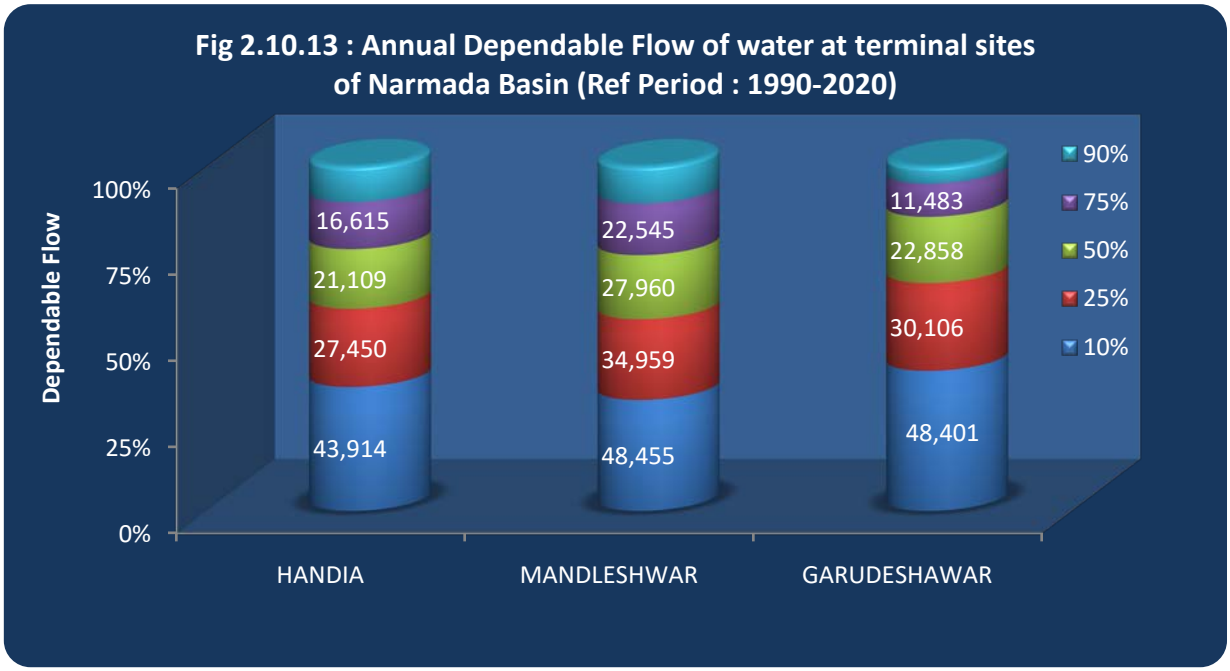


Table 2.10.1: Annual Dependable Flow Of Water at Terminal Sites Of Narmada Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	HANDIA	6/1990 to 5/2020	43913.72	27449.93	21108.80	16615.17	12660.54
2	MANDLESHWAR		48454.71	34959.29	27959.70	22544.76	16165.35
3	GARUDESHAWAR		48401.41	30106.28	22858.35	11483.23	5922.57

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP) 2015-16 Narmada Basin.



2.10.5 Land Use Statistics: Table 2.10.2 to Table 2.10.4 present the land use pattern, gross irrigated area and net irrigated area for Narmada basin as compared to all basins (Region-III).

TABLE 2.10.2: LAND UTILISATION PATTERN OF NARMADA AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Narmada	86993.13558	29571.96652	8607.761761	5638.23727	2543.634439	40631.5356	27165.26538	67796.80098
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.10.3: GROSS AREA IRRIGATED BY SOURCES OF NARMADA AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Narmada	7118.9516	0	7118.9516	650.46338	13001.037	9916.3509	22917.388	3722.6358	34409.439
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

TABLE 2.10.4: NET AREA IRRIGATED BY SOURCES OF NARMADA AND ALL RIVER BASINS (REGION-III) DURING 2017-18(AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Narmada	6629.1036	0	6629.1036	640.67511	11212.46	7920.7515	19133.212	3134.9665	29537.957
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte.of Economics & Statistics, M/o. A & FW.

2.10.6 Urban Centres: Jabalpur town is the main city in this basin. The second largest urban pocket in the Narmada Basin is Bharuch of Gujarat. Other urbanized centers are Khandwa of Madhya Pradesh.

2.10.7 Industries: There are few large scale and medium scale industries in the area. But as compared with other basins, industrialization is thin in this area.

2.10.8 Minerals: Important minerals found in the basin are Bauxite, Clay, coal, dolomite, graphite, iron ore, manganese, talc & limestone, etc.

2.11 TAPI BASIN

Location: The Tapi river is the second largest westward draining inter-state river basin. It covers a large area in the State of Maharashtra besides areas in the states of Madhya Pradesh and Gujarat. The Tapi Basin is the northern-most basin of the Deccan plateau and is situated between latitudes 20^0 05' N to 22^0 03' N and longitudes of 72^0 38' E and 78^0 17' E. The Satpura range forms its northern boundary, whereas the Ajanta and Satmala hills form its southern extremity and Mahadeo hills form its eastern boundary. The basin finds its outlet in the Arabian Sea in the west. Bounded on the three sides by the hill ranges, the river Tapi, along with its tributaries, more or less flows over the plains of Vidharbha, Khandesh and Gujarat. The Tapi river drains an area of 65,145 sq km out of which nearly 80 percent lies in Maharashtra state.

The Tapi river originates near Multai in Betul district at an elevation of 752 metres above mean sea level. The total length of this west flowing river from its origin to its outfall into the sea is 724 km. For the first 282 km the river flows in Madhya Pradesh, out of which 54 km forms the common boundary with Maharashtra State. It flows for 228 km in Maharashtra before entering Gujarat. Traversing a length of 214 km in Gujarat, the Tapi River joins Arabian Sea in the Gulf of Cambay after flowing past Surat city. The river receives tidal influence for a length of about 20 km upstream from the mouth.

The Tapi River receives several tributaries on both the banks. There are 14 major tributaries having a length of more than 50 km. On the right bank, 4 tributaries namely the Vaki, Gomai, Arunavati and Aner join the Tapi River. On the left bank, 10 important tributaries namely the Nesu, Arunavati, Buray, Panjhra, Bori, Girna, Waghur, Purna, Mona and Sipna drain into the main channel. The drainage system on the left bank of the Tapi river is, therefore, more extensive as compared to the right bank area.

The Purna and the Girna, the two important left bank tributaries together account for nearly 45 percent of the total catchment area of the Tapi river. The Purna is the principal tributary of the Tapi river originating in Betul district in Gawilgarh hills of the Satpura range, mostly drains the three districts Amravati, Akola and Buldhana of Vidharbha Region. The Girna, another major tributary, rises in the Western Ghats and drains Nasik and Jalgaon districts of Maharashtra. The south-west monsoon sets in by the middle of June and withdraws by mid-October. About 90% of total rainfall is received during the monsoon months, of which 50% is received during July and August.

2.11.1 Irrigation Projects: The Ukai Dam, Kate Purna, Nalganga, Girna and Kakrapar Weir are the major projects in the catchment areas of the river basin.

2.11.2 Hydrological Observation (H.O.) Sites: There are in total 47 H.O. sites in this, the details of which are given as:

(As on September 2020)

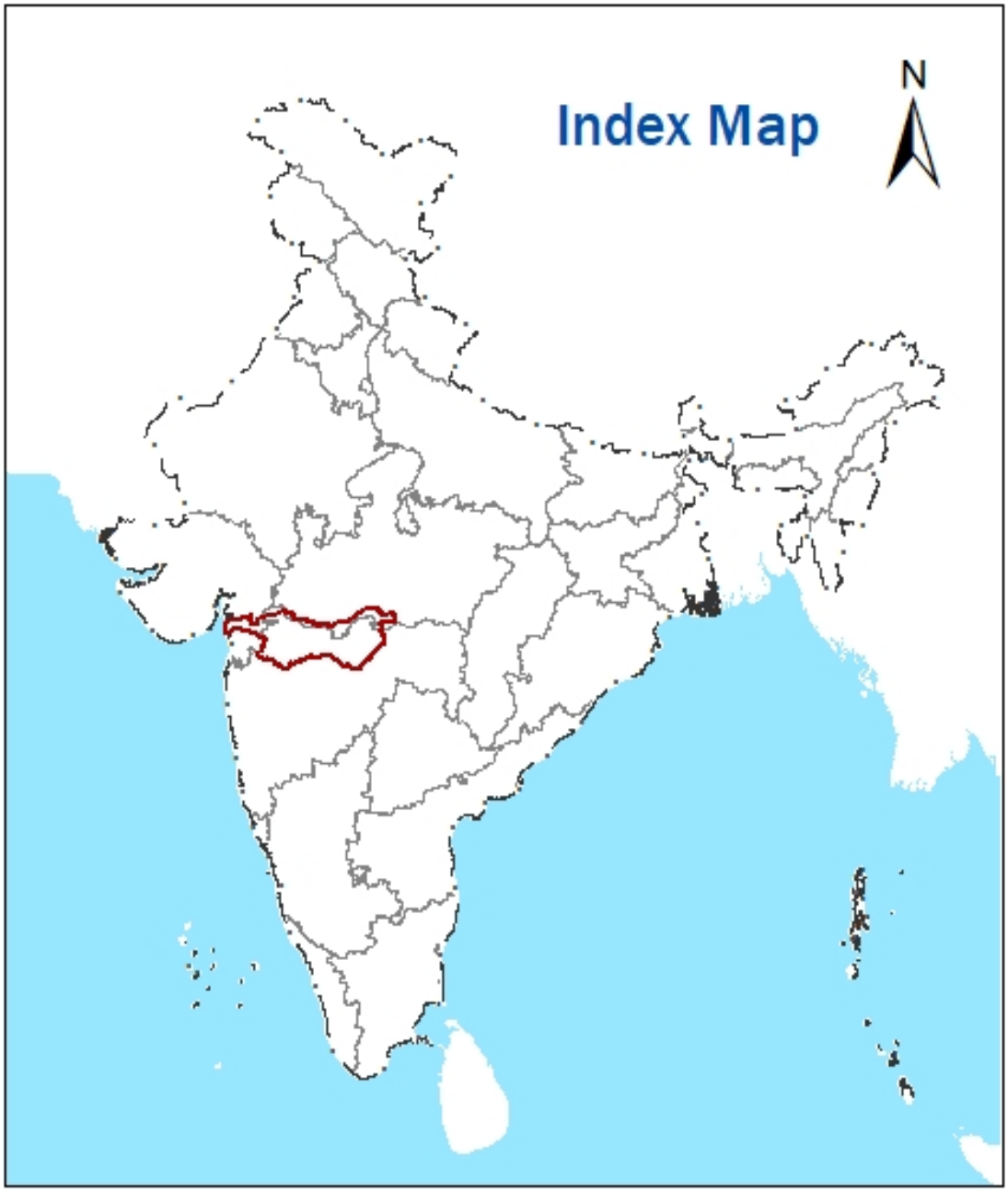
Site Type	No. of Hydrological Observations
G	17
GD	18
GDQ	01
GDS	01
GDSQ	03
GQ	00
SG&Met	07
WQSS	00
Total	**47**

Source:RDC-II, CWC

2.11.3 Peak Water Level: Tapi basin has reported only 21 sites, out of which Gopalkheda has the maximum peak water level at 476.01 metres during the reference period 2019-20.

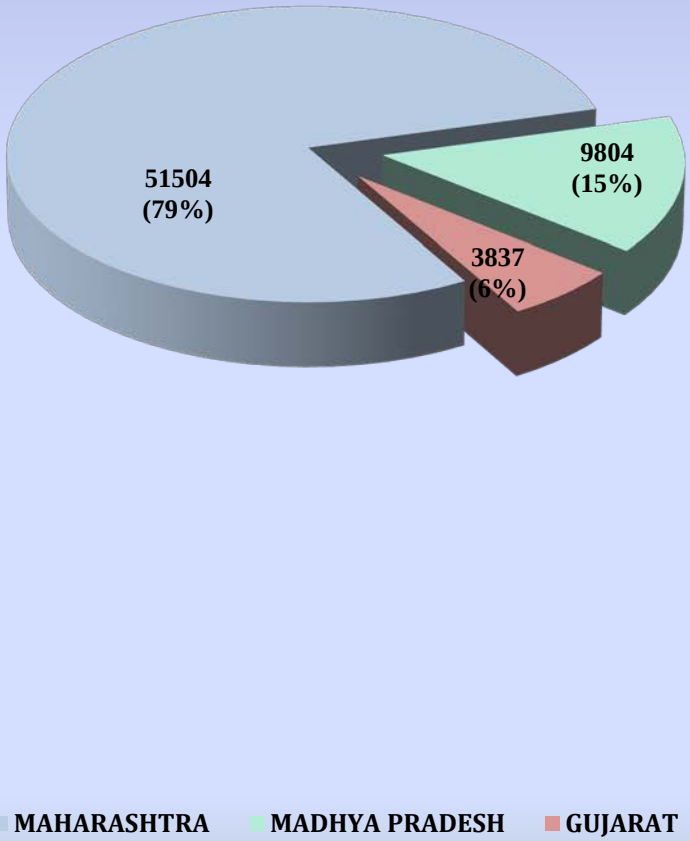
2.11.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD are given below for three sites of Tapi basin (Fig 2.11.1 to Fig 2.11.6).



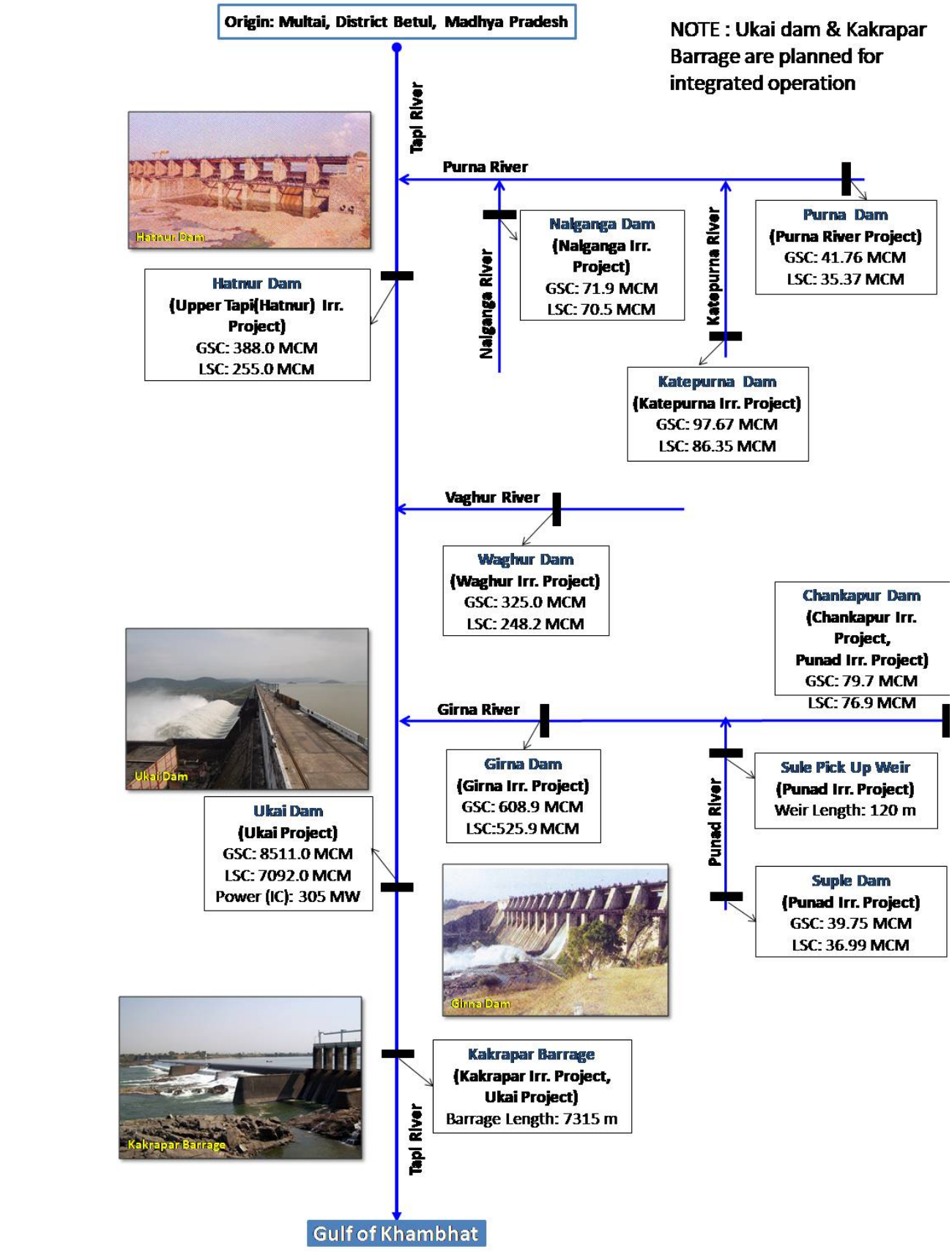


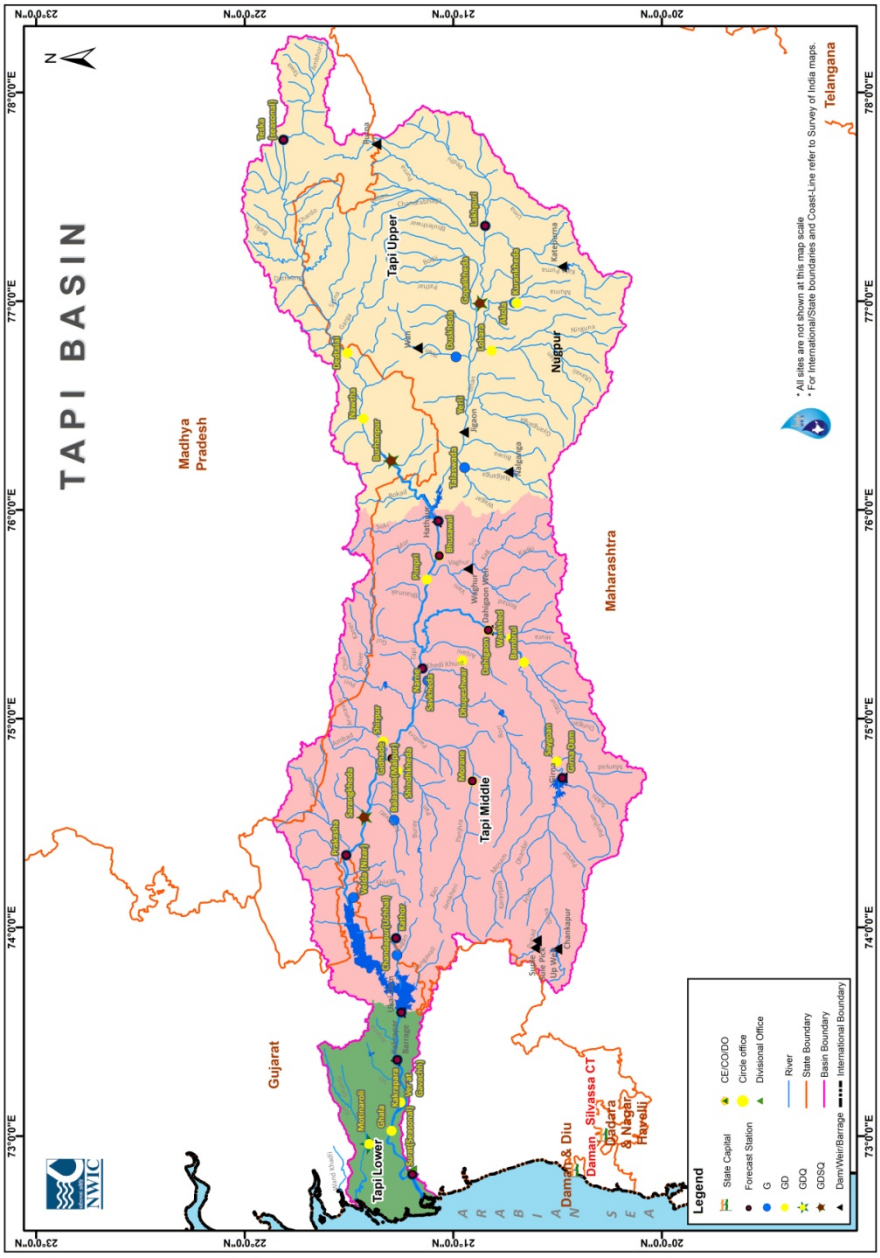
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise Tapi Basin Area (Sq. km)



Tapi River Flow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Basin: Tapi (Water Quality Parameter: pH)

Fig 2.11.1 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for pH at Tapi Basin

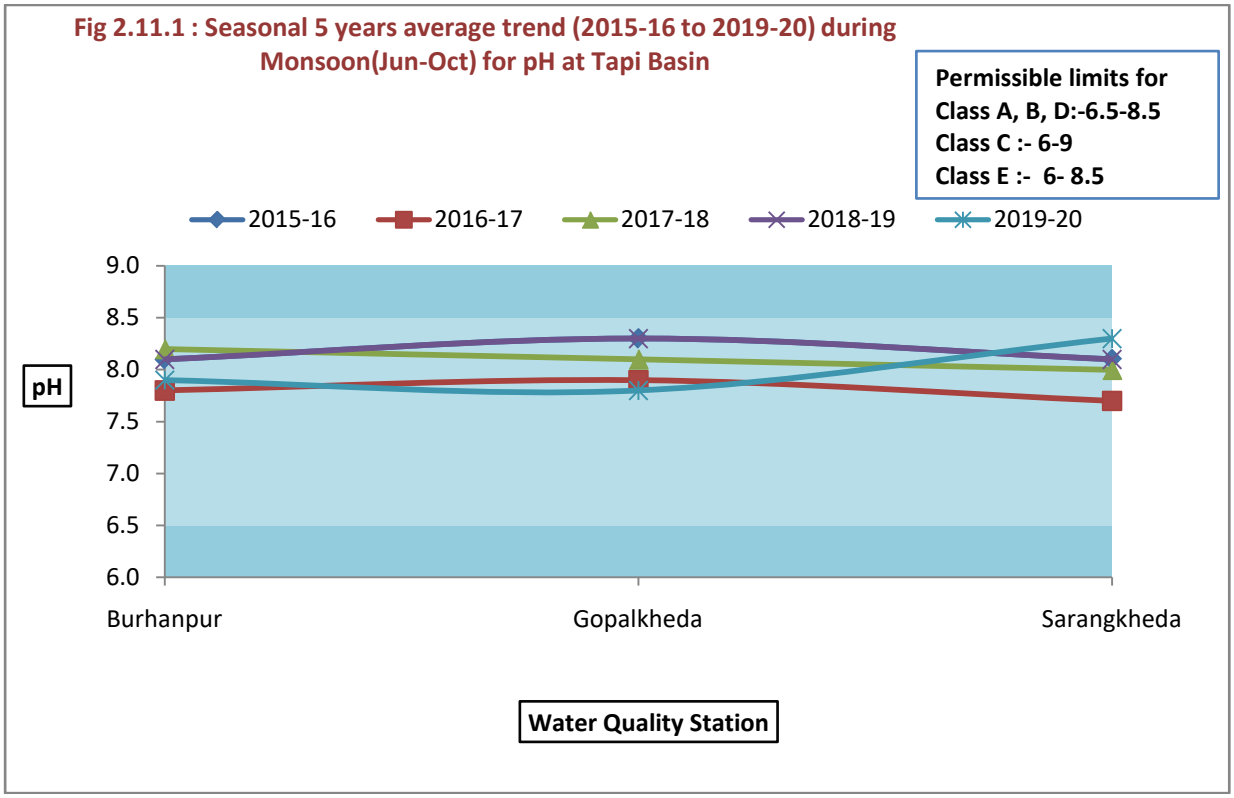
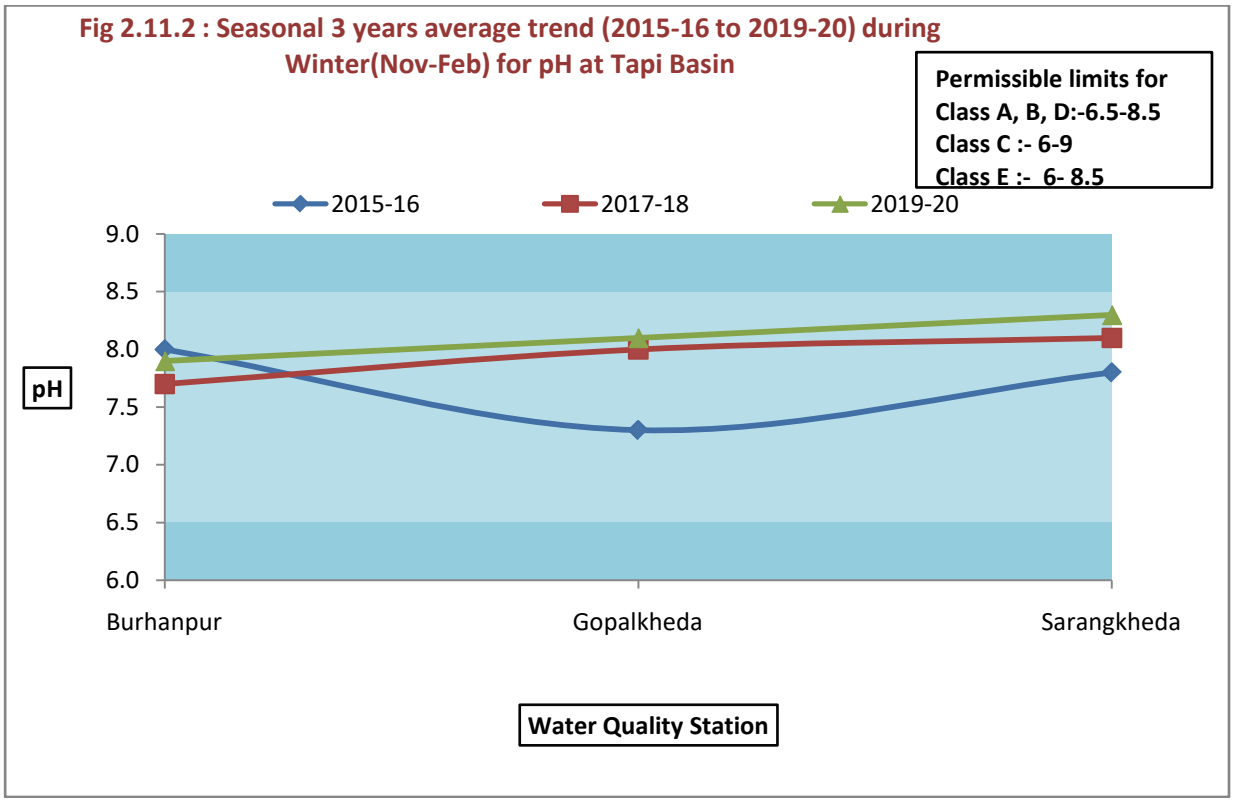


Fig 2.11.2 : Seasonal 3 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for pH at Tapi Basin



Basin: Tapi (Water Quality Parameter: DO)

Fig 2.11.3 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for BOD at Tapi Basin

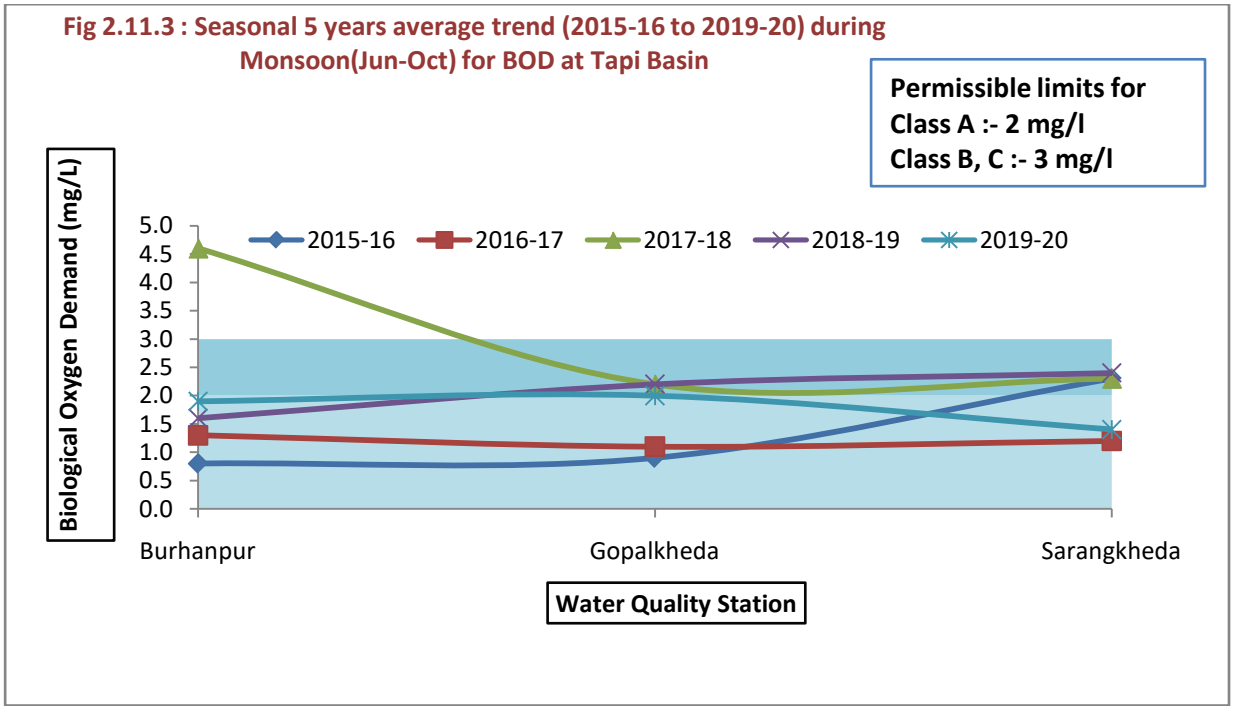
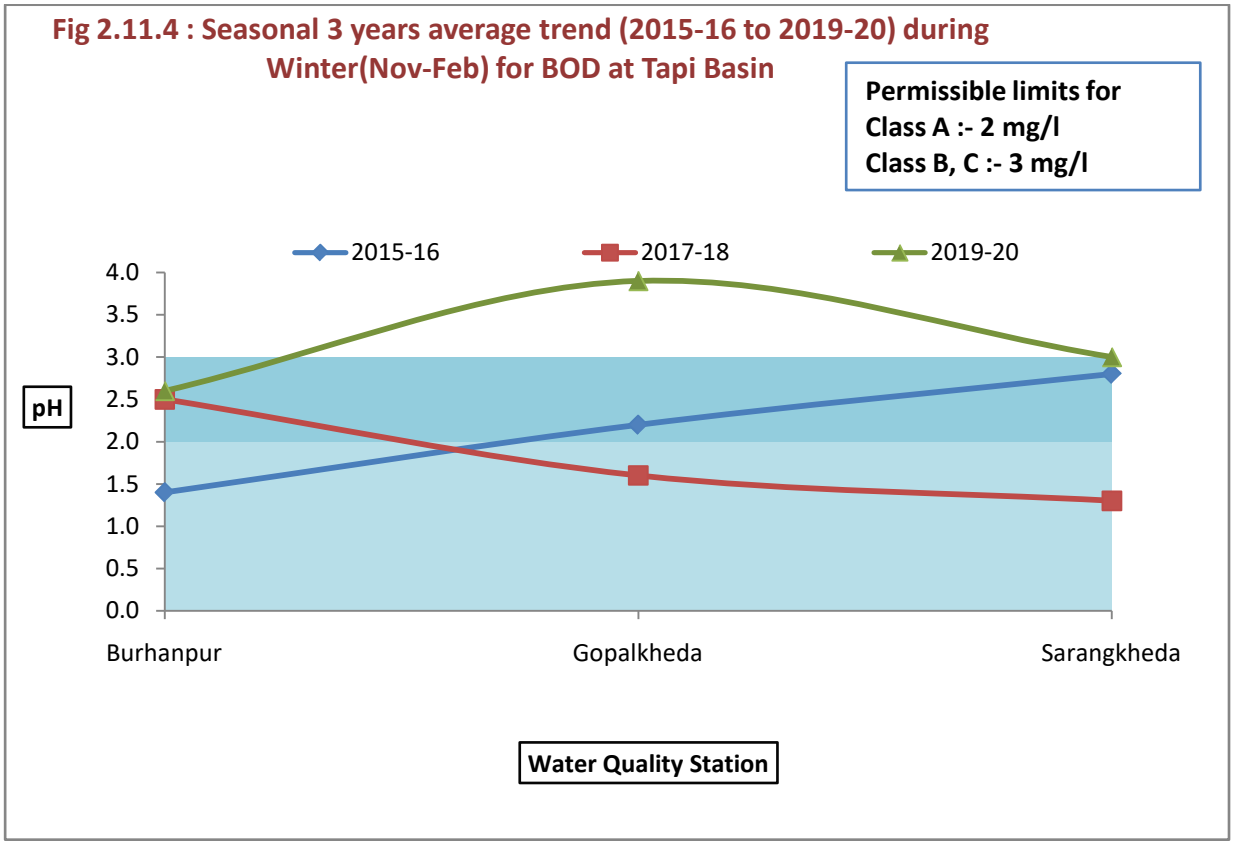
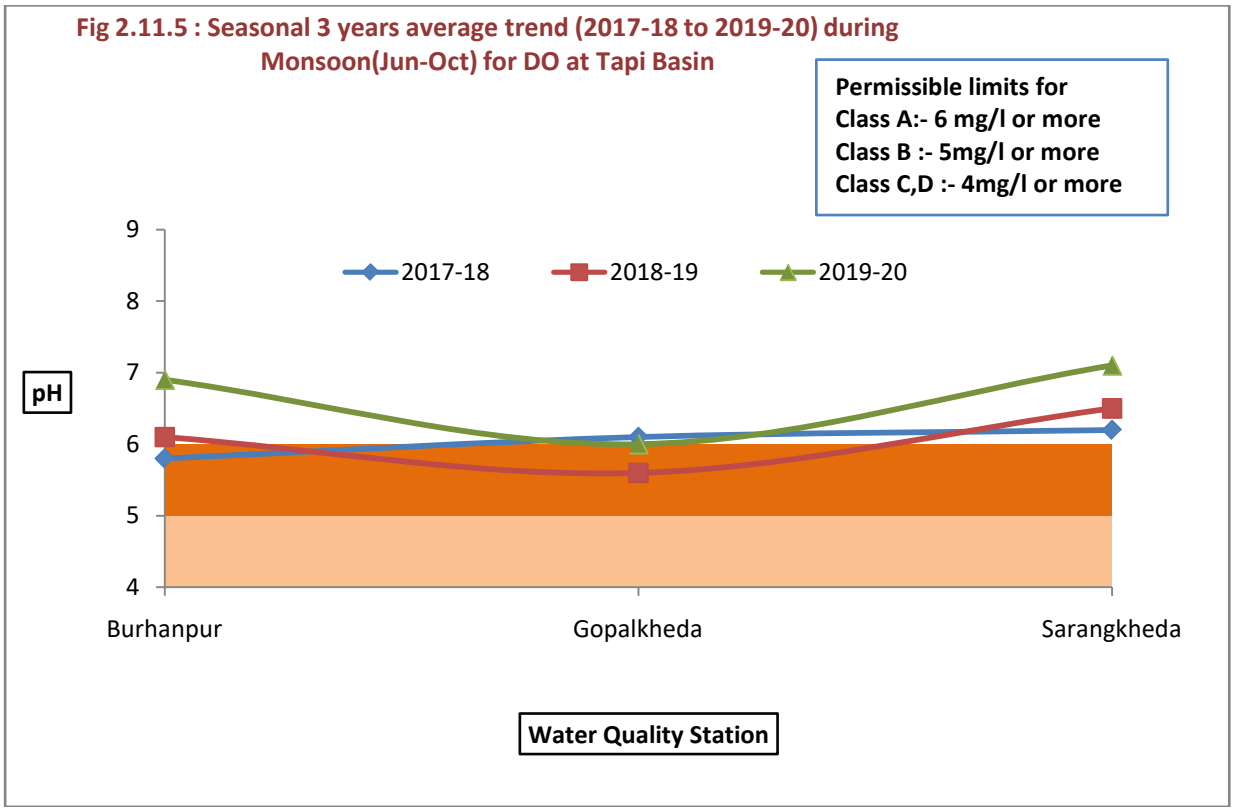


Fig 2.11.4 : Seasonal 3 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for BOD at Tapi Basin



Basin: Tapi (Water Quality Parameter : Dissolved Oxygen)

Fig 2.11.5 : Seasonal 3 years average trend (2017-18 to 2019-20) during Monsoon(Jun-Oct) for DO at Tapi Basin



Basin: Tapi (Water Quality Parameter : Total Hardness)

Fig 2.11.6 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for Total Hardness at Tapi Basin

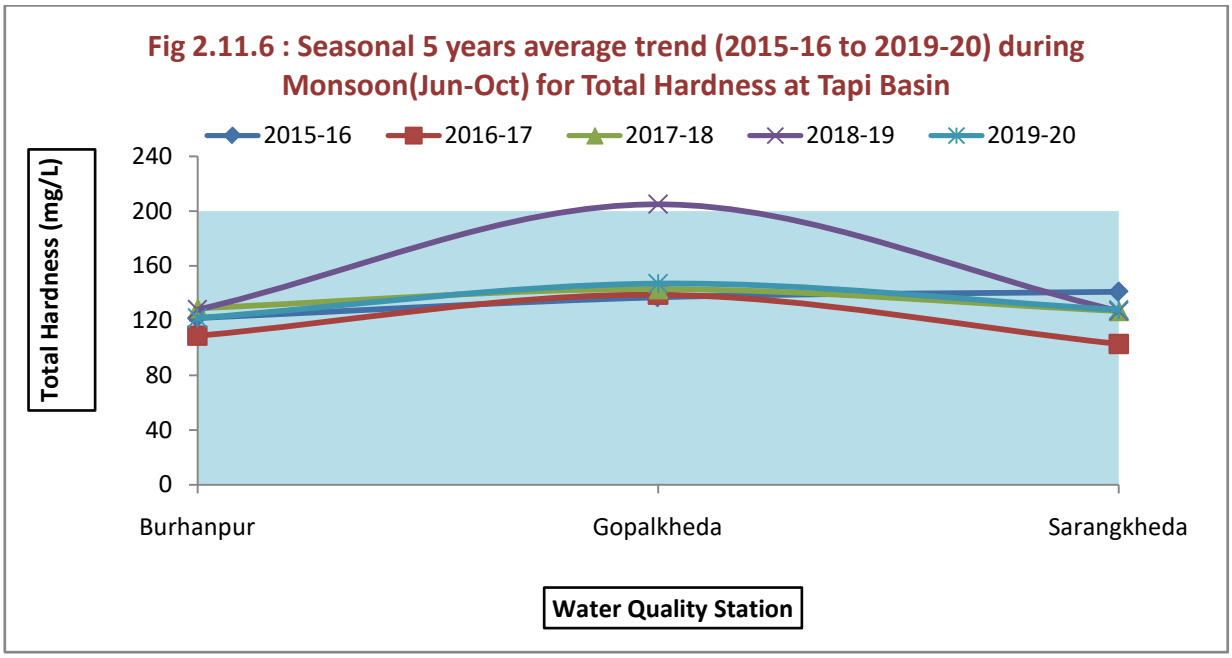
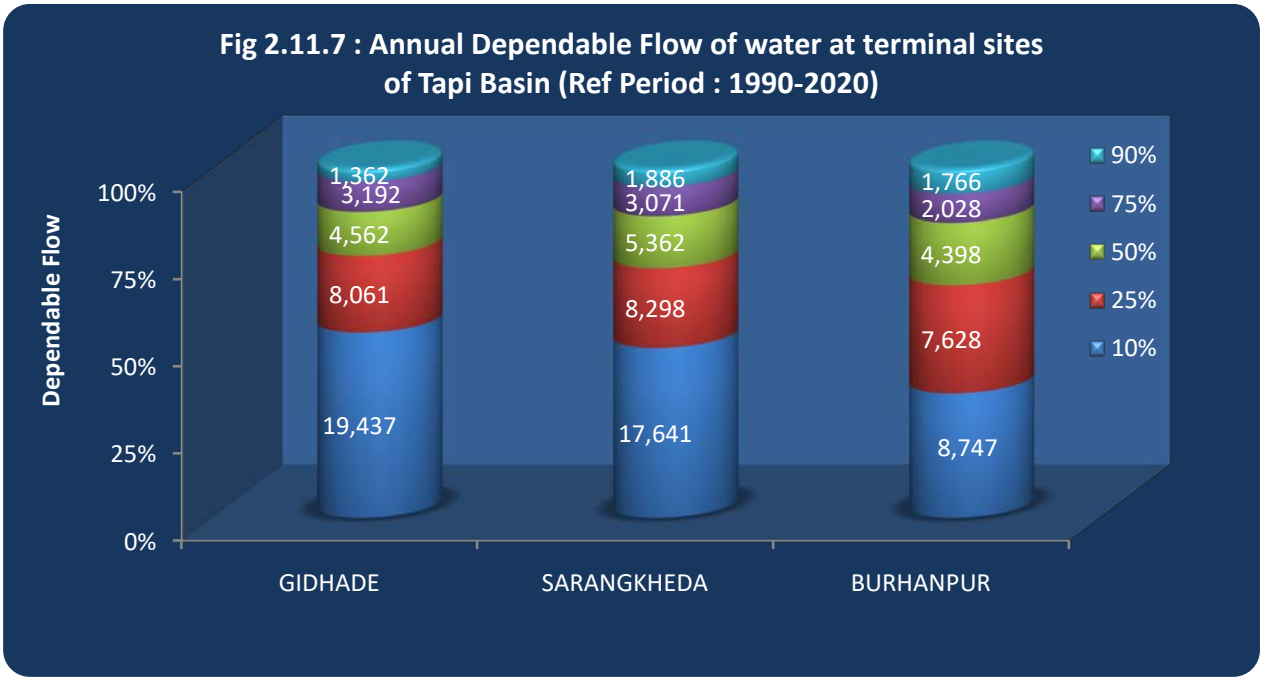


Table 2.11.1: Annual Dependable Flow of Water at Terminal Sites of Tapi Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	GIDHADE	6/1990 to 5/2020	19437.053	8061.167	4562.397	3192.033	1362.160
2	SARANGKHEDA		17641.117	8298.233	5361.680	3070.562	1886.298
3	BURHANPUR		8746.924	7628.140	4397.782	2027.810	1765.623



2.11.5 Land Use Statistics: Table 2.11.2 to Table 2.11.4 present the land use pattern, gross irrigated area and net irrigated area for Tapi basin as compared to all basins (Region-III).

TABLE 2.11.2: LAND UTILISATION PATTERN BY TAPI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Tapi	9635.086759	4267.561102	913.2041797	499.5107038	216.9240084	3737.886765	1653.232601	5391.119366
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.11.3: GROSS AREA IRRIGATED BY SOURCES OF TAPI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Tapi	219.45219	0	219.45219	13.784231	714.69886	1083.5743	1798.2731	281.6984	2313.208
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.11.4: NET AREA IRRIGATED BY SOURCES OF TAPI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Tapi	219.45	0.00	219.45	13.74	637.00	995.47	1632.47	234.78	2100.44
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.11.6 Urban Centres: Surat is the most important city in the area. Other cities are Amravati, Akola, and Jalgaon.

2.11.7 Industries: Important industries in the basin are Paper Mills and Sugar Mills. Other industries are Cotton Spinning Mills, Dal, Oil and Wood cutting Mills.

2.11.8 Minerals: The important minerals in the basins are Coal, Palagonite, Chlorophaete Iddingsite, Sand stones, clay, laterite, amorphous, crystaline silica, Chalcedony, agate, Zeolites, Quartz, Calcite, Jasper, Rock crystal, Limestones, Pyroxene augite, Megnesia, Iron, Alkalies, Apophyllite, Lime nodules, Iron ore, Limenite sand & Megnetite. etc.

2.12 WEST FLOWING RIVERS FROM TAPI TO TADRI BASIN

Location: The basin of West flowing rivers consists of all small independent river basins of peninsular India lying to the south of Krishna basin, except Cauvery basin draining into Arabian Sea. There are about 31 major and minor rivers basins in this region.

The basin of the West Flowing rivers located in the South West corner of the peninsular India covers areas in the states of Maharashtra, Karnataka, Tamilnadu and Kerala. There are a number of medium and minor river basins in this region. All the rivers originate from the high mountains of the Western Ghats and exhibit similar characteristics. They have steep high banks, which rarely overflow or cause floods. Important west-flowing river sub-basins are described as under.

2.12.1 Ulhas: The Ulhas river is one of the West Flowing rivers in Maharashtra falling into the Arabian Sea. The boundary of the basin consists of the main Sahyadri hills on the east, western off shoots on the north and south and on the west, a narrow opening at the end leading to the sea. The Ulhas basin lies between north latitudes of 18^0 44' to 19^0 42' and east longitudes of 72^0 45' to 73^0 48'. The Ulhas drains an area of 4,637 sq km and lies completely in Maharashtra. The Thane, Raigad and Pune districts fall in the basin. The Ulhas rises from Sahyadri hill ranges in the Raigad district of Maharashtra at an elevation of 600m above msl. The total length of the Ulhas from its origin to its outfall into the Arabian Sea is 122 km. The basin receives most of the rainfall from South-West monsoon during June to October. The important tributaries of the Ulhas River are Pej, Bhalla, Barvi, Salpe and Bhivapuri. There is one H.O. site for each of Gauge, Discharge, Sedimentation and Water Quality.

2.12.2 Kal: The Kal river is a major tributary to river Savitri originates from the Sahyadri hill ranges in the Raigad district of Maharashtra. It drains an area of 670 Sq.Km which lies completely in Raigad district. The total length of this river from its origin to its confluence with the Savitri is 40 Km. The water quality station on this river is established at **Mangaon**, where water quality observations are being carried out from 02.07.1993.

2.12.3 Kajvi: The Kajavi river rises in the Vishalghat region of Sahyadri hills and flows West ward and joins the Arabian Sea near Ratnagiri port where a 10 km long creak named Bhatya Creak has been formed. During monsoon, tidal effect is felt up to village Hercheri that is about 25 km. from the mouth of the river. The nature of Bed is sandy mixed with gravels. The H.O. site is at Anjanari village in Lanja Taluk of Ratnagiri District of Maharashtra State.

2.12.4 Gad: The Gad originates from the Sahyadri hill ranges in the Sindhudurg district of Maharashtra state. It drains an area of 890 Sq.Km and has a length of 66 Km from its origin to its out fall into the Arabian Sea. The only water quality on this basin at Adavali has been shifted to **Belne Bridge** in June 2000.

2.12.5 Mandovi: The Mandovi river is one of the main West Flowing Rivers of Goa State. The Mandovi Basin lies between north latitudes of 15º 15' to 15º 40’ and east longitudes of 73º 15’ to 73º45’ approximately. There are two hydrological observation stations being maintained by CWC located at Ganjim & Collem. The Mandovi river drains an area of 1,550 sq km. The Mandovi river rises in the Jamboti Ghats in Karnataka State. At the origin, near the village Mabulyesheir, it is known as Bhaburnal, which is at an elevation of 600m above M.S.L. The total length of this West Flowing River is 62 km. The important tributaries are Sarang, Mahainada, Udel, Lohi, and

Khandepar. The average rainfall in the Mandovi Basin is 3,484 mm. The lowest and highest temperatures recorded are 9.30º C during January 1937 and 42.6º C during March 1959 respectively.

2.12.6 Aghanashini: The River Aghnashini originates from Gadihalli in the Western Ghats of Karnataka. The river has a catchment area of 1350 Sq.Km. and its total length is 117 Km. The river flows mostly through forest area and the only water quality station on this river is at **Santeguli**. Water Quality Monitoring of this basin commenced with the introduction of Water Quality observations at Santeguli with effect from 01.09.1993.

2.12.7 Irrigation Projects: The Anjunem in the sub-basin of Mandovi, Kal in the sub-basin of Kal, Swarna Dam in the sub-basin of Swarna, Kattampally in the sub-basin of Valapatanam, Malampuzha Reservoir, Tirumurthi and Aliayar in the sub-basin of Bharathapuzha, Chalakudi River Diversion Scheme, Sholayar H.E.S and Peringilkuthu Left Bank Scheme in the sub-basin of Chalakudi, Periyarvalley Project, Edamalayar and Idukky Hydel Project in the sub-basin of Periyar, Pamba Hydel Project in the sub-basin of Pamba, Kalada Irrigation Project in the sub-basin of Kalada are the major projects in the catchment areas of the west-flowing river basin.

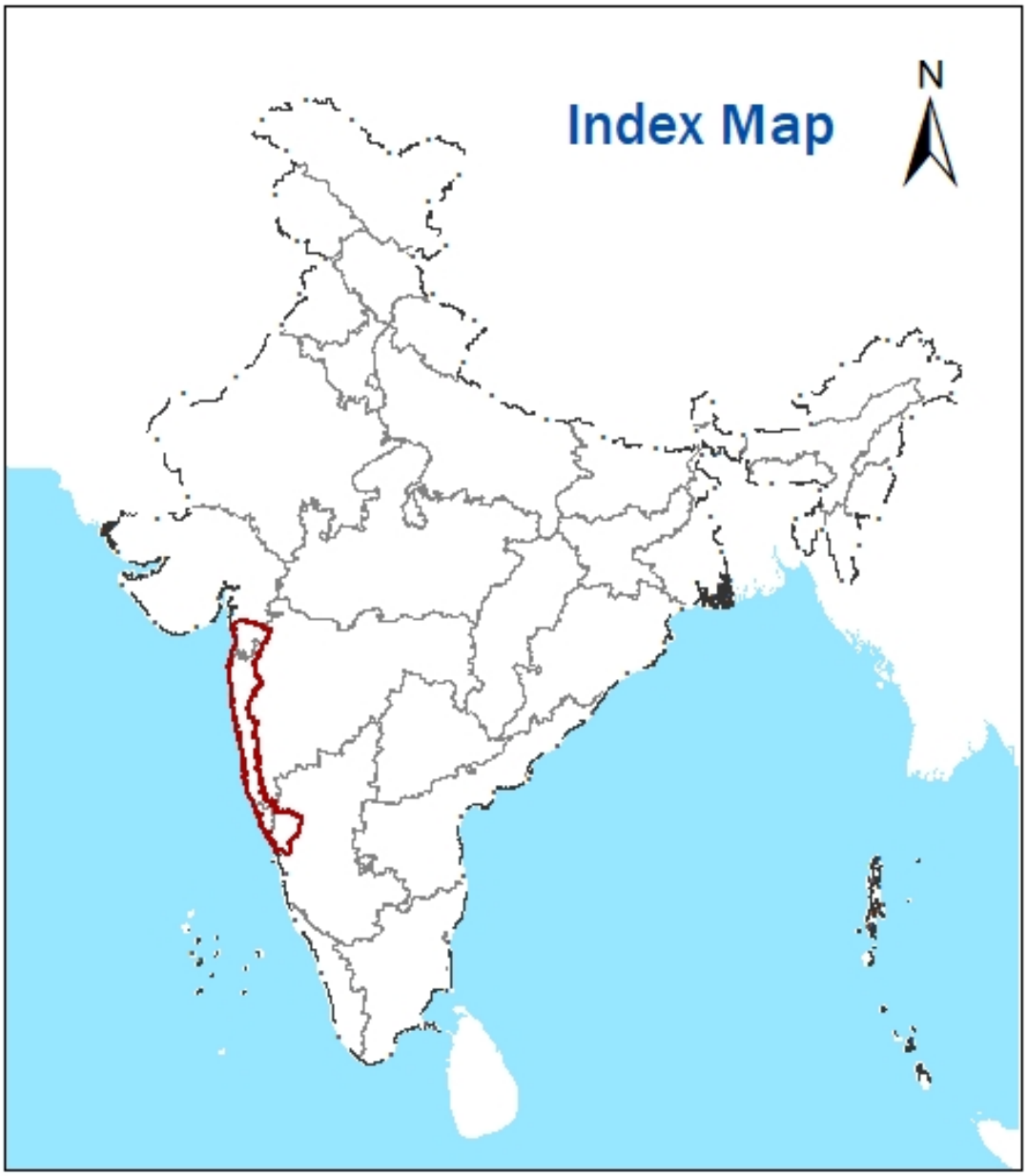
2.12.8 Hydrological Observation (H.O.) Sites: There are 25 H.O. sites in this basin, the details of which are given as:

(As on September 2020)

Site Type	No. of Hydrological Observations
G	07
GD	06
GDQ	04
GDS	00
GDSQ	05
GQ	00
SG&Met	03
WQSS	00
Total	**25**

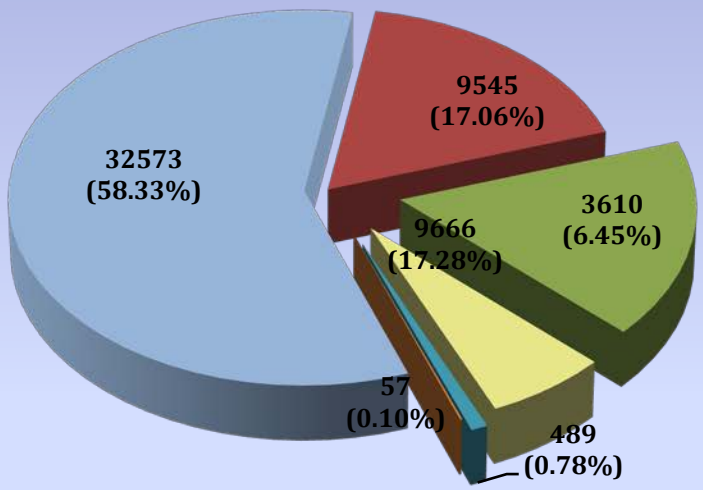
Source:RDC-II, CWC

2.12.9 Peak Water Level: This basin has reported information in respect of 49 sites during the reference period 2019-20. The peak water level of the sites remains in two digits for all sites. At Vandiperiyar site, the peak water level touched at 793.62 metres on 27.07.2005.

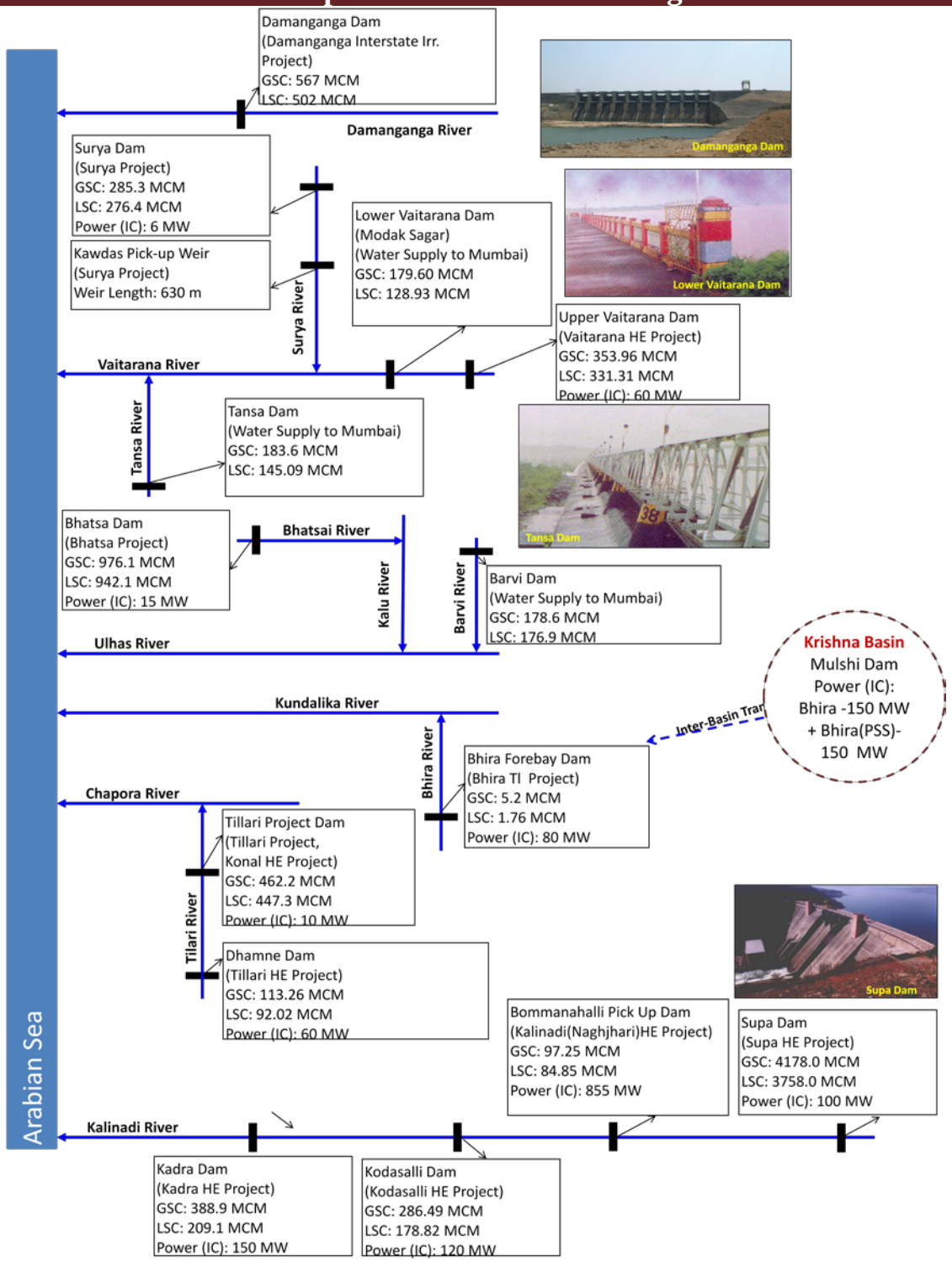


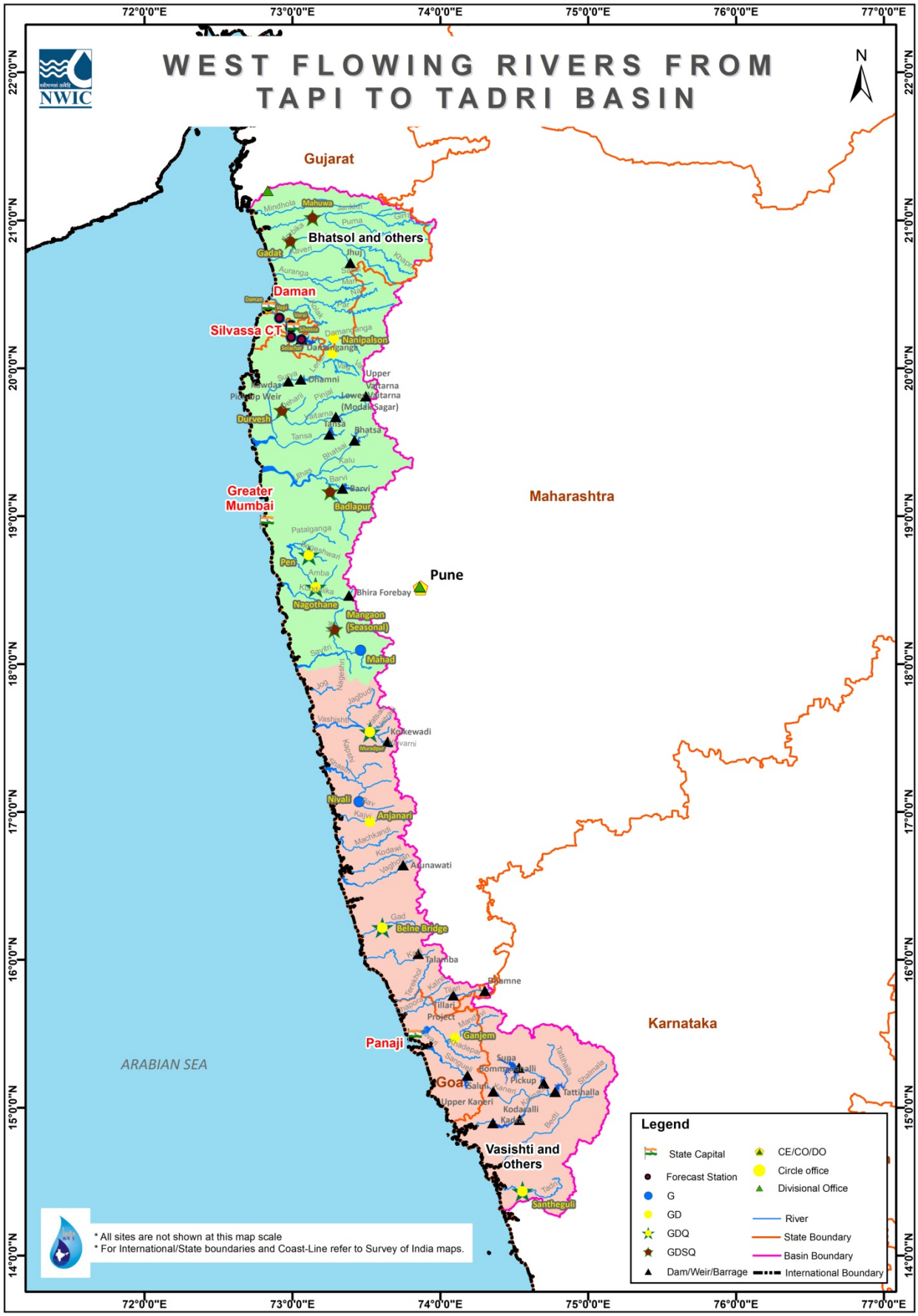
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise WFR from Tapi to Tadri Basin Area (Sq. km)



WFR from Tapi to Tadri Flow Line Diagram



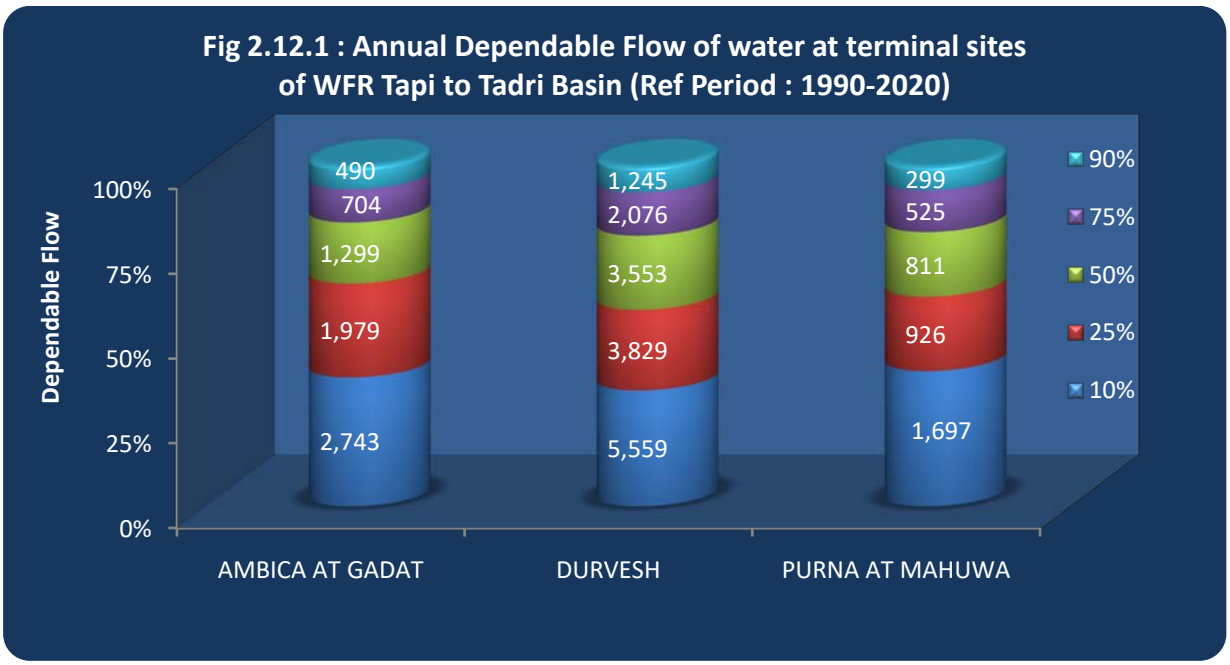


Source:- NWIC, Ministry of Jal Shakti, New Delhi

Table 2.12.1: Annual Dependable Flow Of Water at Terminal Sites Of WFR Tapi to Tadri Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	AMBICA AT GADAT	6/1990 to 5/2020	2742.620	1978.815	1299.328	703.647	489.521
2	DURVESH		5559.122	3829.450	3552.605	2075.626	1244.630
3	PURNA AT MAHUWA		1697.209	925.663	810.778	524.995	299.072

Source : SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore



2.12.10 Land Use Statistics: Table 2.12.2 to Table 2.12.4 present the land use pattern, gross irrigated area and net irrigated area for the basin as compared to all basins (Region-III).

TABLE 2.12.2: LAND UTILISATION PATTERN OF WFR TAPI TO TADRI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
WFR tapi to tadri	15231.91	8502.00	1030.22	849.93	727.26	4122.50	1032.06	5154.56
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.12.3: GROSS AREA IRRIGATED BY SOURCES OF WFR TAPI TO TADRI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
WFR tapi to tadri	206.43016	0	206.43016	242.08214	368.56191	233.78151	602.34343	307.00274	1357.8585
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.12.4: NET AREA IRRIGATED BY SOURCES OF WFR TAPI TO TADRI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
WFR tapi to tadri	140.4472	0	140.447246	146.2198	303.7542	188.85	492.6042	251.1804	1030.452
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source: Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.13 WEST FLOWING RIVERS FROM TADRI TO KANYAKUMARI BASIN

Location: The basin extends over states of Kerala, Karnataka, Tamil Nadu and Union Territory of Puducherry having an area of 54,231 Sq. km, which is 1.66 % of total geographical area of the country with a maximum length and width of 777 km and 135 km respectively. It spreads between 74°25' to 77°36' east longitudes and 8°3' to 14°24' north latitudes. The basin is bounded by Sahyadri hills on the north, by the Western Ghats on the east, by the Indian Ocean on the south and by the Arabian Sea on the west. The basin is comprised of three sub-basins; Netravati and Others sub-basin, Periyar and others sub-basin and Varrar and others sub-basin.

The major independent rivers in the basin are the Varahi, Netravati, Payaswani, Valapattanam, Chaliyar, Kadalundi, Bharathapuzha, Periyar, Muvattupula, Minachil, Pamba, Achankovil, Kallada and Vamanapuram.

The major part of the basin is covered with agricultural land accounting for 50.82% of the total area while 34.72% is covered by Forest. The salient features for the basin are described in Table 2.

Brief descriptions of the rivers are given below.

2.13.1 Haladi: This river Haladi originates in the Western Ghats near Someswara in the reserved forest of Karnataka. The river has a drainage area of 781 Sq.km and a total length of 70 Km. The water quality station on this river is at **Haladi**, where water quality observation commenced from 01.09.1993.

2.13.2 Swarna: This river Swarna is one of the major west-flowing rivers in Dakshina Kannada district. Total drainage area of this river up to the site is 327 Sq.km and the river flows for a distance of 61.05 Km up to its confluence with sea. The river is called Yennehole in the initial stages and Swarna after its confluence with its tributary Kaud-hole. The water quality station on this river is established at **Yennehole**, where water quality observations are being carried out from 01.09.1993.

2.13.3 Netravathi: The Netravathi rises between Kudermukh and Ballalaryan Durga in the Dakshina Kannada district of Karnataka at an elevation of about 1000 metre at 75^0 $20^{'}$ East longitude and 30^0 $10^{'}$ North latitude flows generally in north-south direction for 40 km up to Gohattu, where it takes a turn towards the west and flow in east-west direction practically up to its outfall into the Arabian Sea near Mangalore. The climate of the basin is characterized by heavy rainfall, high humidity and oppressive weather in the hot season. The hot season from March to May is followed by the South-West monsoon from June to September. The Kumaradhara, a major left-bank tributary joins it near the village Uppinangadi. The total length of the Netravathi is 103 km from its source to the outfall. The river drains an area of 3,657 sq km. No major project is in existence in this basin. However, the investigations for the project titled multi-purpose Netravathi Anicut Scheme have been completed. There is one H.O. site for each of Gauge, Discharge, Sedimentation and Water Quality.

2.13.4 Payaswani: The Payaswani, also known as the Chandragiri in the lower reaches, originates from the Patti Ghat reserve forest in Coorg District of Karnataka. The river covers a distance of 105

Kms. and drains an area of 1538 Sq. kms. The only water quality station on this basin is located at **Erinjipuzha,** where Water Quality observation commenced from 01.07.1988.

2.13.5 Valapatanam: The Valapatanam river rises south of Ammatti village in the district of Coorg in Karnataka State at 75^0 52' east longitude 12^0 13' north latitude at an elevation of 900m above msl. The river has a total length of 101 km from its source to its fall into the Arabian Sea. The river drains an area of 1,867 sq km of which 546 sq km lies in Karnataka and the rest in Kerala. The climate of this basin is characterized by heavy rainfall, high humidity and oppressive weather in the hot season. The Kattampally multipurpose project is the main irrigation Projects in this basin. The Kattampally project has been planned in two stages. The stage I will not only prevent saline water intrusion and reduction of flood but also provide irrigation benefits to an area of 1,280 ha. The second stage of the project is expected to irrigate an additional area of 1,650 hectares. There is one H.O. site for each of Gauge, Discharge, Sedimentation and Water Quality.

2.13.6 Chaliyar: The Chaliyar, known in the lower reaches as the Beypore, is one of the major rivers of Kerala. The main river starts from the Elambalari hills at an altitude of 2,067m above msl. It is formed by the confluence of numerous streams and rivers. Its important tributaries are the Cherupuzha, The Iringipuzha, the Vadapurampuzha and the Chaliyarpuzha. The Chaliyar flowing for a total length of about 169 km and finally joins the Arabian Sea at Beypore. The river drains a total area of about 2,933 sq km of which 2545 sq. Km lies in Kerala and 388 sq. km in Tamilnadu. Good rainfall and humid temperature throughout the year are the characteristics of the basin. The climate along the coastal area of the basin is generally hot with high humidity. There is one H.O. site for each of Gauge, Discharge, Sedimentation and Water Quality.

2.13.7 Kadalundi: The Kadalundi river originates from Karuvarakkundu village in the Calicut District of Kerala State. It drains a total area of 1,112 Sq.kms. and traverses about 130 Kms. Water Quality station on this basin is located at **Karathodu** only, where Water Quality observation commenced from 01.12.1988.

2.13.8 Bharathapuzha: The Bharathapuzha river is the second longest west flowing river that drains into the Arabian Sea in Kerala State. This basin is bounded in the east by the Cauvery basin and in the west by the Arabian Sea. The basin lies approximately between 10^0 26' and 11^0 13' north latitudes and 75^0 53' to 77^0 13' east longitudes. Its drainage area is spread in Tamilnadu and Kerala states. The basin is elongated in shape and finds its outlet into the Arabian Sea. The total drainage area of the basin is 6,186 sq km out of which nearly 71 percent lies in the Kerala State. The Bharathapuzha basin receives copious rainfall during the south-west monsoon and it falls in the rain shed region of the Western Ghats. There are five H.O. sites for each of Gauge, Discharge, Sedimentation and Water Quality.

2.13.9 Chalakudi: The Chalakudi river has its origin in the Annamalai hills of Western Ghats. It is formed by the confluence of five streams namely the Parambikulam, the Kuriarkutty, the Sholayar, the Karappara and the Anakayam. The river has a length of 130 km. The total drainage area of the river is 1,704 sq km of which 1404 sq. Km lies in kerala and the rest in Tamil Nadu. Good rainfall and humid atmosphere are felt throughout the year. The climate along the coastal area of this basin is generally hot with high humidity. There is one H.O. site for each of Gauge, Discharge, Sedimentation and Water Quality.

2.13.10 Periyar: The Periyar river is 244 km in length and the longest river of Kerala and drains an area of 5,398 sq km. It rises at the forest land Sivagiri peak 80 km south of Devikulam at an elevation of 2,438m above msl and traverses the steep mountainous terrain before it is joined by the Mullaiyar, 16 km downstream. The river then turns west and continues to flow in the direction for about 16 km in a sandy bed. After a winding course of about 13 km, the river reaches Vandiperiyar

and passes through a second narrow gorge below which the Perumthura joins it. Further down, it is joined by six tributaries of which the important tributary Edmala joins the Periyar. Passing Malayattur and thereafter taking a meandering course, the river reaches Alwaye where it divides itself into two branches. The upper branch joins the Chalakudi River at Punthenvelikara and then expands into a broad sheet of water at Munambham. The other branch taking a southerly course is broken up into a number of small channels, which fall into the Vembanad Lake as Varapuzha. There are 2 Gauge, 2 Discharge, 2 water quality and one sedimentation type of H.O. sites.

2.13.11 Muvattupuzha: River Muvattupuzha originates in the Kottayam district of Kerala. It is a perennial river with a total drainage area 1554 Sq.kms and the length is 121 kms. There are two water quality stations on this Basin, one on the main river Muvattupuzha at **Ramamangalam** and the other at **Kalampur** on its tributary called Kaliyar.

2.13.12 Meenachil: River Meenachil originates in Kottayam district of Kerala State. The total length of the river from its origin to Vembanad Lake, where it joins is about 78 kms. The drainage area is 1272 Sq.Kms. The only water quality station on this river is at **Kidangoor,** where water quality observation commenced from 02.06.1986.

2.13.13 Pamba: The Pamba, 176 km in length, is the third longest river in Kerala. It is formed by the confluence of the Pamba Aar, Kaki Aar, Arudhai Aar, Kakkad Aar and Kall Aar. The Pamba Aar rises in the Peermedu Plateau at an elevation of 1,670m. The Kaki Aar, which forms the major tributary of the Pamba River, is a much larger stream at the beginning than the main river. The Pamba River, after receiving the Kaki Aar, flows in a Westerly direction till the Arudhai Aar joins it. At Narayanamuzhi, it turns and follows a south-eastern direction until the Kakkad Aar joins it. Beyond the confluence, the river flows in a southerly direction up to Vadasserikkara where it is joined by the Kall Aar, which has its origin in the Valanjakkatti Malai. The catchment area of the river is 2,235 sq km. At Pandanad, the river bifurcates and one branch taking a western course. The Manimala joins the Pamba in its Neeretupuram branch. The river thereafter flows northwards and falls into the Vembanad Lake through several branches. The basin experiences good rainfall, moderate temperature and humid atmosphere. The south west and north east monsoon have great influence over the climatic condition of the basin. There is one H.O. site for each of Gauge, Discharge, Sedimentation and Water Quality.

2.13.14 Achankovil: River Achenkovil originates in the south of Devarmalai, in the Quilon District of Kerala. The river is formed by several streams originating from Pasukidamettu, Ramakkla Teri and Rishi Malai. It has a total length of 128 km. and drains an area of 1484 Sq. Km. The drainage area up to the Site is 810 Sq. Km. The only water quality station on this basin is located at **Thumpamon,** where Water Quality observation commenced from 15.10.1978.

2.13.15 Kallada: The Kallada river is formed by the three rivers i.e. Kulathupuzha, Chendurni and Kalthuruthy joining together near Parappar. The river has its origin in Papanasam range south of Kulathupuzha in Quilon district of Kerala State at an altitude of 900m above msl. The river has a length of 121 km and drains an area of 1,699 sq km before the confluence with the Ashtamudilake. The basin experiences good rainfall and humidity atmosphere throughout the year. The climate along the coastal region of this basin is generally hot with high humidity.

2.13.16 Vamanapuram: River Vamanapuram originates from Chemunji Motai in Kerala. Its total drainage area is 687 Sq.Kms and the length is 88 Kms. The only water quality station on this river is at **Ayilam**.

2.13.17 Irrigation Projects: The Anjunem in the sub-basin of Mandovi, Kal in the sub-basin of Kal, Swarna Dam in the sub-basin of Swarna, Kattampally in the sub-basin of Valapatanam,

Malampuzha Reservoir, Tirumurthi and Aliayar in the sub-basin of Bharathapuzha, Chalakudi River Diversion Scheme, Sholayar H.E.S and Peringilkuthu Left Bank Scheme in the sub-basin of Chalakudi, Periyarvalley Project, Edamalayar and Idukky Hydel Project in the sub-basin of Periyar, Pamba Hydel Project in the sub-basin of Pamba, Kalada Irrigation Project in the sub-basin of Kalada are the major projects in the catchment areas of the west-flowing river basin.

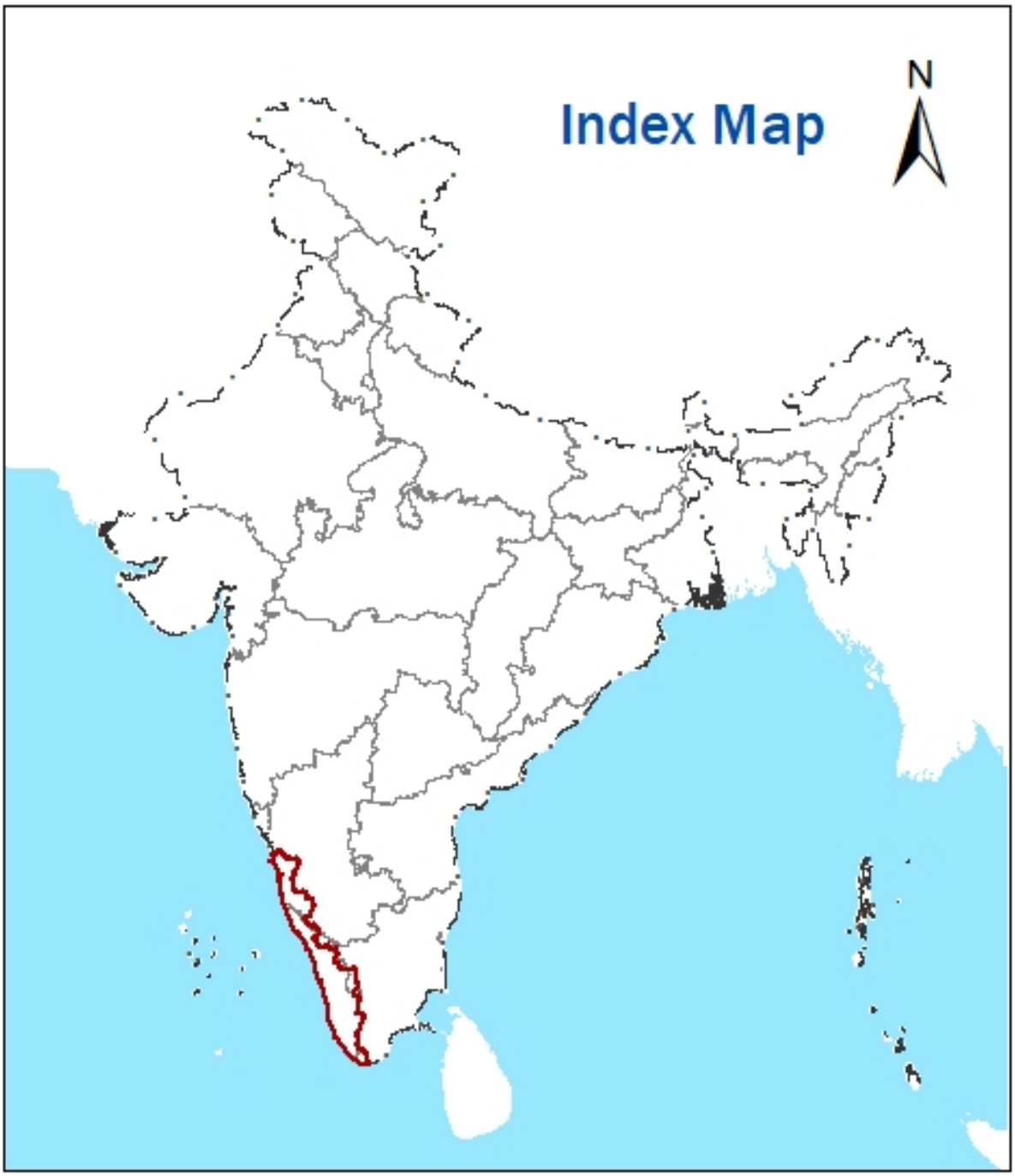
2.13.18 Hydrological Observation Sites: There are 51 sites in this river basin, the details of which are given as below:

(As on September 2020)

Site Type	No. of Hydrological Observations
G	00
GD	16
GDQ	09
GDS	00
GDSQ	26
GQ	00
SG&Met	00
WQSS	00
Total	**51**

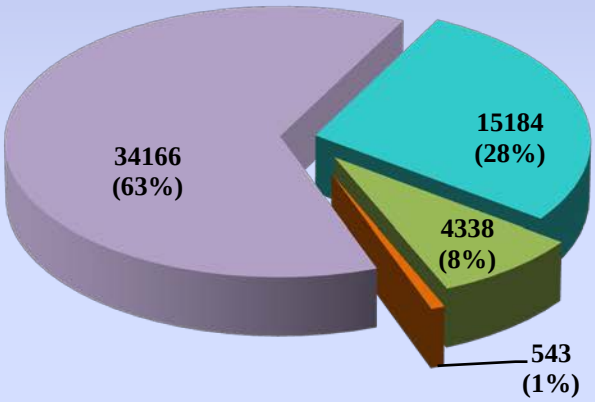
Source:RDC-II, CWC



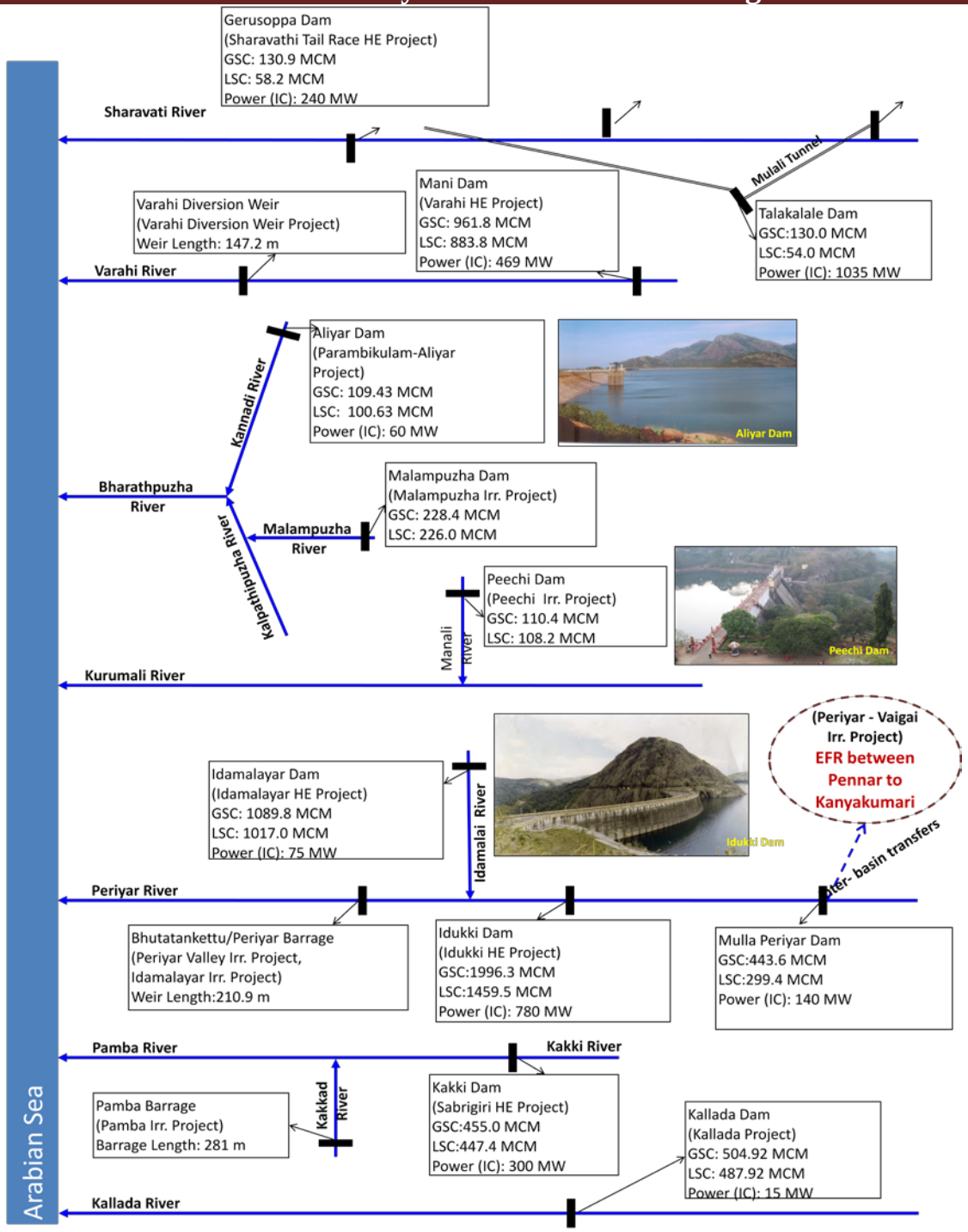


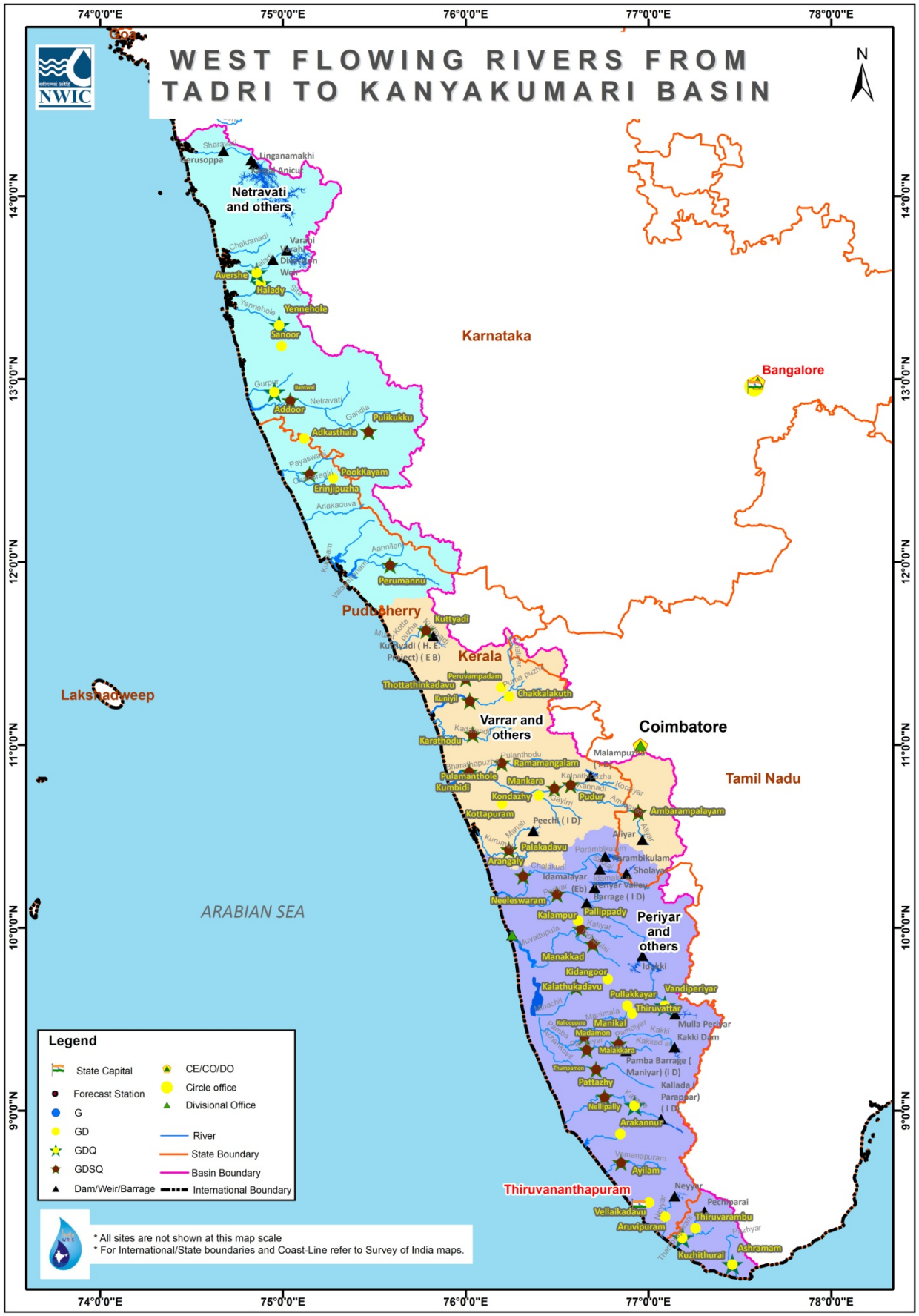
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise WFR from Tadri to Kanyakumari Basin Area (Sq. km)



WFR from Tadri to Kanyakumari Flow Line Diagram



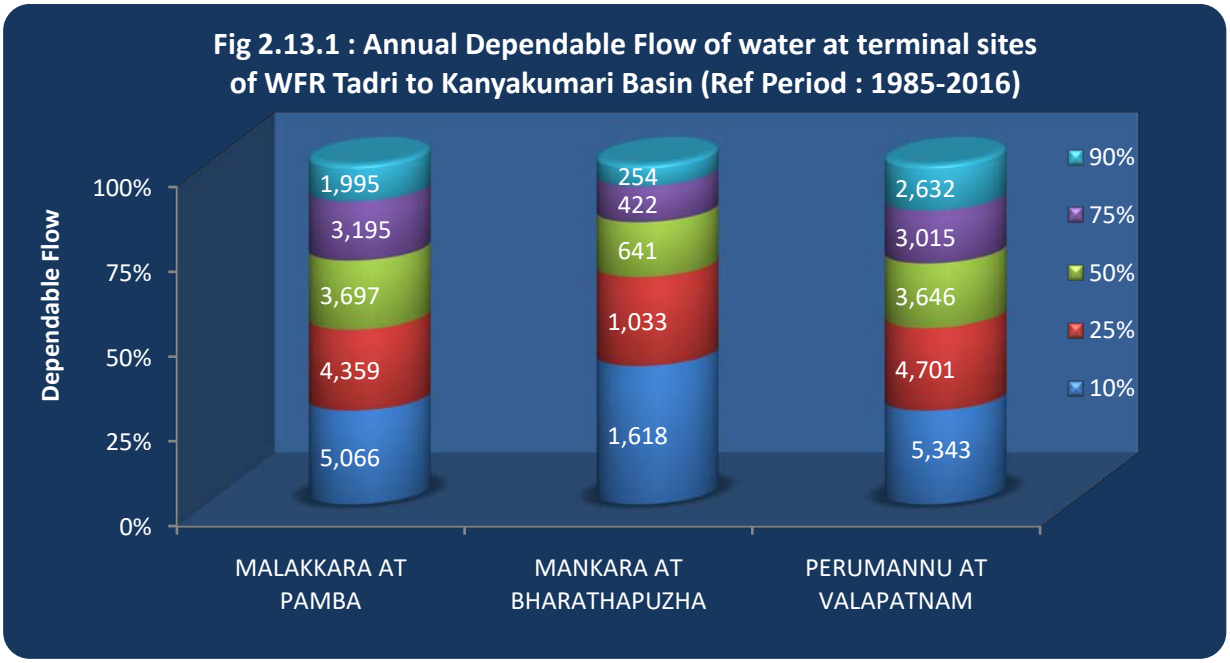


Source:- NWIC, Ministry of Jal Shakti, New Delhi

Table 2.13.1: Annual Dependable Flow of Water at Terminal Sites of WFR from Tadri to Kanyakumari Basin

Sl. No.	River @ Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	PAMBA AT MALAKKARA	6/1990 to 5/2020	5066.154	4358.976	3696.948	3195.245	1995.200
2	BHARATHAPUZHA AT MANKARA		1618.057	1033.061	640.881	422.193	254.424
3	VALAPATNAM AT PERUMANNU		5343.277	4701.347	3646.188	3015.339	2631.610

Source: SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore



2.13.19 Land Use Statistics: Table 2.13.2 to Table 2.13.4 present below the land use pattern, gross irrigated area and net irrigated area for WFR Tadri to Kanyakumari basin as compared to all basins (Region-III).

TABLE 2.13.2: LAND UTILISATION PATTERN OF WFR TADRI TO KANYAKUMARI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
WFR tadri to kanyakumari	54246.5974	15480.9542	8548.25347	3427.92324	2159.03026	24630.4362	5252.43638	29882.8726
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.13.3: GROSS AREA IRRIGATED BY SOURCES PATTERN OF WFR TADRI TO KANYAKUMARI AND ALL RIVER BASINS(REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
WFR tadri to kanyakumari	307.81673	1.4175307	309.23426	320.16731	585.00403	1033.017	1618.021	313.88108	2561.3037
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.13.4: NET AREA IRRIGATED BY SOURCES PATTERN OF WFR TADRI TO KANYAKUMARI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
WFR tadri to kanyakumari	992.89352	7.4672433	1000.3608	757.93495	933.89943	2223.7344	3157.6338	1153.6062	6069.5357
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.14 MAHI BASIN

Location: The Mahi river is one of the major west flowing inter-state river of India, draining into the Gulf of Khambat. The basin is bounded on the North and the North - West by Aravalli hills, on the East by the ridge separating it from the Chambal Basin, on the South by the Vindhyas and on the West by the gulf of Khambat. The river Mahi originates on the Northern slope of Vindhyas range near the village of Sardarpur in the Dhar District of Madhya Pradesh at an elevation of 500m above msl. Its length is 583 kms and it traverses through states of Madhya Pradesh, Rajasthan and Gujarat. The river Mahi drains an area of 34,842 sq km. The Mahi basin lies between north latitude between 22^0 00' to $24^0 45'$ and east latitude $72^0 30'$ to $75^0 15'$.

Initially, the river flows Northwards through Dhar and Jhabua districts of M.P. and then turns left and passes through the Ratlam district of M.P., then turning to North - West, it enters the Banswara district of Rajasthan and flows in South-West directions and thereafter enters the Panchmahal district of Gujarat state. Then the river continues to flow in the same direction through Kheda district of Gujarat and finally falls into Gulf of Khambat in Arabian Sea. The Mahi Bajaj Sagar, Kadana Reservoir, Wanakbori Weir, Panam, Bhadar, Jakham and Somkamlamba are the major projects in the catchment areas of the Mahi sub-basin.

The basin contains two climatic regions, the northern part of the basin comprises subtropical wet climate (generally basin area occupied by Rajasthan). The major part of the basin comprises a tropical wet climate, caused mainly due to the existence of Vindhyas and the Western Ghats. The temperature of the basin varies from 4^0 to 46^0C. The average rainfall in the Mahi basin is 1147.5 mm.

2.14.1 Irrigation Projects: Mahi Irrigation Project, Mahi Bajaj Sagar, Panam Dam, Jakham Dam are major irrigation projects in the basin.

2.14.2 Hydrological Observation (H.O.) Sites: There are total 20 H.O. sites in the basin, the details of which are given as:

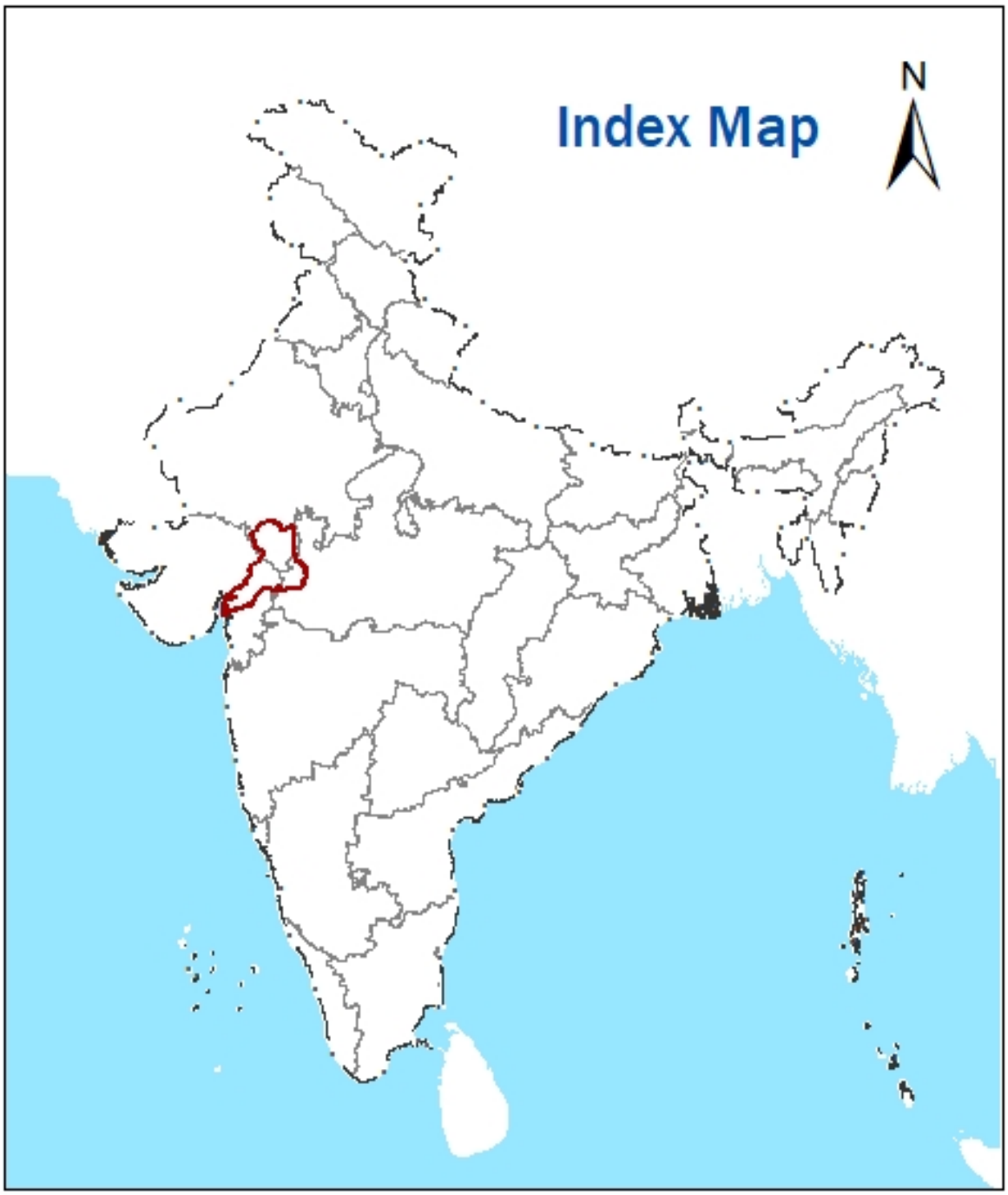
(As on September 2020)

Site Type	No. of Hydrological Observations
G	10
GD	04
GDQ	02
GDS	00
GDSQ	03
GQ	00
SG&Met	01
WQSS	00
Total	**20**

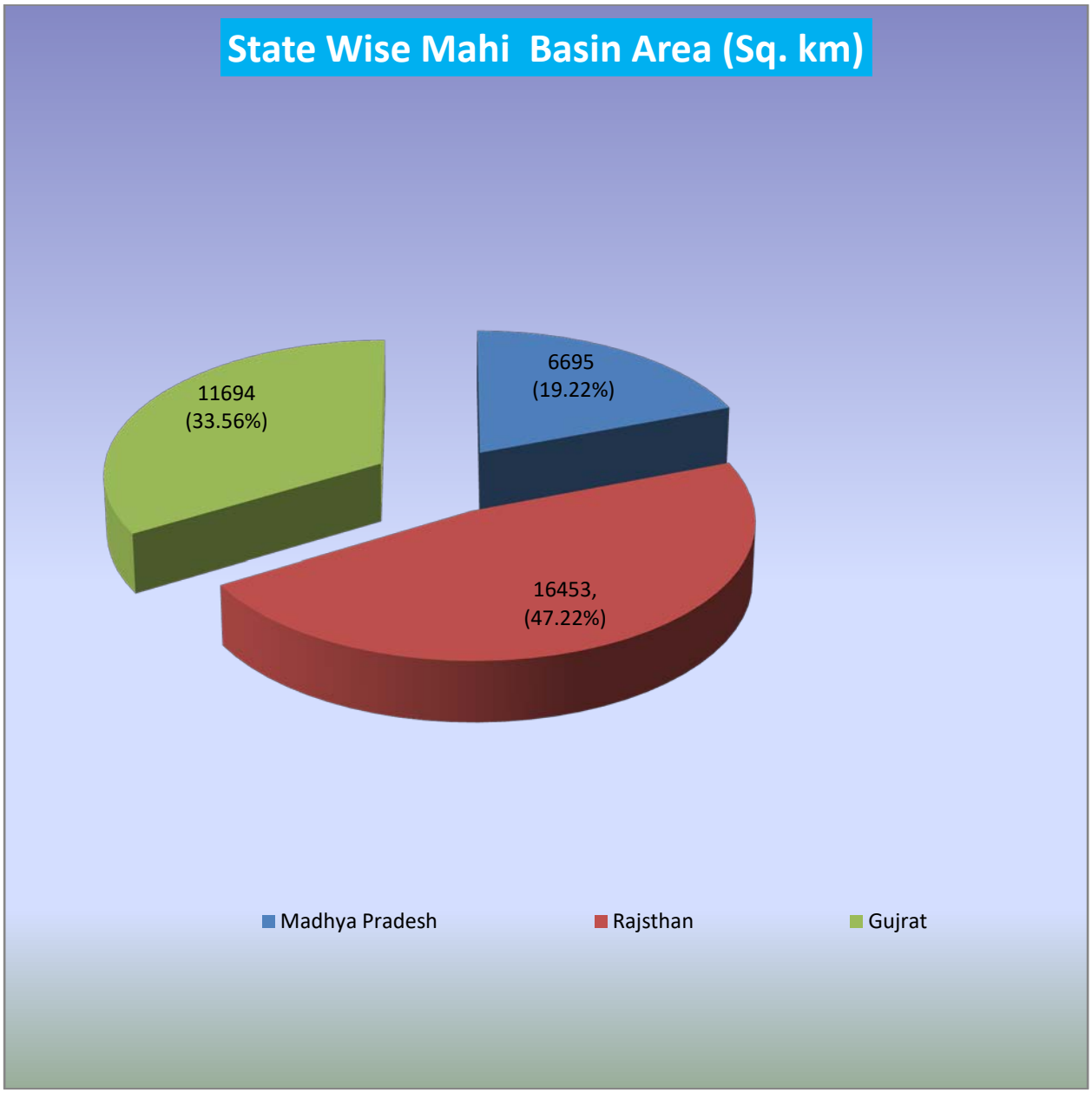
Source: RDC-II, CWC

2.14.3 Peak Water Level: Khanpur, Mataji and Paderdibadi are the oldest sites out of the 6 sites reported in the basin, which were established in late 1970 to make the observations of Gauge/Discharge, Sediment and Water Quality. Sohagpura recorded the highest peak water level at 402.08 metres dated 14.09.2019 during the reference period 2019-20.

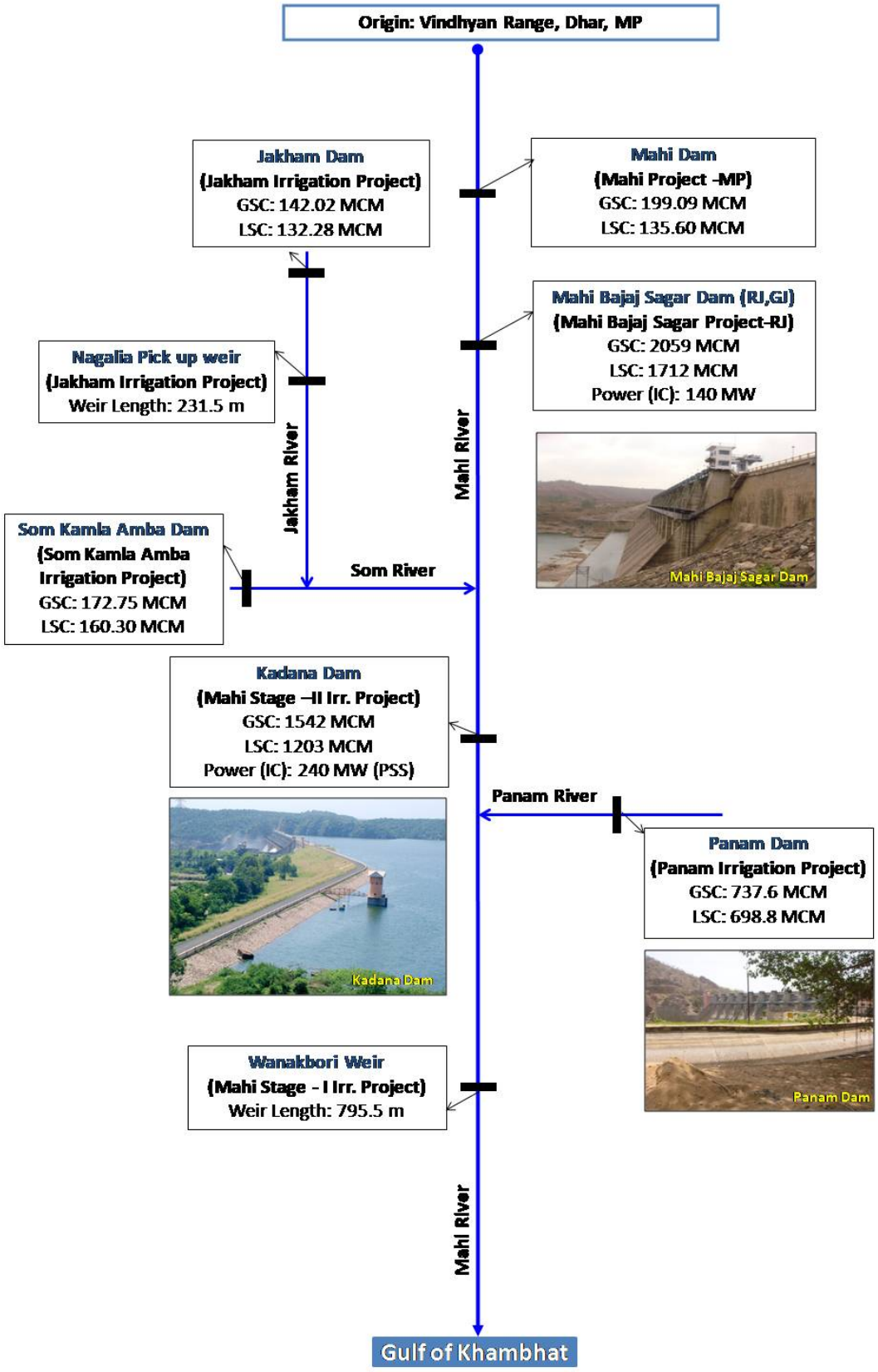
2.14.4 Water Quality: Temporal trends of water quality parameters viz. pH, BOD, DO, Total hardness are given below for three sites of Mahi basin (Fig 2.14.1 to Fig 2.14.12)

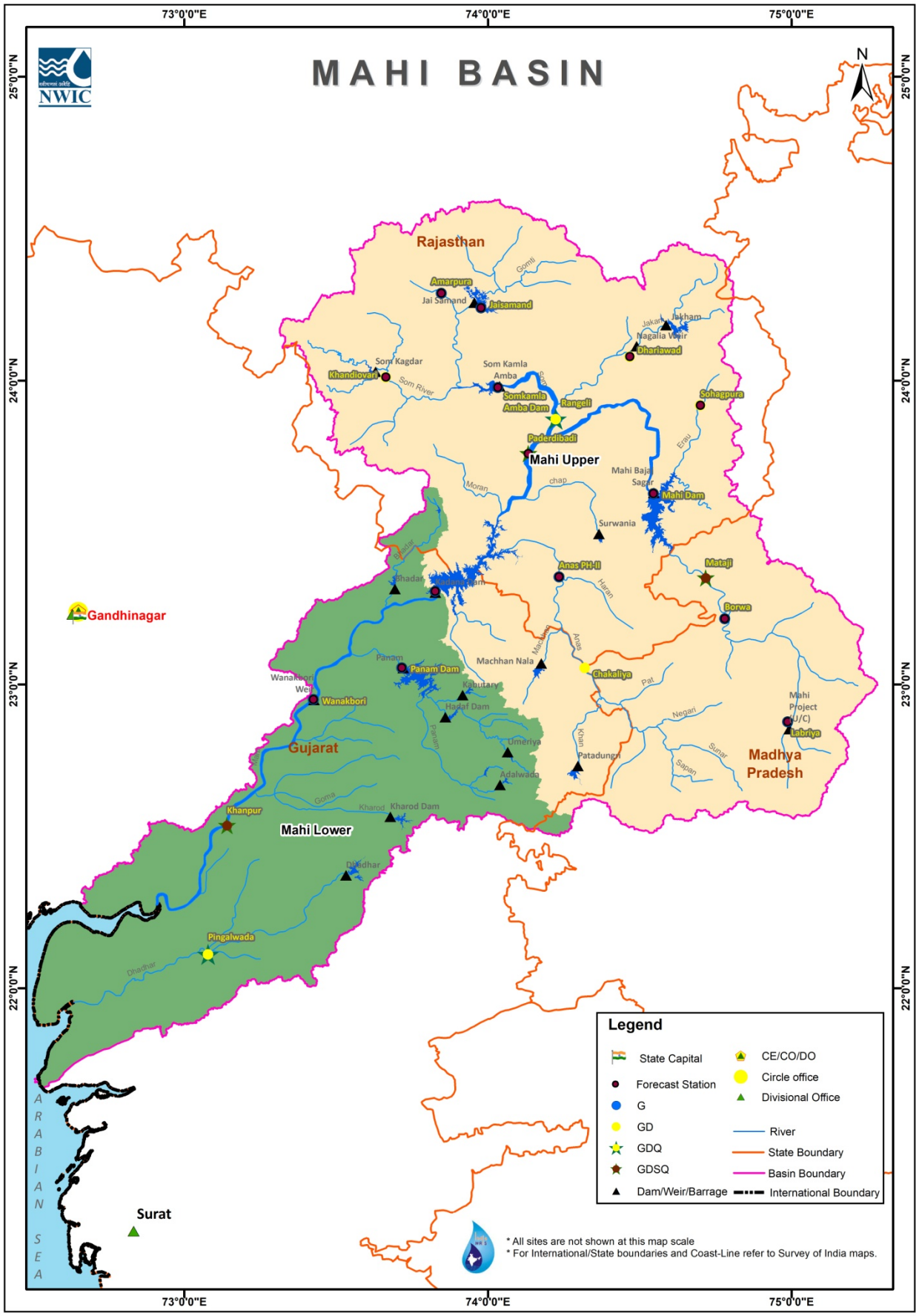


Source:- NWIC, Ministry of Jal Shakti, New Delhi


State Wise Mahi Basin Area (Sq. km)
6695
(19.22%)
11694
(33.56%)
16453,
(47.22%)
Madhya Pradesh
Rajsthan
Gujrat

Mahi River Flow Line Diagram





Source:- NWIC, Ministry of Jal Shakti, New Delhi

Basin: Mahi (Water Quality Parameter : pH)

Fig 2.14.1 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for pH at Mahi Basin

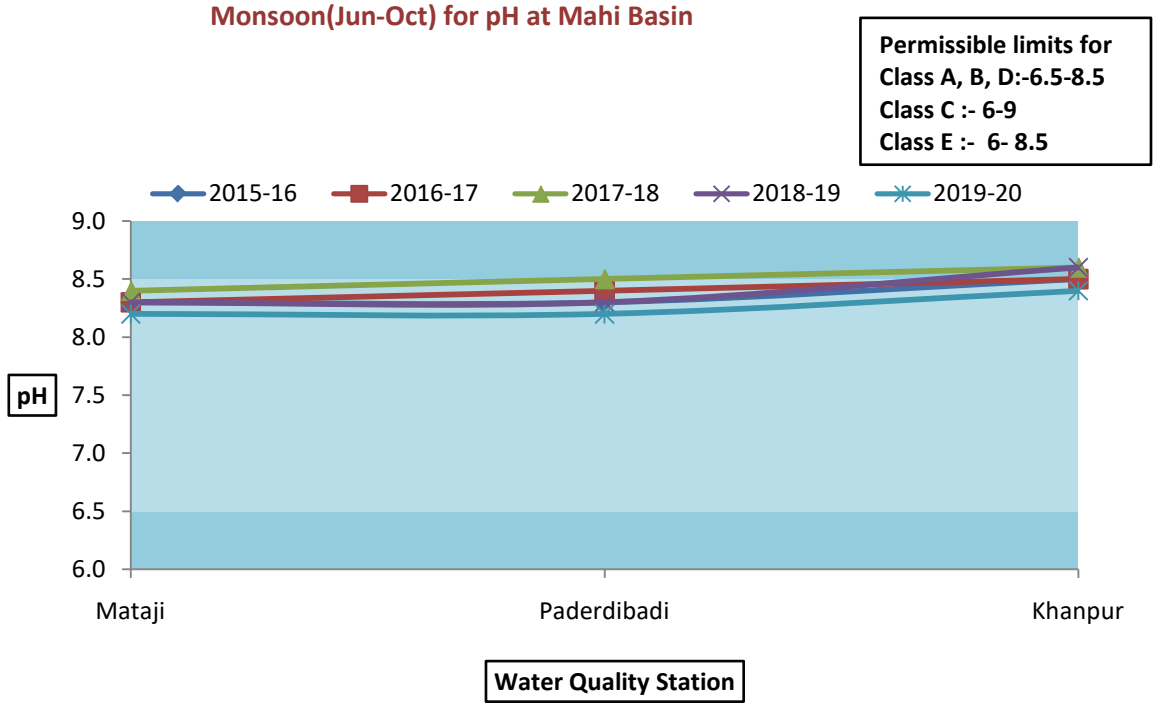


Fig 2.14.2 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for pH at Mahi Basin

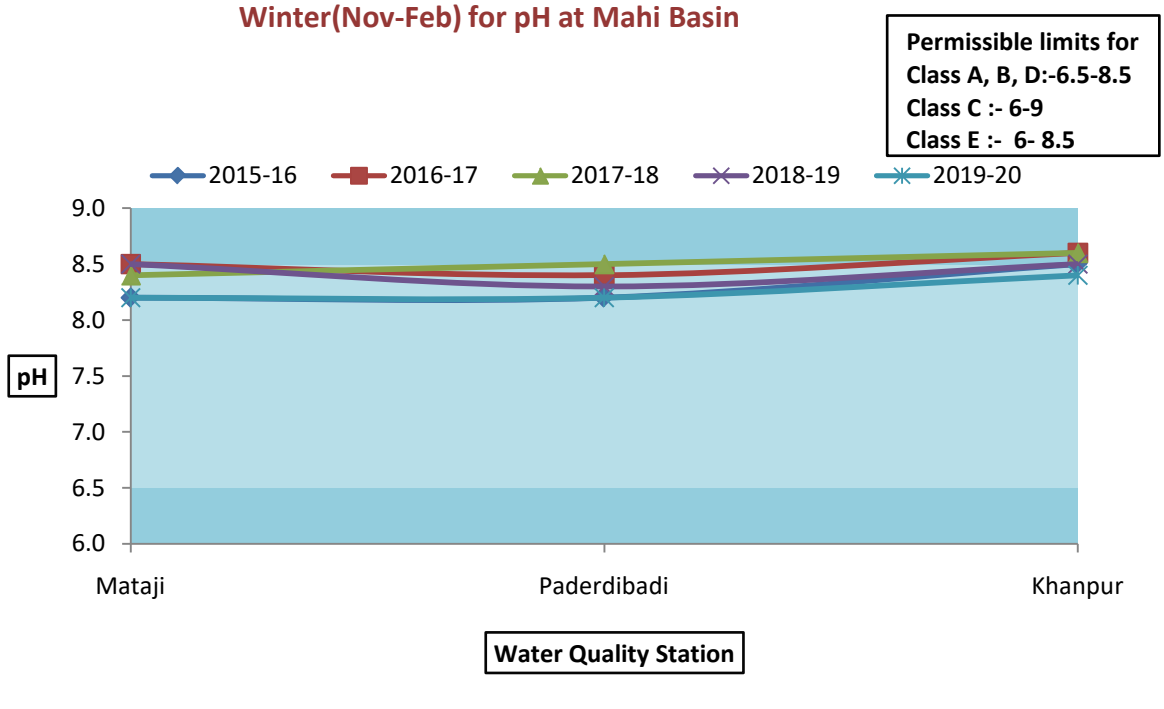
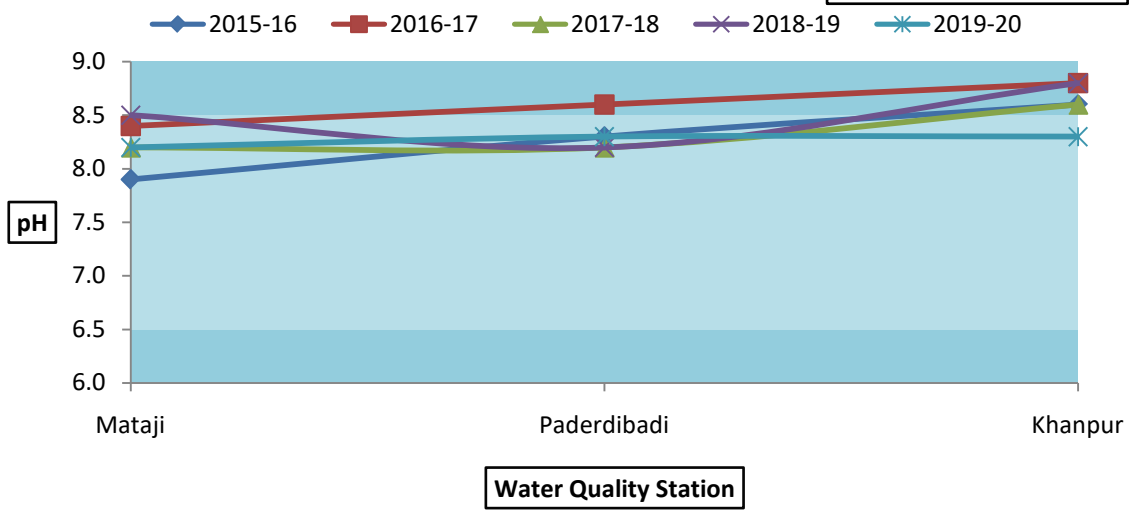


Fig 2.14.3 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for pH at Mahi Basin



Basin: Mahi (Water Quality Parameter : BOD)

Fig 2.14.4 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for BOD at Mahi Basin

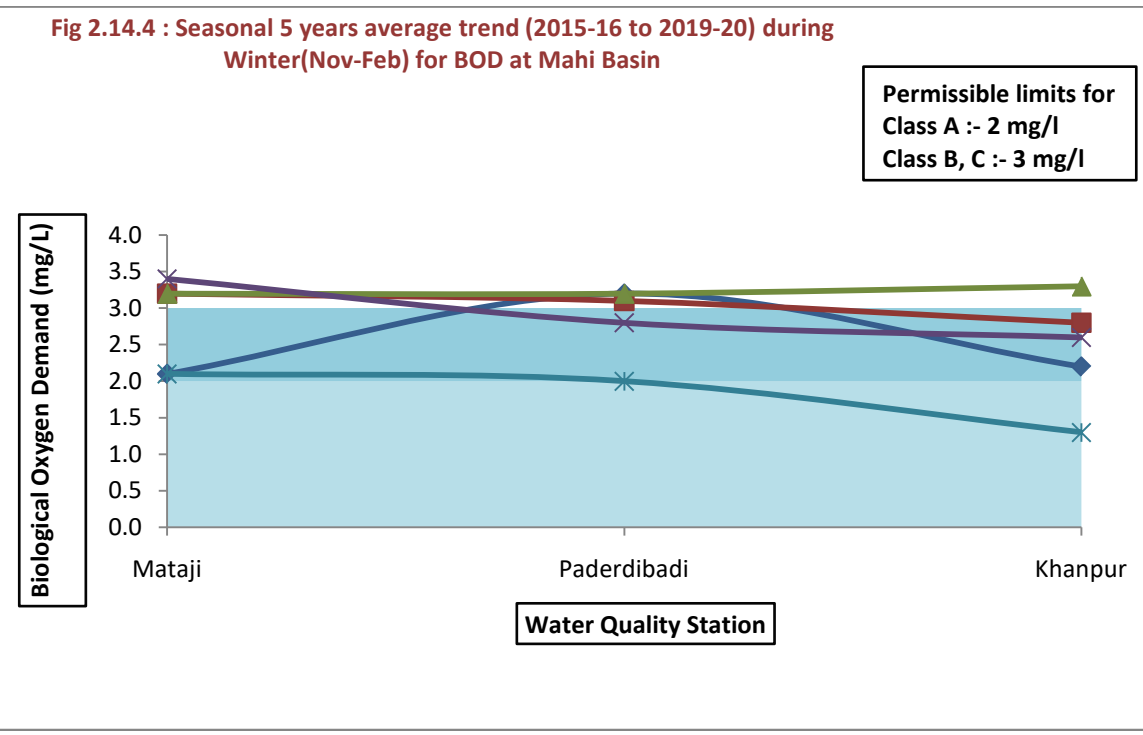


Fig 2.14.5 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for BOD at Mahi Basin

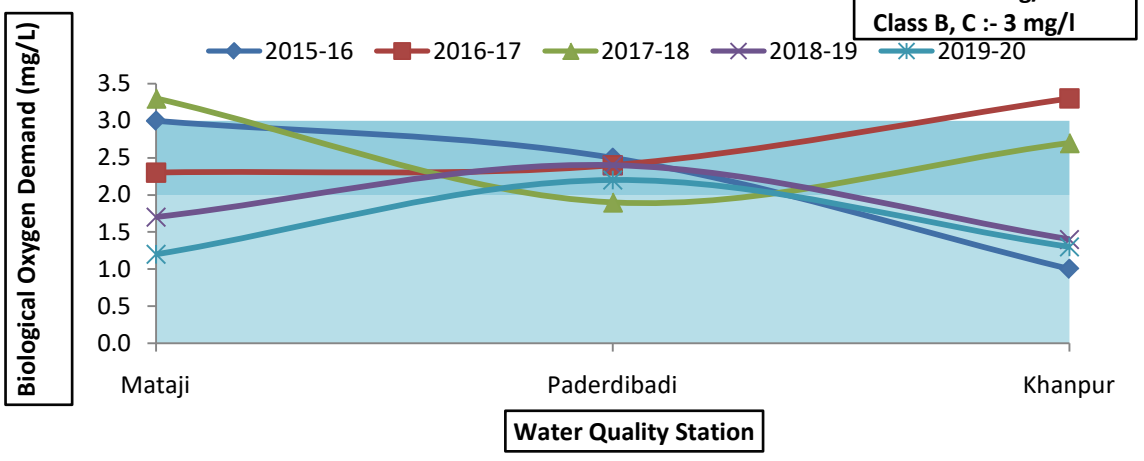
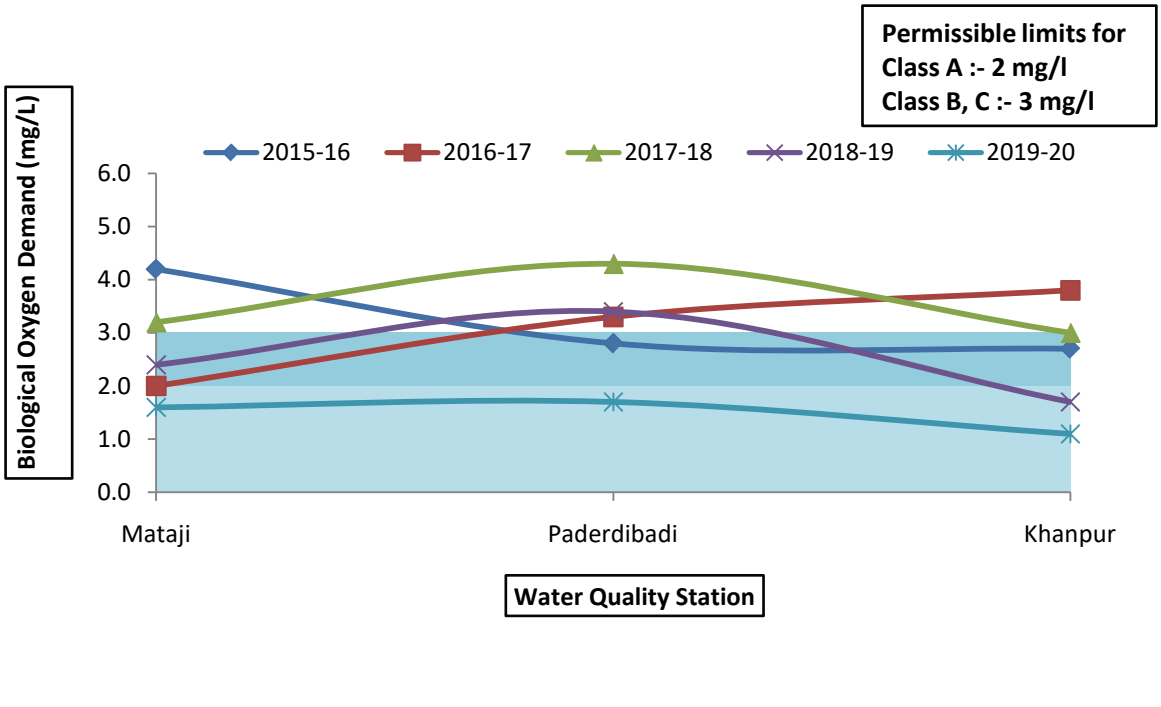


Fig 2.14.6 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for BOD at Mahi Basin



Basin: Mahi (Water Quality Parameter : Dissolved Oxygen)

Fig 2.14.7 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for DO at Mahi Basin

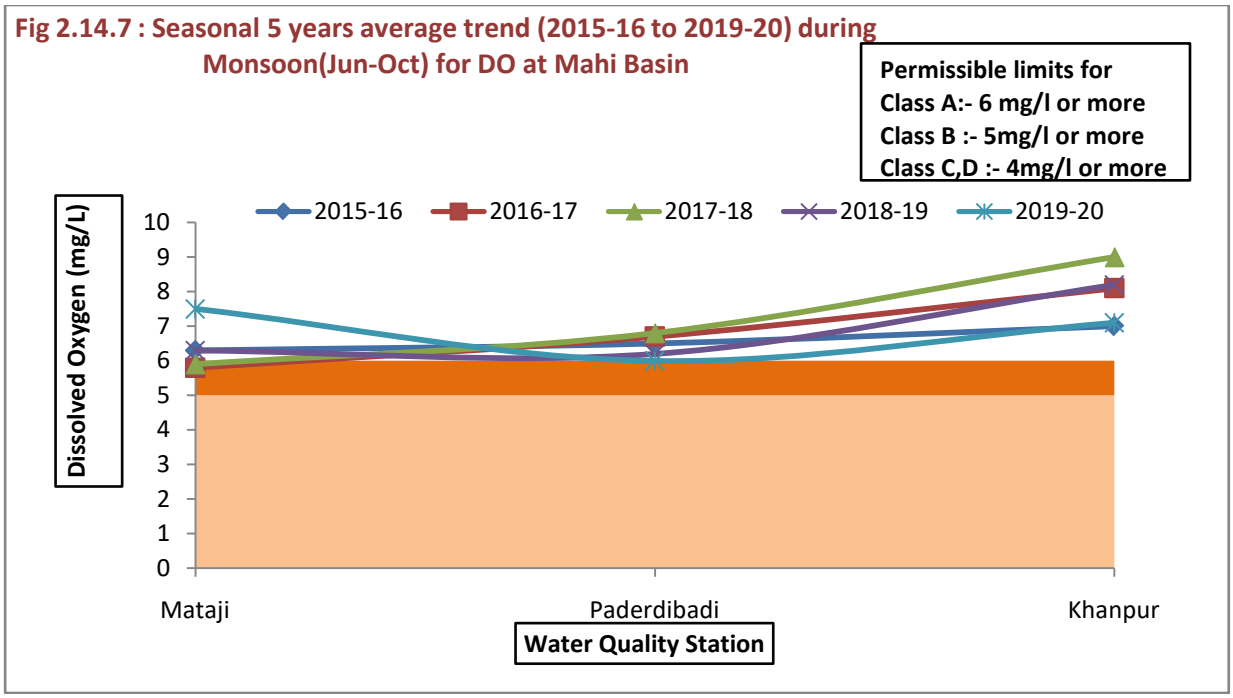


Fig 2.14.8 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for DO at Mahi Basin

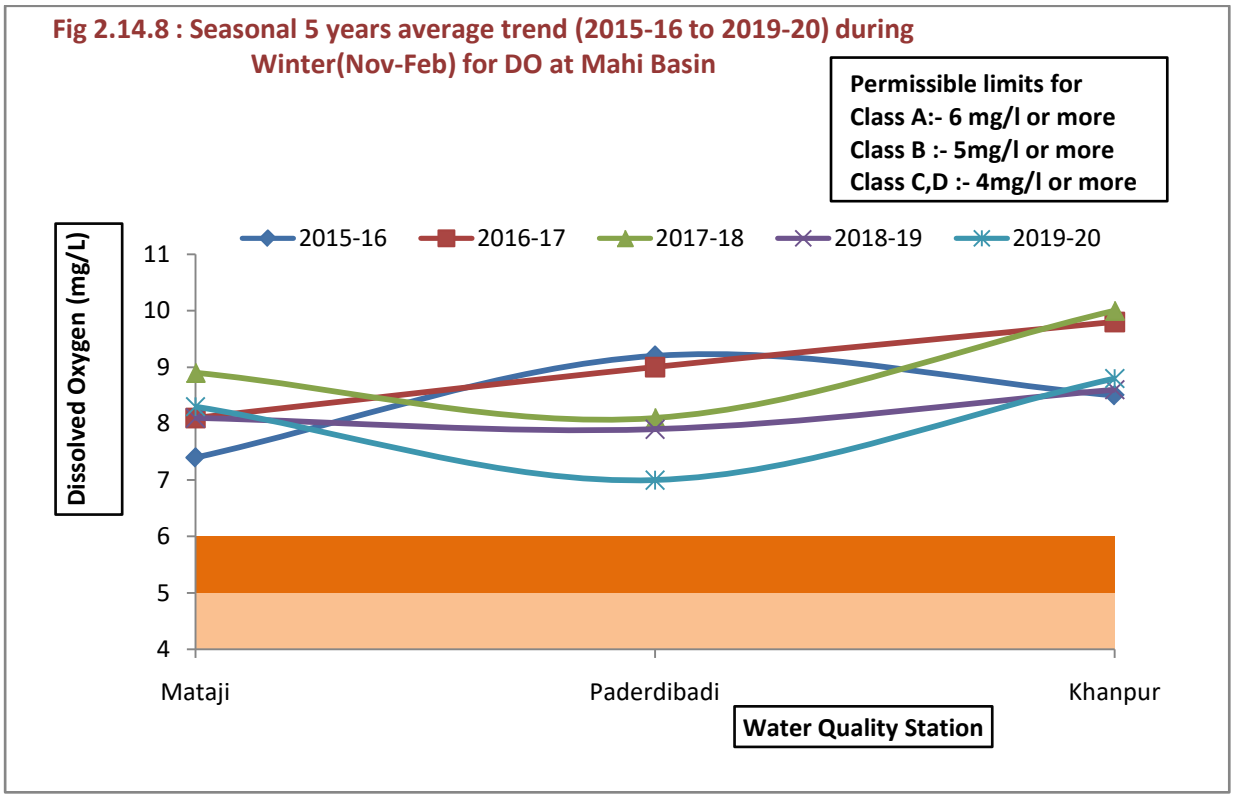
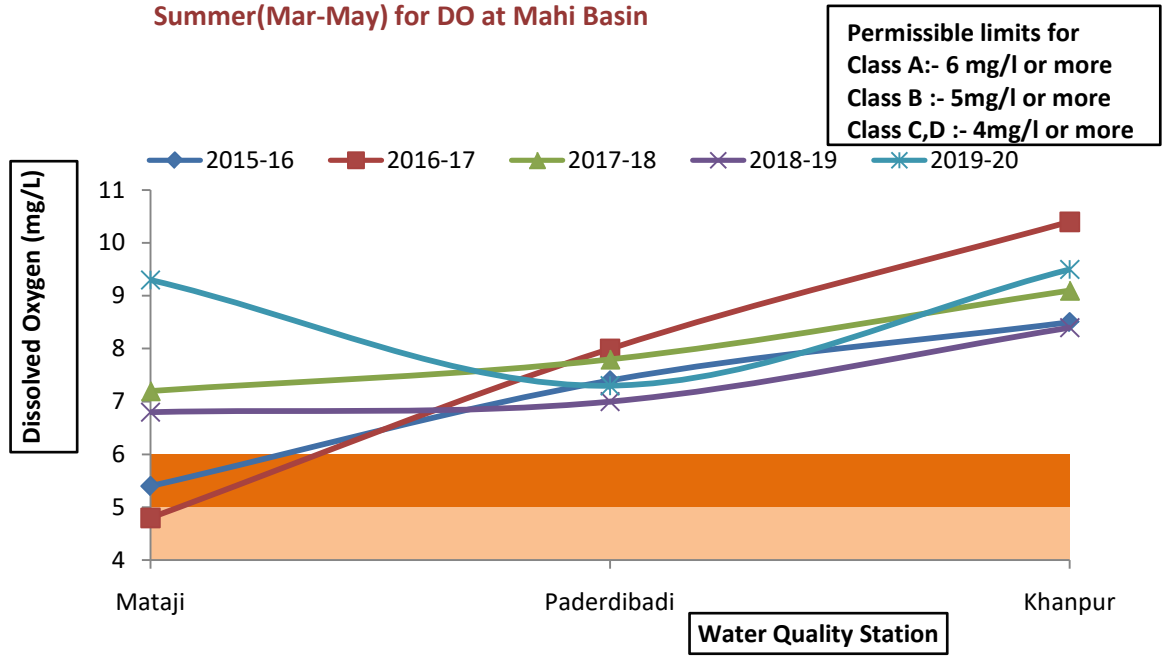


Fig 2.14.9 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for DO at Mahi Basin



Basin: Mahi (Water Quality Parameter : Total Hardness)

Fig 2.14.10 : Seasonal 5 years average trend (2015-16 to 2019-20) during Monsoon(Jun-Oct) for Total Hardness at Mahi Basin

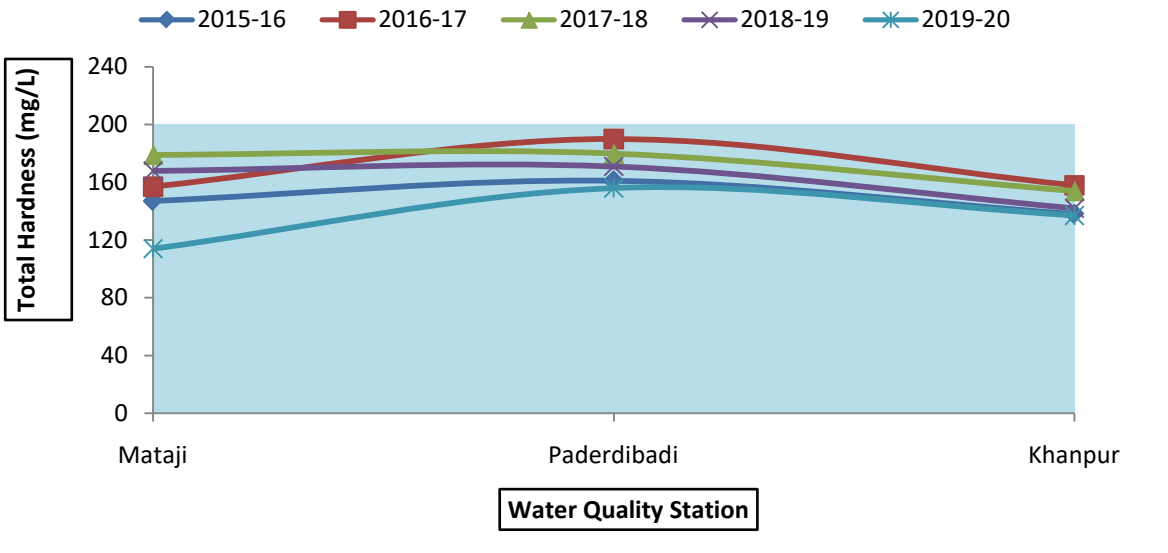


Fig 2.14.11 : Seasonal 5 years average trend (2015-16 to 2019-20) during Winter(Nov-Feb) for Total Hardness at Mahi Basin

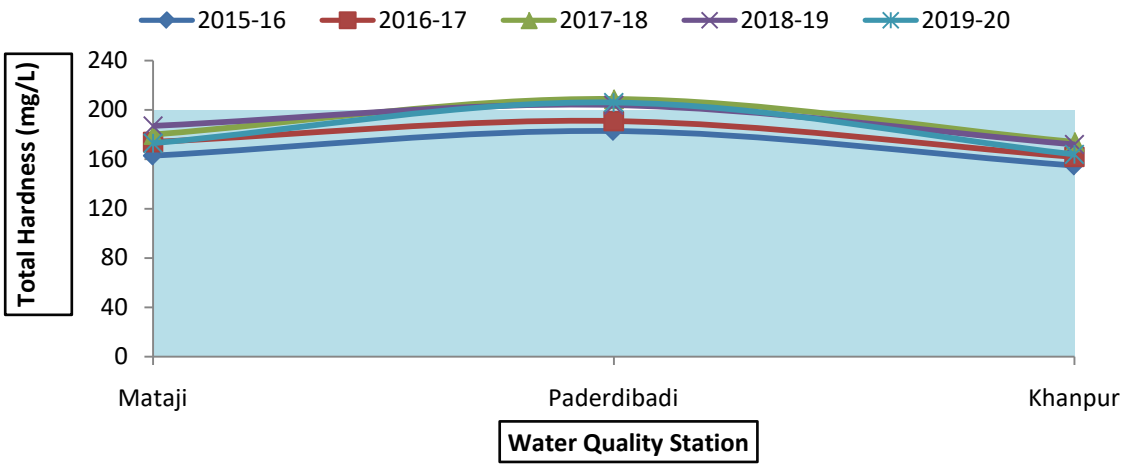


Fig 2.14.12 : Seasonal 5 years average trend (2015-16 to 2019-20) during Summer(Mar-May) for Total Hardness at Mahi Basin

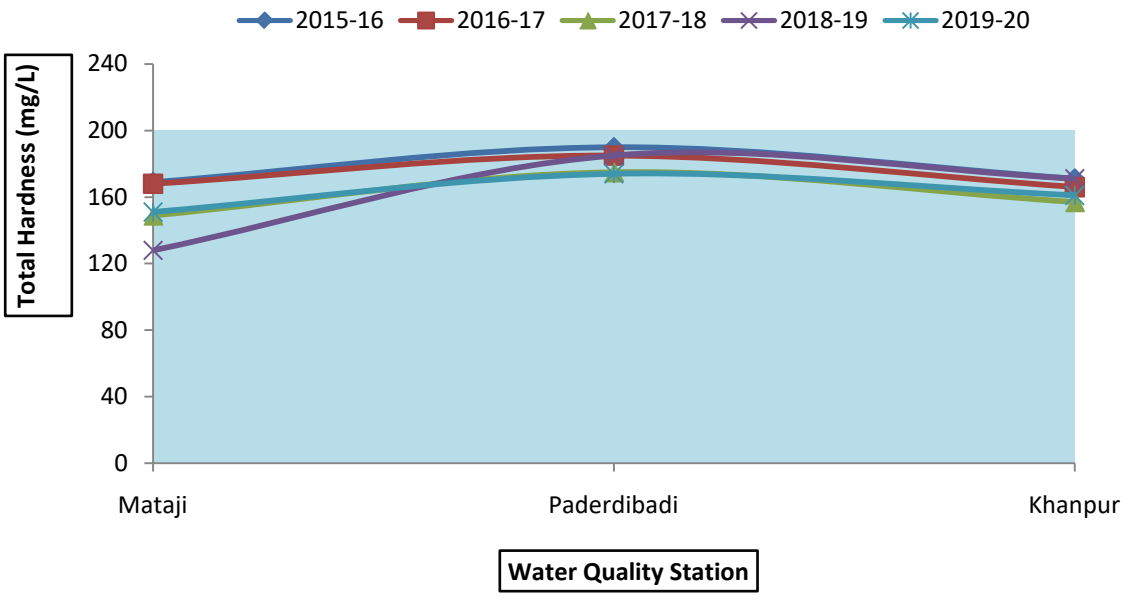
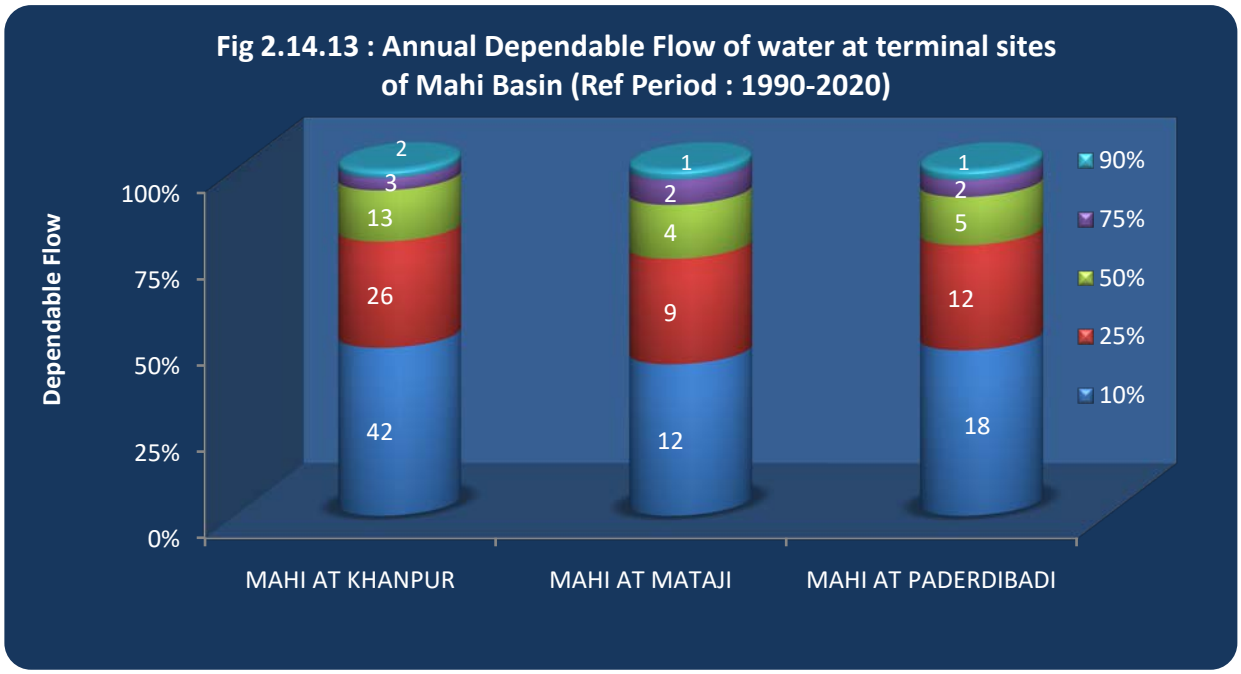


Table 2.14.1: Annual Dependable Flow Of Water at Terminal Sites Of Mahi Basin

Sl. No.	River @ Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	MAHI AT KHANPUR	6/1990 to 5/2020	41.911	26.313	12.779	3.127	1.993
2	MAHI AT MATAJI		12.381	8.576	4.405	2.062	0.806
3	MAHI AT PADERDIBADI		18.253	11.508	5.328	1.857	1.133



2.14.5 Land Use Statistics: Table 2.14.2 to Table 2.14.4 present below the land use pattern, gross irrigated area and net irrigated area for Mahi basin as compared to all basins (Region-III).

TABLE 2.14.2: LAND UTILISATION PATTERN OF MAHI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Mahi	24215.39	4816.37	5207.77	2770.09	1199.26	10221.90	5527.51	15749.42
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.14.3: GROSS AREA IRRIGATED BY SOURCES OF MAHI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Mahi	1067.01806	0	1067.018068	392.142258	1181.721873	2182.7382	3364.4601	754.2428	5577.86331
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.14.4: NET AREA IRRIGATED BY SOURCES OF MAHI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Mahi	1065.4165	0	1065.4165	390.93136	1166.6225	2155.5491	3322.1716	750.45924	5528.9787
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.15 SABARMATI BASIN

Location: The Sabarmati river is one of the major West flowing inter-state rivers in India, draining into the Gulf of Khambat. The basin is bounded by Aravalli hills in the North and North-east. The ridge separating it from basins of minor streams and drains into Rann of Kutchh and Gulf of Khambat in West and by Gulf of Khambat in South. It is triangular in shape with the main river as the base and the source of the Watrak as the apex point. It originates in the Aravalli hills in the Rajasthan State at an elevation of 762m above msl. The river Sabarmati drains an area of 21,674 sq km with a total length of 371 kms. It lies between 70^0 58' to 73^0 51' east longitudes and 22^0 15' to 24^0 47' north latitudes.

The Sabarmati River, with its origin in Rajasthan, flows generally in south west direction. It enters the Gujarat State and passes through the plains and continues to flow in the same direction and joins the Gulf of Khambat in the Arabian Sea. The Dharoi Dam, Watrak, Meshwo, Moti fatewati and Hathmati are the major projects in the catchment areas of Sabarmati sub-basin. The basin contains two climatic regions, the northern part of the basin comprises subtropical wet climate (generally basin area occupied by Gujarat). The major part of the basin comprises tropical wet climate, caused mainly due to the existence of Aravalli and the Western Ghats. The temperature of the basin varies from 3.5^0 to 46^0C. The average rainfall in the Sabarmati basin is about 1016.9 mm.

2.15.1 Irrigation Projects: Sabarmati irrigation project (Dharoi Dam), Watrak irrigation project, Moti Fatewadi are major projects in the basin.

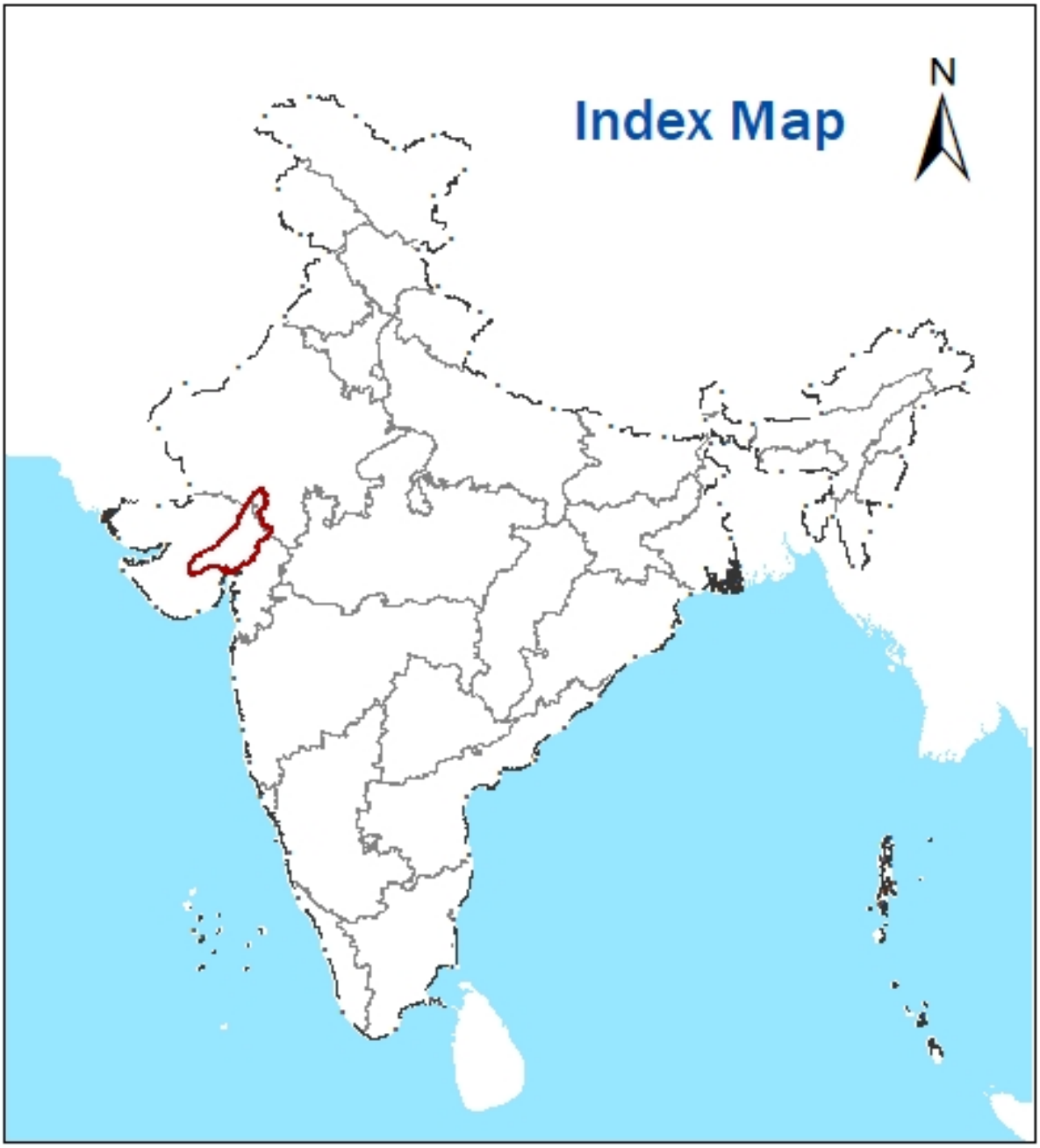
2.15.2 Hydrological Observation (H.O.) Sites: There are 19 H.O. sites in total in this basin, the details of which are given as:

(As on September 2020)

Site Type	No. of Hydrological Observations
G	07
GD	04
GDQ	01
GDS	00
GDSQ	01
GQ	00
SG&Met	05
WQSS	01
Total	**19**

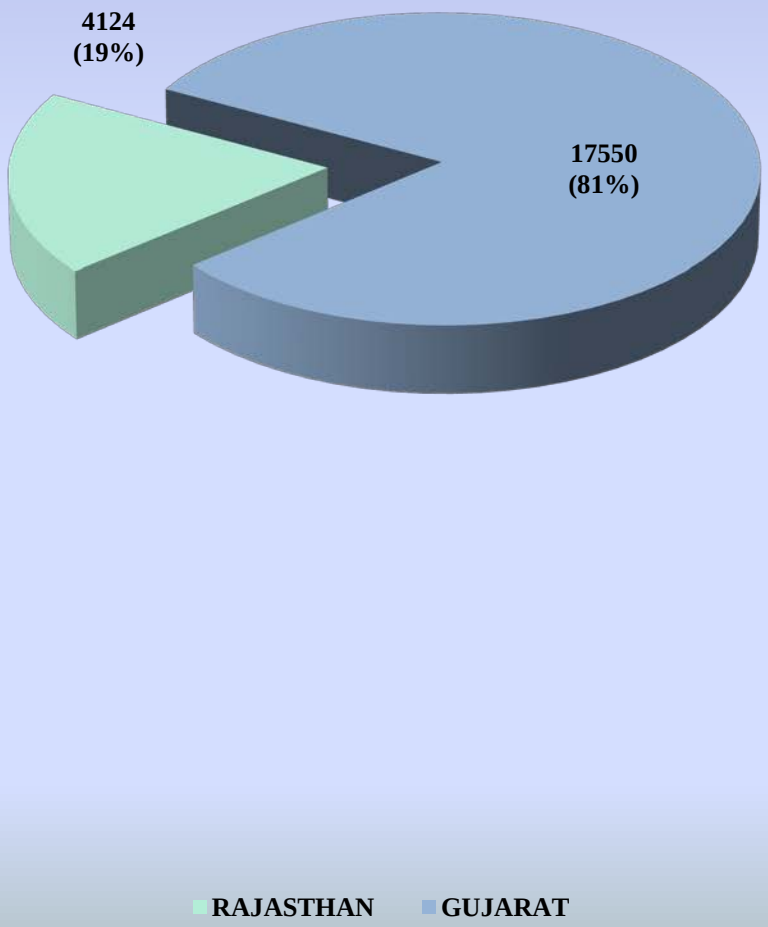
Source:RDC-II, CWC

2.15.3 Peak Water Level: Among the 6 sites of the Sabarmati Basin, Kheroj recorded the highest peak water level at 215.08 metres on 29.07.2015 during the reference period 2019-20.

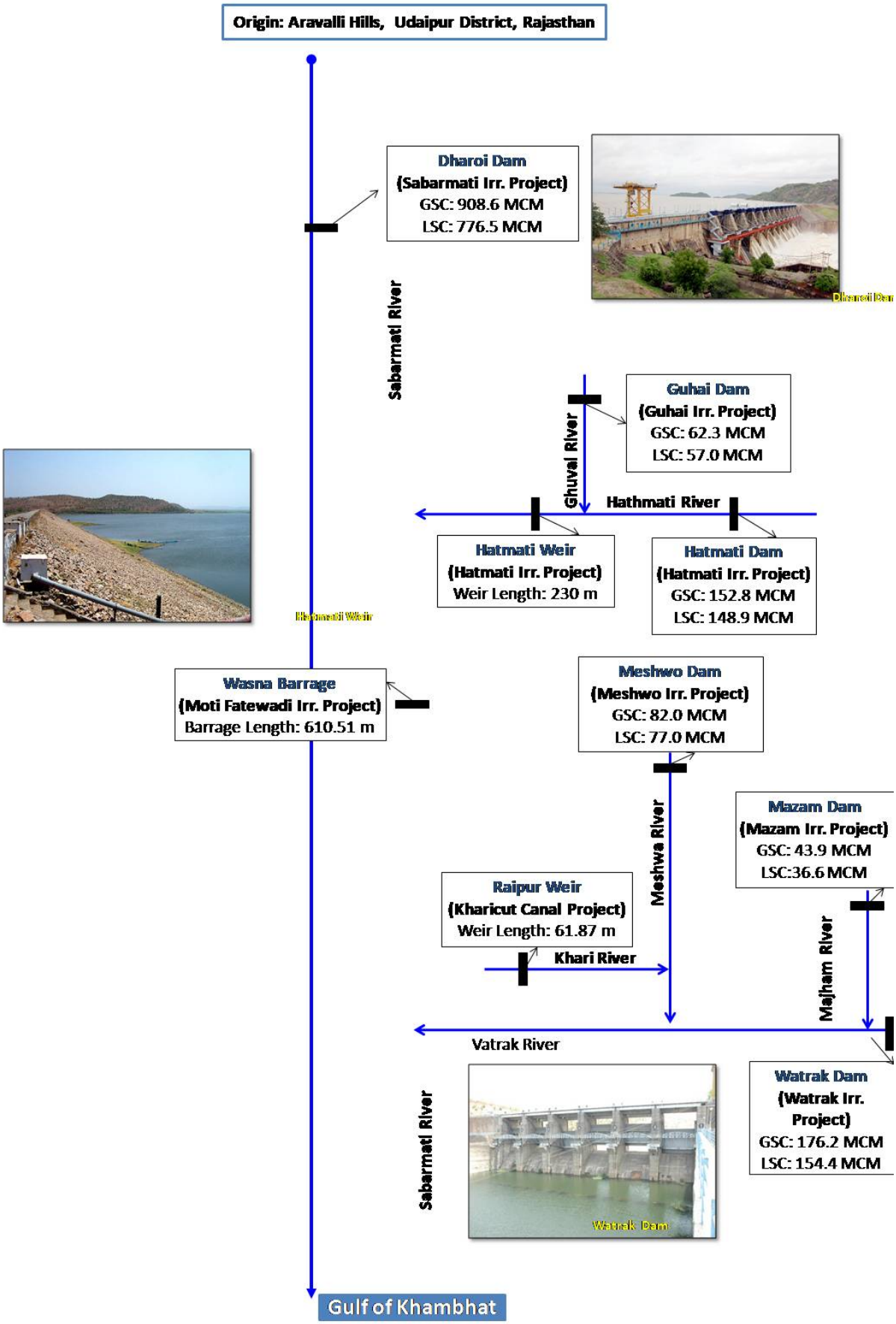


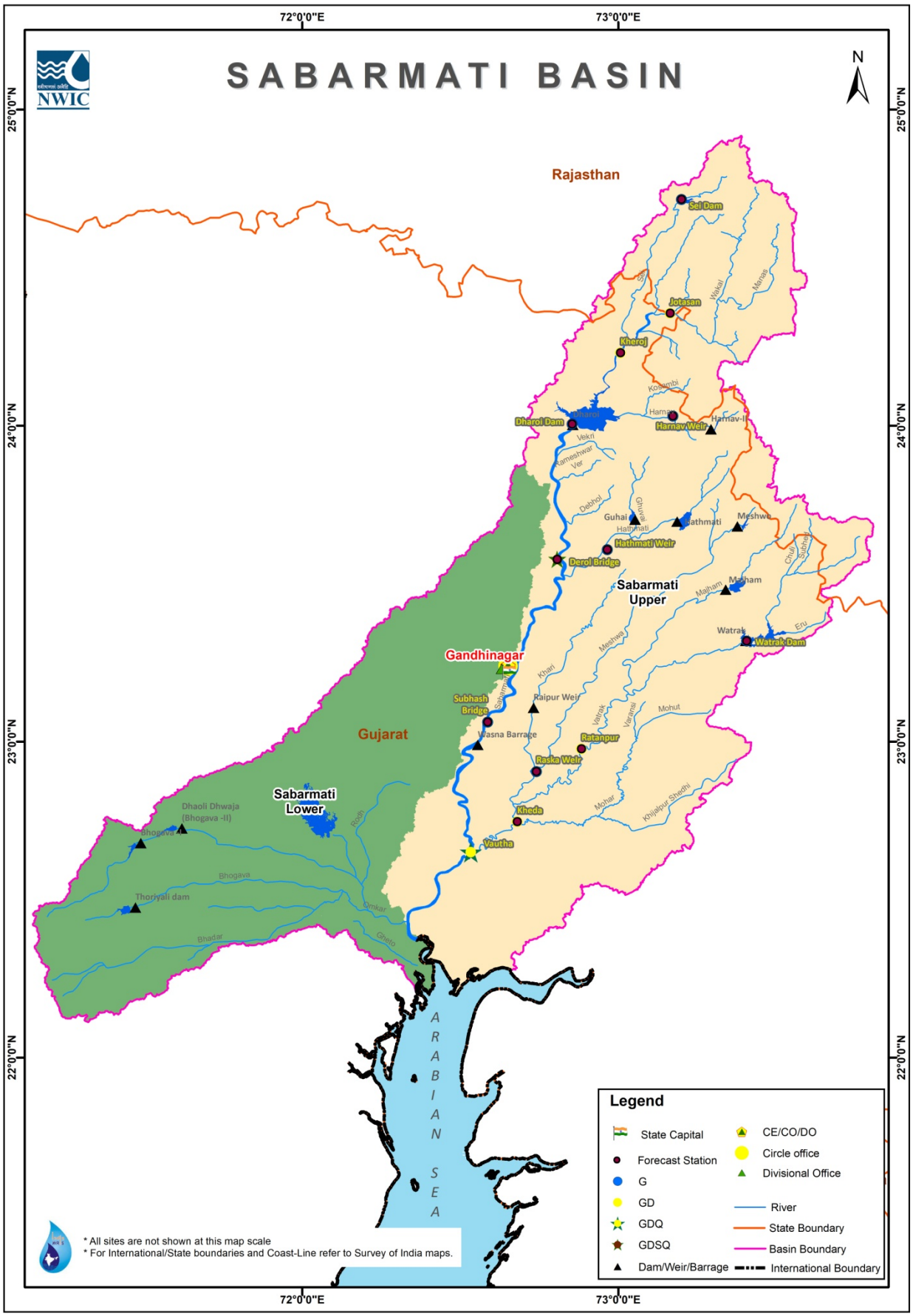
Source:- NWIC, Ministry of Jal Shakti, New Delhi

State Wise Sabarmati Basin Area (Sq. km.)



Sabarmati River Flow Line Diagram

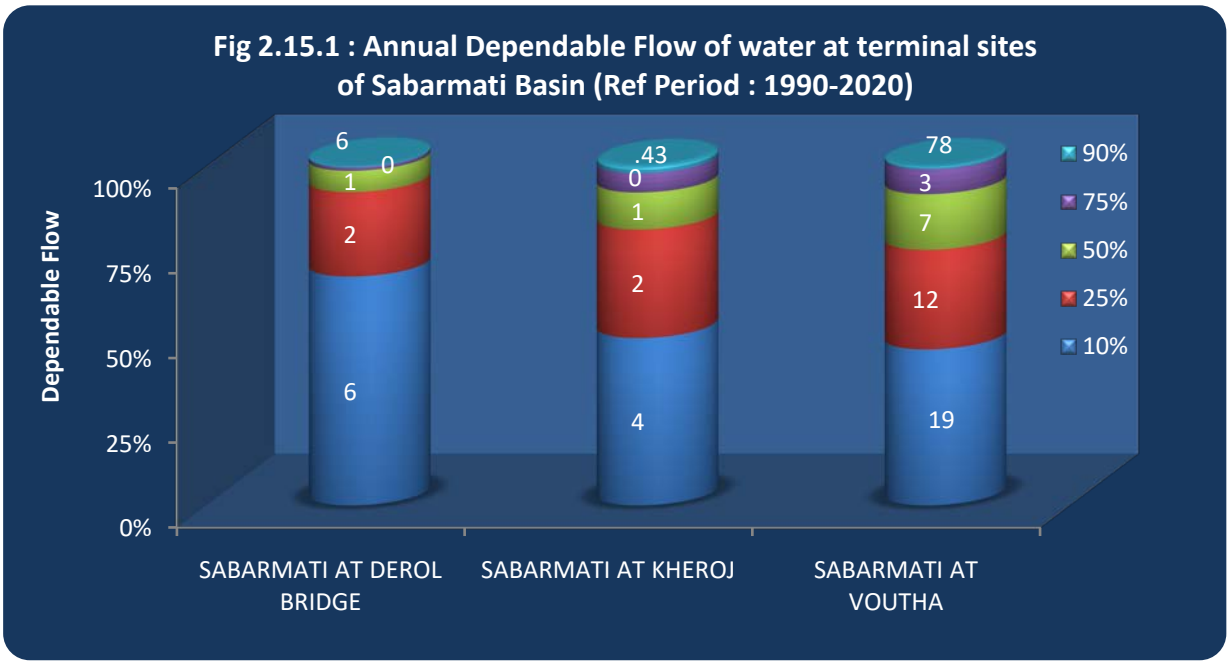




Source:- NWIC, Ministry of Jal Shakti, New Delhi

Table 2.15.1: Annual Dependable Flow of Water at Terminal Sites Of Sabarmati Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	SABARMATI AT DEROL BRIDGE	6/1990 to 5/2020	6.040	2.234	0.566	0.088	0.032
2	SABARMATI AT KHEROJ		3.827	2.464	0.846	0.443	0.158
3	SABARMATI AT VOUTHA		19.111	12.113	6.815	3.055	0.367



2.15.4 Land Use Statistics: Table 2.15.1 to Table 2.15.3 present below the land use pattern, gross irrigated area and net irrigated area for Sabarmati basin as compared to all basins (Region-III).

TABLE 2.15.1: LAND UTILISATION PATTERN OF SABARMATI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
Sabarmati	4619.626751	1247.838408	1503.231027	679.0323949	291.8531802	897.6717416	421.1178851	1318.789627
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.15.2: GROSS AREA IRRIGATED BY SOURCES OF SABARMATI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Sabarmati	24.899929	0	24.899929	35.395132	59.685688	270.34161	330.0273	5.07758	395.39994
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.15.3: NET AREA IRRIGATED BY SOURCES OF SABARMATI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
Sabarmati	24.778643	0	24.778643	35.07438	56.44198	262.0869	318.52896	4.939249	383.32124
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.15.5 Minerals : The important minerals have found in the basin is Phyllites, gneisses and Quartzite & Granite.

2.15.6 Industries :- The important industries in the basin are Engineering, Handicraft, Stonework, Cement, Chemical liquors, Sugar, Textiles and wools etc.

2.16 WEST FLOWING RIVERS OF KUTCH AND SAURASHTRA INCLUDING LUNI

Location: The basin extends over large areas in Rajasthan and Gujarat and covers whole of Diu having an area of 1,92,112 Sq. km with a maximum length and width of 865 km and 445 km. It lies between 67^0 52' to 75^0 19' east longitudes and 20^0 53' to 26^0 57' north latitudes. The basin is bounded by Aravalli range and Gujarat plains on the east, by Rajasthan desert on north, and by the Arabian Sea on the south and the west.

Luni is the major river system of the basin and other independent rivers of the basin are the Shetrunji, the Bhadar, the Machhu, the Rupen, the Saraswati and the Banas.

The major part of the basin is covered with agriculture accounting to 65.06% of the total area and only 5.25% of the basin is covered by water bodies. Brief descriptions of the rivers are given below.

2.16.1 Luni Basin: The Luni is the only significant river basin in Western Rajasthan which forms the bulk of the arid zone. Luni originates from Western slopes of the Aravalli ranges at an elevation of 772m above msl near Ajmer flowing in South West direction and traversing a course of 511 km in Rajasthan before it finally flows into the Rann of Kutchh. Its total catchment 32879 sq km area falls in Rajasthan. Luni basin is situated in between 24^0 11' to 26^0 43' North latitude and 70^0 37' to 74^0 39' East longitude approximately. The peculiarity of this river is that it tends to increase its width rather than deepening the bed because the banks are of soils which are easily erodable whereas beds are of sand. The floods develop and disappear so rapidly that they have no time to scour the bed. The Aravalli ranges form its east boundary whereas main course of river in Barmer district itself forms north boundary and mostly Banas and the initial reach of the Chambal river form its southern boundary. Luni receives all the main tributaries on its left bank except one i.e. Jojari (Mithri) on the right bank. Luni receives ten tributaries namely Lolari, Guhiya, Bandi (Hemawas), Sukri (Hemawas), Sukari, Mithri, Jawai, Khari Bandi and Sugi. Hence the drainage on the left bank of Luni is, therefore, more extensive than on the right Bank. The Luni drains an area of 32,879 sq Km in Rajasthan State only. The rainfall in the basin is erratic and its distribution is uneven in the catchment. The temperature of the basin ranges from 5^0 to 46^0C. There are 2 sites for Gauge and Discharge.

2.16.2 Banas Basin: The river Banas originates from Aravalli hills and descends in a South-Western direction through Rajasthan state and travels through Banaskantha and Mehsana district of Gujarat before it drains into little Rann of Kutchh. The Banas basin is the Northern basin and is situated between 23^0 30'& 24^0 55' north latitudes and 71^0 15' to 73^0 15' east longitudes approximately. Saraswati and Luni basins form the Southern and Northern boundaries of this basin. The Aravalli hills form its eastern extremity. The Banas drains an area of 8,674 sq km out of which nearly 37.69% lies in Rajasthan state and the remaining 62.31% falls in Gujarat state. The Banas River rises near Pindwara of Sirohi district of Rajasthan at an elevation of 372.51m above msl. Little Rann of Kutchh is the outfall of Banas river. Sipu is the only right bank tributary of Banas River which drains into the main channel. There are 6 tributaries on the left bank of Banas River namely the Batria, the Sukli, the Sewaran, the Suket, the Balaram and the Khari which drain into the main channel. Hence the draining system on the left bank of the Banas River is more extensive as compared to the right bank area. The Sipu and the Khari are the two important right and left bank tributaries which together drain nearly 37% of the total catchment area of Banas. The Sipu Dam, Swarupgunj and Dantiwada Dam are the major projects in the catchment areas of Banas sub-

basin. There are 4 sites for Gauge only(G), 1 site for Gauge & Discharge (GD), 2 sites for Gauge, Discharge & Water Quality(GDQ) and 1 for Gauge, Discharge, Sedimentation & Water Quality(GDSQ).

2.16.3 Shetrunji Basin: The Shetrunji is one of the major rivers of Saurashtra. The Shetrunji basin is the eastern most basin of Saurashtra and is situated in between 21^0 00' to 21^0 47' North latitude and 70^0 50' to 72^0 10' East longitude. The river Shetrunji originates at Chachai hills in Gir forest of Junagarh district at an elevation of 380m above msl and flows towards East direction till its confluence with Gulf of Khambat near Santhrampur port. The river Shetrunji fertile the Amerli and Bhavanagar districts and a small area of Junagarh district of Saurashtra. The Shetrunji drains an area of 5,514 sq km out of which more than 50% is in Amerli district. The total length of the river from its origin to the outfall into the Gulf of Khambat is 182 km. This river receives tidal influence for a length of 5 km from the mouth. The Shetrunji receives several tributaries on both banks. There are 9 tributaries having lengths more than 15 km out of which Safara, Shel, Khari and Talaji are the 4 tributaries on the right bank of Shetrunji and the remaining 5 tributaries namely Stali, Gagaria, Rajwal and Kharo are on left bank. The drainage system on left bank of Shetrunji is more extensive as compared to the right bank area. The Stali, Theli and Gagaria are important tributaries feeding from left bank of Shetrunji and drain nearly 34% of total catchment area of river Shetrunji. The Shetrunji Irrigation Scheme is the only major project in the catchment areas of the river basin. There is one site for Gauge, Discharge, Sedimentation and Water Quality.

2.16.4 Bhadar Basin: Bhadar is one of the major rivers of Saurashtra and it drains about $1/7^{th}$ of the area of Saurashtra. The Bhadar basin is the south western basin and situated between $21^0$25' to 22^0 10' north latitude and 69^0 45' to 71^0 20' east longitude. The river Bhadar originates at an elevation of 261m above msl in Vaddi about 26 km north-west of Jasdan in Rajkot district and flows towards south upto Jasdan village and then turns towards south-west upto village Jetpur and finally changes its direction towards west till its confluence with Arabian sea at Navibandar (Porbandar). The Bhadar River, from Jetpur to Porbandar, fertiles Rajkot, Jamnagar, Amreli and Junagadh district of Saurastra. The river drains an area of 7,094 sq km out of which 706 sq km is in hill and the rest in plain regions of Saurashtra. The total length of this South West flowing river from its origin to its outfall into the sea is 198 km. For the first 150 km, the river flows in Rajkot district and the rest of 48 km in Junagarh district. The river receives tidal influence for a length of about 26 km from the mouth in Junagadh district. The river Bhadar receives several tributaries on both the banks. There are 9 major tributaries having a length of more than 25 km out of which 6 tributaries namely Gondali, Chapparwadi, Phopal, Utawali, Moj and Venu are feeding from the right and the remaining 3 tributaries namely Vasavadi, Surwa and Galolia from left. The drainage system on the right bank of river Bhadar is more extensive as compared to the left bank. The Bhadar Irrigation Scheme is the only major project in the catchment areas of the river basin. There is one site for Gauge, Discharge, Sedimentation and Water Quality.

2.16.5 Machhu Basin: The Machhu river originates from hilly ranges of Jasdan Sardar and Mandva in Rajkot district and Chotila in Surendranagar district and flows in north westerly direction along the district boundary of Surendranagar and Rajkot upto village Beti and then flows mostly towards north in Rajkot district and finally disappears near Malia in the little Rann of Kachchh.The Catchment area of the basin is 2515 sq km. The complete catchment area is located between 22^0 10 to 23^0 10' north latitude and 70^0 40' to 71^0 15' east longitude. The main tributaries of this river are Beti, Asoi, Machhori and Maha, together account for nearly 42.52% of the total catchment area of Machhu. Machhu-I and Machhu-II are medium Irrigation projects in the basin. There is one site for Gauge and Discharge.

2.16.6 Rupen Basin: The Rupen River originates from taranga hill ranges near Kheralu taluka of Mehsana district of Gujarat at an elevation of 180 metres above msl and descends in southwestern

direction and travels through Mehsana district before it drains into little Rann of Kachchh.The Rupen basin is a northern basin of Gujarat and is situated between 23^0 25' to 24^0 00' north latitude and $71^0$30' to 72^0 46' east longitude approx. The total drainage area of Rupen river is 2,500 sq km. The important tributaries of Rupen are Pushpavati and Khari. Owing to topographical characteristics the climate is variable in the basin. There is one site for Gauge and Discharge.

2.16.7 Hydrological Observation Sites: There are in total 22 H.O. sites in this basin, the details of which are given below:

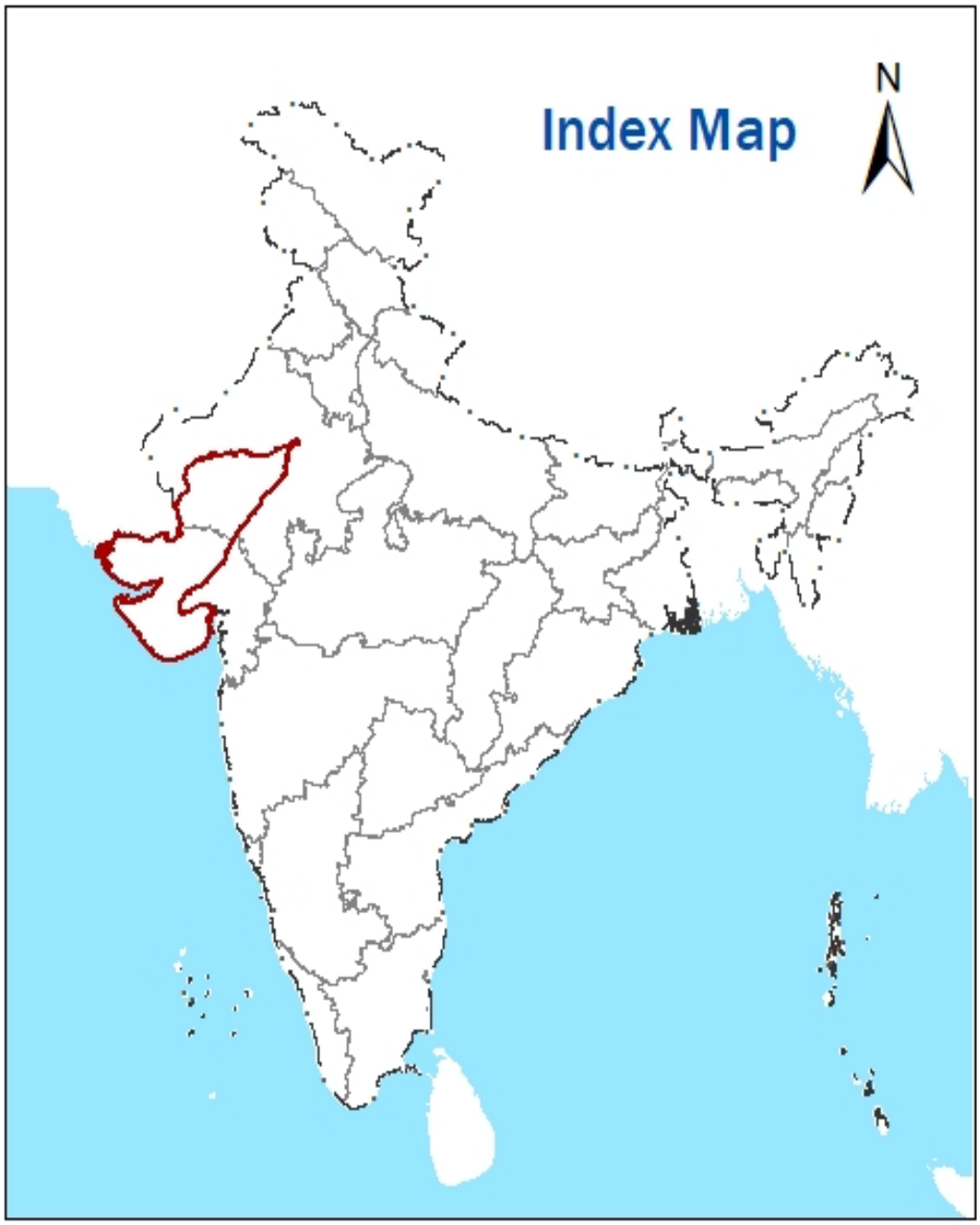
(As on September 2020)

Site Type	No. of Hydrological Observations
G	03
GD	10
GDQ	02
GDS	00
GDSQ	03
GQ	00
SG&Met	04
WQSS	00
Total	**22**

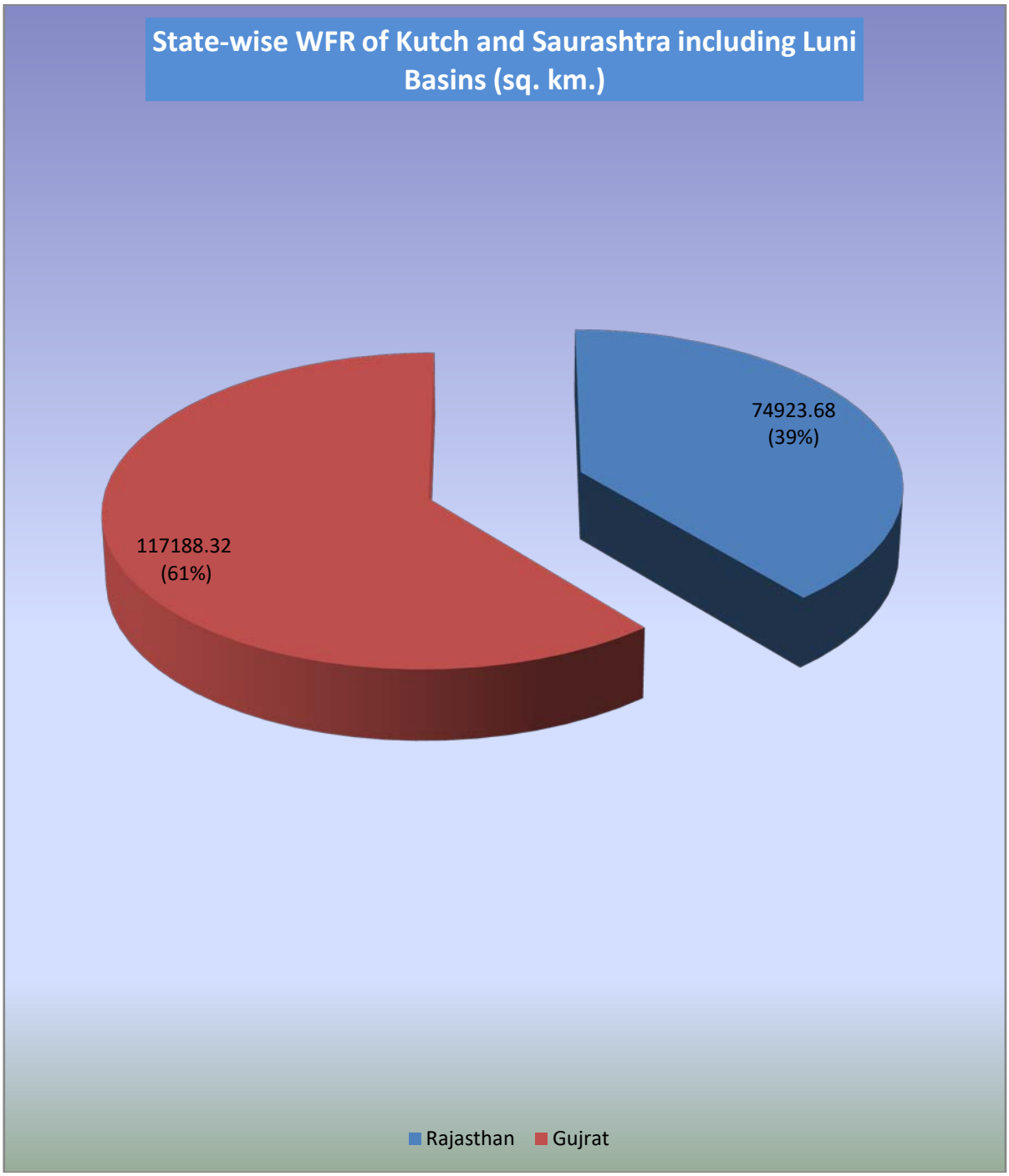
Source:RDC-II, CWC

2.16.8 Peak Water Level: Among the 14 sites of this basin, Abu Road recorded the highest peak water level at 255.91 metres on 26.08.1989 and Una sites recorded minimum water level at 16.6 meters on 13.08.2018 during the reference period 2019-20.

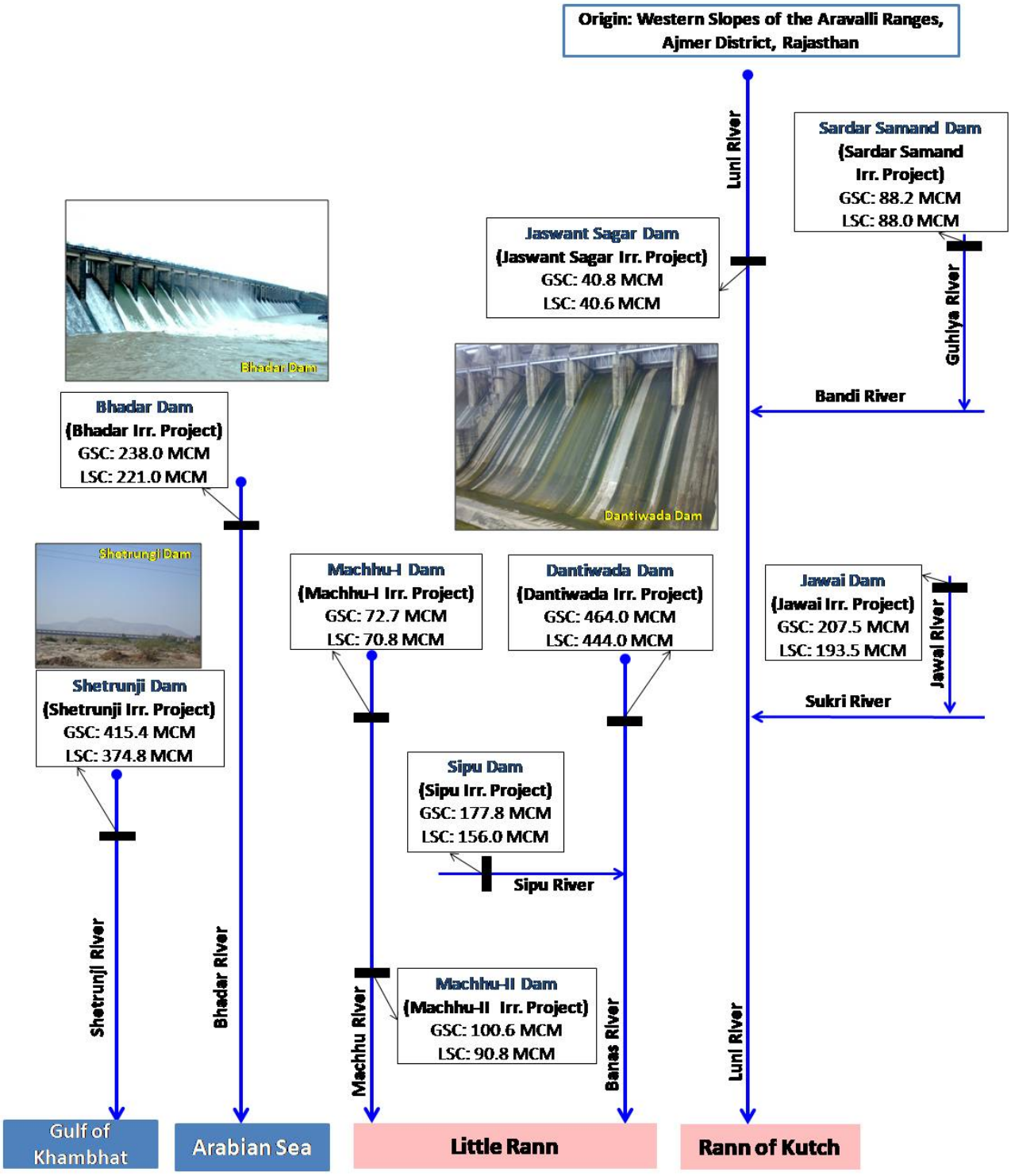


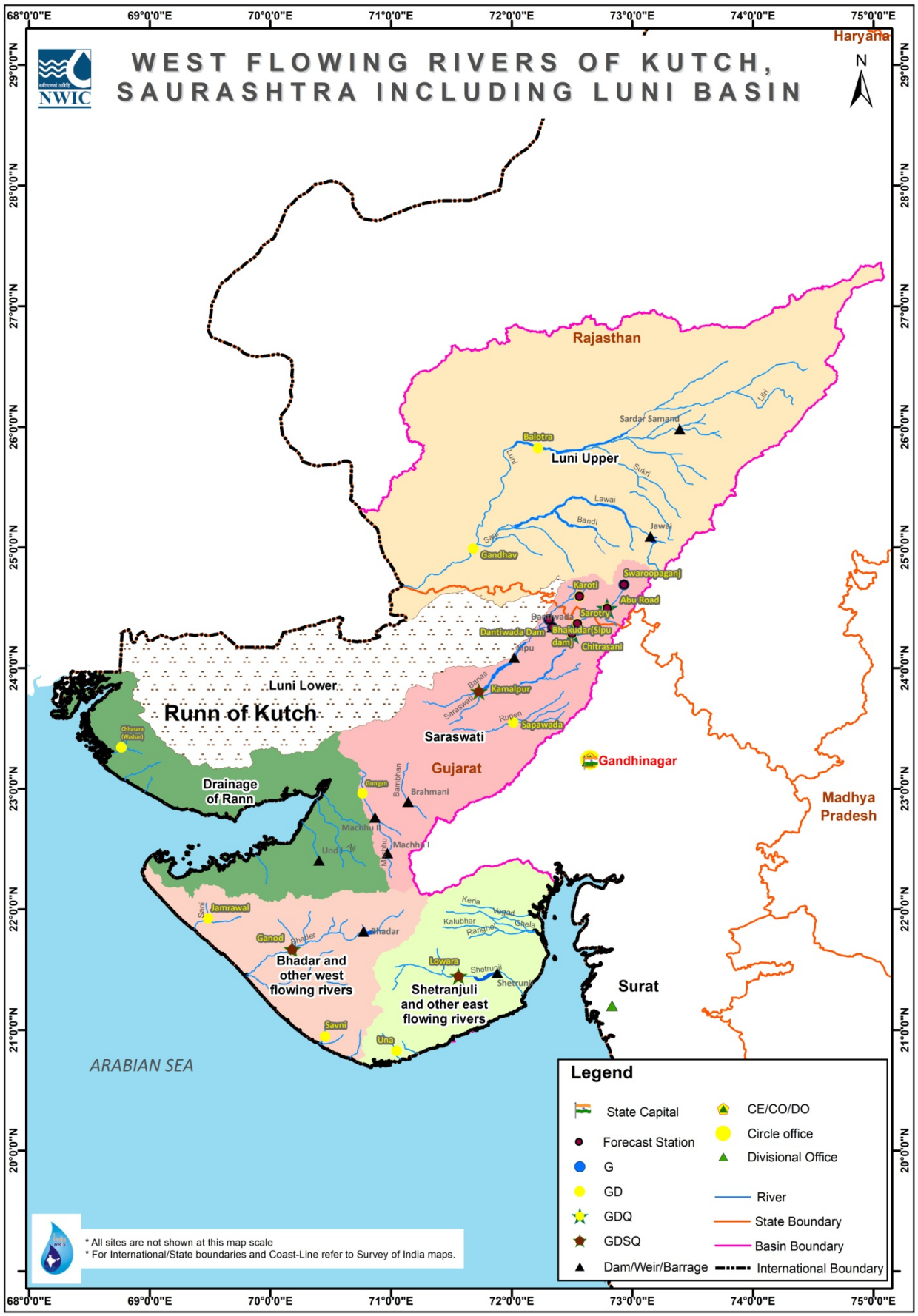


Source:- NWIC, Ministry of Jal Shakti, New Delhi


State-wise WFR of Kutch and Saurashtra including Luni Basins (sq. km.)
74923.68
(39%)
117188.32
(61%)
Rajasthan
Gujrat

WFR Kutch, Saurashtra Including Luni Flow Line Diagram

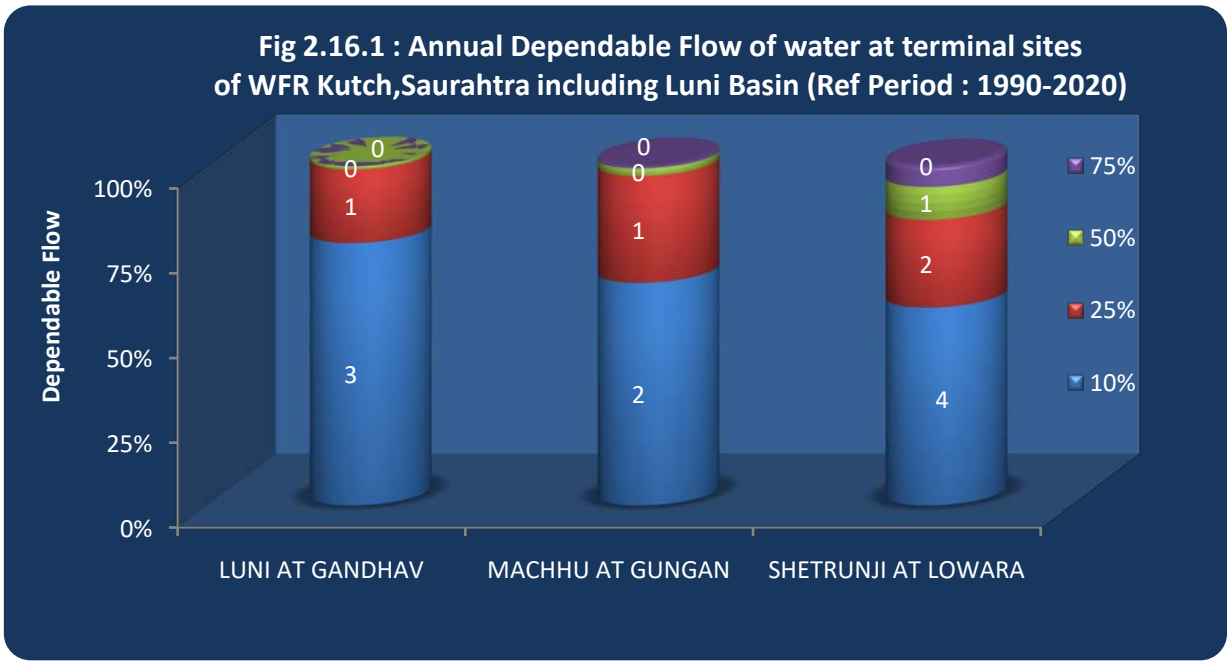




Source:- NWIC, Ministry of Jal Shakti, New Delhi

Table 2.16.1: Annual Dependable Flow Of Water at Terminal Sites Of WFR Kutch,Saurahtra including Luni Basin

Sl. No.	Site Name	Period	Dependable Flow (Unit: MCM)				
			10%	25%	50%	75%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	LUNI AT GANDHAV	6/1990 to 5/2020	3.049	0.857	0.039	0.000	0.000
2	MACHHU AT GUNGAN		2.425	1.168	0.083	0.025	0.005
3	SHETRUNJI AT LOWARA		3.821	1.702	0.637	0.402	0.128



2.16.9 Land Use Statistics: Table 2.16.2 to Table 2.16.4 present below the land use pattern, gross irrigated area and net irrigated area for the basin as compared to all basins (Region-III).

TABLE 2.16.2: LAND UTILISATION PATTERN OF WFR KUTCH, SAURASHTRA INCLUDING LUNI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
		Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9
WFR Kutch, Saurashtra including Luni	74049.75503	3259.36913	8439.914079	8372.148068	12720.60479	41257.71896	9174.724707	50432.44367
All Basins	1022962.494	225739.6806	158237.714	76772.07	129963.4	432249.6	120102	552351.6

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.16.3: GROSS AREA IRRIGATED BY SOURCES OF WFR KUTCH, SAURASHTRA INCLUDING LUNI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Gross Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
WFR Kutch, Saurashtra including Luni	572.70317	0	572.703	282.9901	9204.955	6396.16	15601.11	48.8586	16505.671
All Basins	58292.654	2333.8788	60620.569	11987.856	74526.945	43933.125	118460.07	11906.213	202974.71

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

TABLE 2.16.4: NET AREA IRRIGATED BY SOURCES OF WFR KUTCH, SAURASHTRA INCLUDING LUNI AND ALL RIVER BASINS (REGION-III) DURING 2017-18 (AREA IN SQ. KM.)

Basin	Net Irrigated Area								
	Canal			Tank	Well			Other Source	Total
	Govt.	Private	Total		Tubewell	Other well	Total		
1	2	3	4	5	6	7	8	9	10
WFR Kutch, Saurashtra including Luni	444.0153	0	444.0153	282.9604	6144.5143	5187.5038	11332.018	46.051239	12105.045
All Basins	45453.7	111.6	45531.9	11329.5	58784.5	37617.2	96009.9	23663.4	175160.9

Source : Consolidated data of river basins from the district level data of India-WRIS and Dte. of Economics & Statistics, M/o. A & FW.

2.16.10 Urban Centre: Ahmedabad & Vadodara are two important cities on west flowing rivers basin.

2.16.11 Industries: There are important industries of Engg Handicraft, Stonework, cement, chemical, Liquor, Sugar, Tex and wools etc.

2.16.12 Minerals: Important minerals found in the basin are Phyllites, gneisses, Quartzite and Granite.

2.17 Land Use Statistics Graphs of the Basins (Region-III)

Fig. 1:- Percentage of Land Utilization Patterns of Top 5 Basins based on reporting area during 2017-18

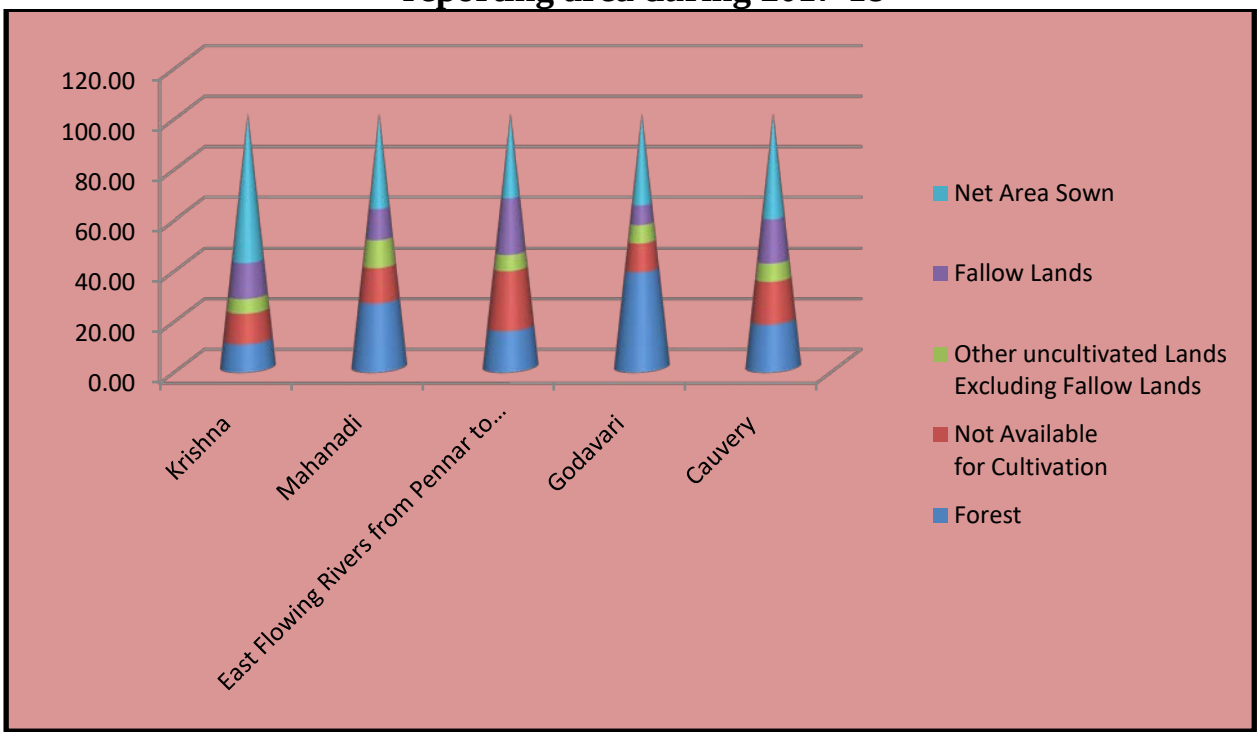


Fig 2:- Basin Wise Top 5 Gross Irrigated Area (In '000 Sq.Km.) by water Sources during the Year 2017-18

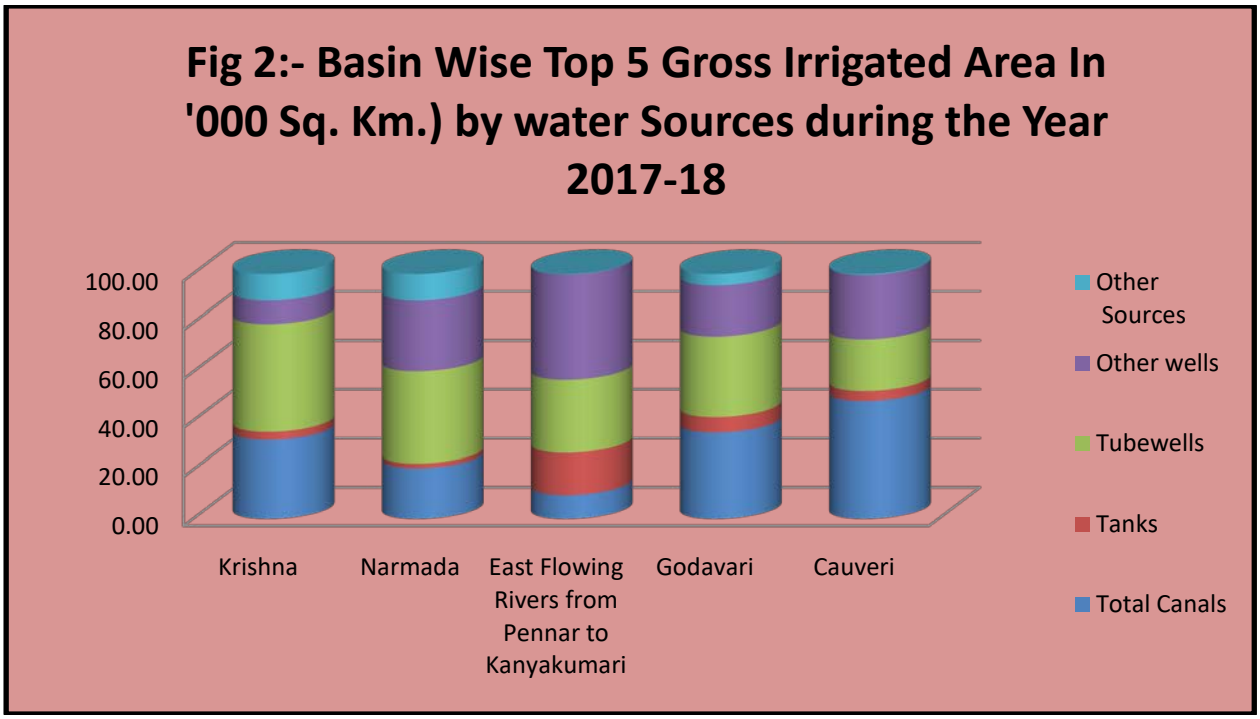


Fig 3 : Gross area irrigated (in '000 sq. Km.) by different water sources across river basins during the year 2017-18

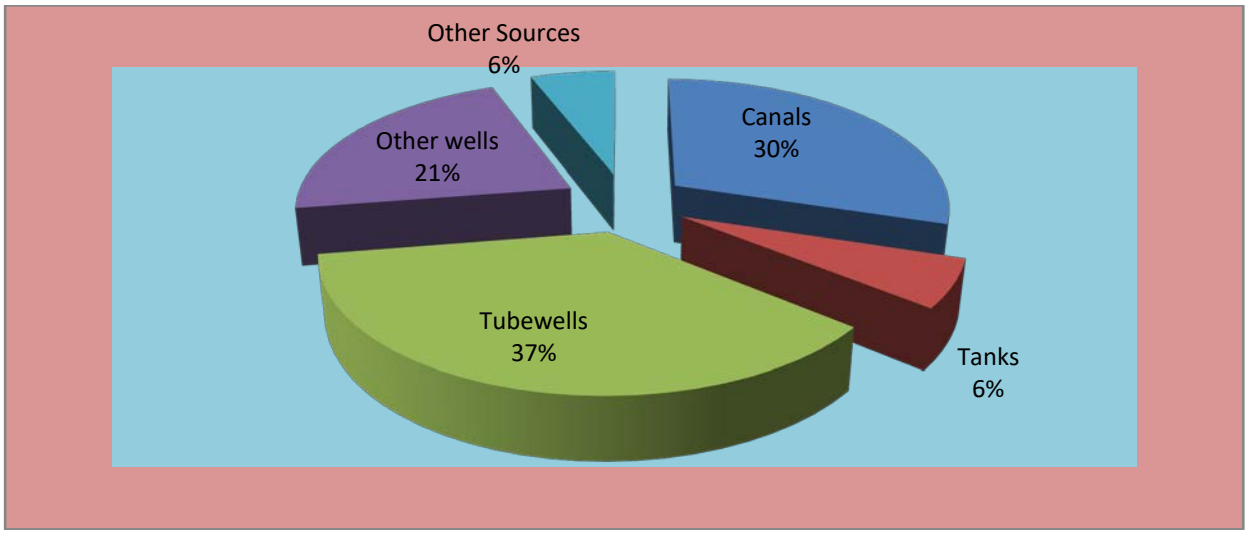
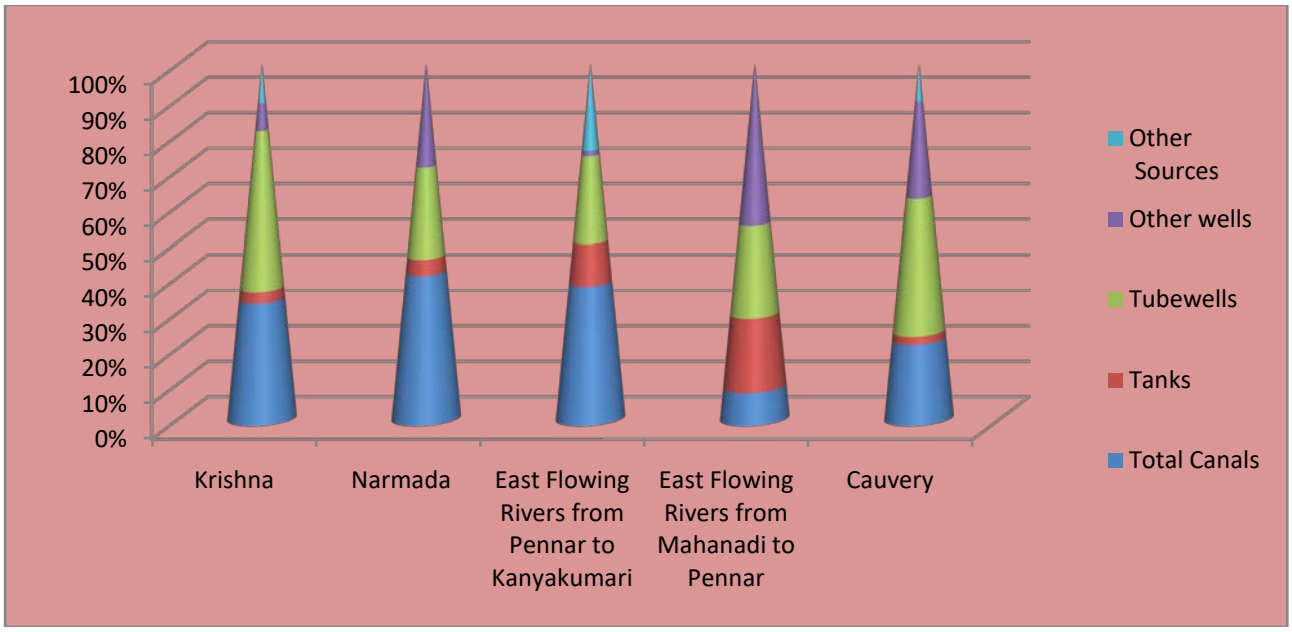


Fig 4: Percentage of Net Irrigated area of Top 5 Basins by water sources during the year 2017-18



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Appendix

Tables on Hydrology, Land Use Statistics and Ground Water Resources of the River Basins (Region-III)

Table 1 : Average Annual Flow & Live Storage Capacity by River Basin (including Classified and Unclassified Basin)

Unit: (BCM)

Sl. No.	Basin	Average Annual Flow (BCM)	Live Storage		
			Completed Project	Project Under Construction	Total
1	2	3	4	5	6
1	**INDUS**	45.53	16.223	0.100	16.3232
2	**GANGA**	509.52	48.677	7.649	56.326
3	**BRAHMAPUTRA**	527.28	1.718	0.795	2.5131
4	**BARAK & OTHERS**	86.67	0.719	9.172	9.891
5	**GODAVARI**	117.74	35.04	8.412	43.4515
6	**KRISHNA**	89.04	50.651	4.156	54.807
7	**CAUVERY**	27.67	9.083	0.015	9.098
8	**PENNAR**	11.02	2.938	2.141	5.079
9	**EAST FLOWING RIVER BETWEEN MAHANADI TO PENNAR**	26.41	2.676	1.181	3.857
10	**EAST FLOWING RIVER BETWEEN PENNAR AND KANYAKUMARI**	26.74	1.441	0.015	1.456
11	**MAHANADI**	73.00	13.06564	1.461	14.52694
12	**BRAHMANI & BAITARNI**	35.65	5.55369	0.703	6.25669
13	**SUBERNAREKHA**	15.05	0.309	2.150	2.459
14	**SABARMATI**	12.96	1.577	0.109	1.686
15	**MAHI**	14.96	5.017	0.150	5.167
16	**WEST FLOWING RIVER OF KUTCH, SAURASHTRA INCLUDING LUNI**	26.93	6.336	0.511	6.847
17	**NARMADA**	58.21	21.816	2.641	24.4567
18	**TAPI**	26.24	9.137	1.558	10.695
19	**WEST FLOWING RIVERS FROM TAPI TO TADRI**	118.35	14.668	2.430	17.098
20	**WEST FLOWING RIVERS FROM TADRI TO KANYAKUMARI**	119.06	11.023	1.416	12.439
21	**AREA OF INLAND DRAINAGE OF RAJASTHAN**	0.00	0.000	0.000	0.000
22	**MINOR RIVER BASINS DRAINING INTO MYANMAR AND BENGLADESH**	31.17	0.14358	0.000	0.14358
23	**AREA OF NORTH LADAKH NOT DRAINING INTO INDUS**	0.00	0.000	0.000	0.000
GRAND TOTAL		**1999.2**	**257.81**	**46.765**	**304.577**

Source : WM Directorate, Central Water Commission.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (ao-b')	Longitute (xo-y')	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.1	**Basin: Mahanadi**									
2.1.1	Rises from pharsiya village near Nagri Town in Raipur Distt. of Chhattisgarh at an elevation of 442 m. Length 851 Km.	Madhya Pradesh Chhattishgarh Odisha Jharkhand Maharashtra **Total**	130 74970 65600 650 250 **141600**	Mahanadi Pairi Seonath Jonk Hasdeo Mand Ib Ong Tel **Total**	48230 3503 30761 3673 9803 5237 12447 5128 22818 **141600**	$19^{0}20'$ to $23^{0}35'$	$80^{0}30'$ to $86^{0}50'$	13 to 48.8	1400	-

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, P.O. Bhoi Nagar, Bhubaneshwar (Ordisha) (2019-2020) Mahanadi Basin.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.1	**Basin: Mahanadi**									
2.1.1	Mahanadi	G= 30 GD= 2 GDQ= 1 GDSQ= 22 RF=6 Total = 61	Iron Coal Lime Stone Quartzite Copper Ores Silver Lead Mica Bauxite Galena & Graphite	Iron Steel Copper, Cement Paper and Aluminium	47401 (1972-73 To 2019-20) Tikarapara (124450)	Black Red Yellow Brownish red to Yellowish red Dark Gray Coastal alluvial	Hirakud Dam Tandula Bango Dam Sondur Dam Kharang Tank Manairi Tank Kodar Ravisankar Dam Murumsili Dudhwa Mayana tank Kelo project Kosarteda project Sikasar dam Lower Indra Lower Suktel Paralkot Dam	8141.0 322.0 3417.0 198.0 - 151.0 160.23 909.00 - 165.00 288.00 211.24 76.00 72.86 - 217.00 321.63 320.28 66.30	5892.0 312.0 3046.0 179.0 192.32 148.0 148.91 768.00 - 162.00 284.00 157.93 46.00 63.70 - 199.00 314.25 263.43 63.60	- - - - - - - - - - - - - - - - - - -

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, P.O. Bhoi Nagar, Bhubaneshwar (Ordisha) (2019-2020) Mahanadi Basin.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (ao-b')	Longitute (xo-y')	Temprature Variation (Centigrade)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.2	**Basin: Subernarekha**									
2.2.1	**Subernarekha** Rises from Nagri village in Ranchi Dist. Of Jharkhand at an elevetion of 600m and Length is 395 Km.	Jharkhand Odisha West Bangal **Total**	13590 3201 2160 **18951**	Subernarekha Kanchi Karkari Kharkai Raru Garru Dulang **Total**	7383 1096 1341 6611 680 640 1200 **18951**	$21^0 33'$ to $23^0 32'$	$85^0 09'$ to $87^0 27'$	9 to 47.2	1800	-

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan,Bhoi Nagar, Bhubaneshwar (2019-2020)Subarnarekha, Burhabalang & Baitarni Basin.

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.2	**Basin: Subernarekha**									
2.2.1	**Subernarekha** (water withdrawals during 1997-99)	G= 2 GD=2 GDQ=1 GDSQ=5 **Total = 10**	Coal, Iron Ores, Bauxite, Copper Chromium Gold, Vanadium Lime stone,Dolomite Asbestos China Clay, Talc and Building Stone	Tobacco Products, Cement, Asbestos Sheets, Ceramics, Glass, Coaches & Locomotive , Automobiles, Agricultural Equipment, Wires & Cables, Iron & Steel Machinary, Metal Tubes & conduits, Copper & Brass, Chemical Acids & Caustics, Fertilizer, Soaps	6542 (1971-72 To 2019-20) Ghatshila 14176	Gravelly Sandy Loams Alluvium & Black Clays Laterite Red etc.	1. Kanchi Irrigation Scheme 2. Chandil Dan 3. Kharkai Dam 4. Jambhira	- 1963 1048 216	- 1611 931 214.10	- - - -

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan,Bhoi Nagar, Bhubaneshwar (Ordisha) (2019-2020)Subarnarekha, Burhabalang & Baitarni Basin.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (ao-b')	Longitute (xo-y')	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.3	**Brahmani and Baitarni**									
2.3.1	**Brahmani (South Koel)** Rises from Nagri village in Ranchi Distt. of Jharkhand at an elevation of 600 m. Length 799 Km.	Jharkhand Orissa Chhatisgarh Total	15769 22364 900 39033	Brahmani Karo Sankh Tikra **Total**	26831 2741 6933 2528 **39033**	$20^{0}28'$ to $23^{0}35'$	$83^{0}52'$ to $87^{0}3'$	10 to 43	1460	Average Monthly Evaporation varies from 18 to 135
2.3.2	**Baitarani** Rises in the hill ranges of Keonjhar Distt. of Orissa near Manka-rancho village at an elevation of 900 m. Length 355 Km	Jharkhand Odisha **Total**	736 10246 **10982**	Salindi Kusai Orarai Kangira Deo Kanjhari Sita Kusai Others **Total**	1793 870 821 458 723 498 505 531 4112 **10982**	20-35 to 22-15	85-10 to 87-03	12 to 38	1450	-

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan,Bhoi Nagar, Bhubaneshwar(2019-2020)Subarnarekha, Burhabalang & Baitarni Basin.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.3	**Brahmani and Baitarni**									
2.3.1	**Brahmani**	G= 5 GQ=1 GDSQ=9 **Total = 15**	Iron Ore, Copper, Chromite, Coal, Manganese Lime stone, Dolomite, Lead, Fire-Clay, Bauxite & China - Clay	Steel Plants Cement Aluminium Explosive Chemical Machine Tools Fertilizer Plant	16305 (1980-81 To 2019-20) Jenapur 33955	Red & Yellow Mixed Red & Black Red Sandy Red Loamy & Coastal Alluvium	Rengali	4400	3413.71	-
2.3.2	**Baitarani**	G = 7 GDSQ=2 **Total = 9**	Iron Ore, Copper, Chromite, Asbestos, Manganese, Atomic Minerals, China Clay & Soap Stone	Ferro - Manganese Plant Sponge Iron Plant	4672 (1972-73 To 2019-20) Anandpur 8570	Red & Yellow Laterite Alluvial	Akhuapada Kanupur Irrigation Project Salandi Baitarni System Anandpur Barrage Rengali	- 331.02 565 - - 4400	- 268.97 556.50 - - 3413.71	451.46 - - Under Construction –

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan,Bhoi Nagar, Bhubaneshwar (Ordisha) (2019-2020)Subarnarekha, Burhabalang & Baitarni Basin.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.4	**Godavari**									
2.4.1	Godavari rises from Nasik distt. Of Maharashtra at an elevation of 1067 m, length 1465 km.	Andhra Pradesh	13763	Godavari (Upper)	33502	16º 16'00' N	73º 26'00"E	7 to 48	Around 1100	Mean daily evaporation varies from about 5 mm near coastal region to 16.6 mm in upper region.
		Telangana	62563	Pravara	6537	to	to			
		Karnataka	4692	Purna	15579	22º 36'00" N	83º 07'00"E			
		Madhya Pradesh	24712	Manjira	30844					
		Maharashtra	150150	Godavari(Middle)	17205					
		Orissa	17830	Maner	13106					
		Chhatisgarh	39102	Pranhitha	61093					
				Godavari(Lower)	24869					
				Indravathi	41665					
				Sabari	20427					
				Penganga	23898					
				Wardha	24087					
		Total	**312812**	**Total**	**312812**					

Source : SE, Godavari & Krishna Circle, Central Water Commission, Hyderabad

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Sites	Principal Minerals	Major Industries	Average Annual Runoff(MCM) at terminal site with Catchment area (sq. km)	Soil Charastirstics	Major Projects Name	Gross Storage (MCM)	Live Storage (MCM)	Water Withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.4	**Godavari**									
2.4.1	**Godavari**	GD = 43 GDQ =13 GDSQ = 32 **Total =88**	Bauxite, Manganege, iron Ore, Coal, Lead, Zinc, Corundum	Paper, timber, Other timber products Rice milling, cotton, Ginning, Pressing, Spinning & Weaving, Manufacture of various textiles, Extraction of oil from Ground Nut & other oil seeds, Manufacture of sugar.	Runoff=84189 MCM, 6/1966 to 5/2020) Polavaram, Catchment Area = 307800 sqkm	Black,Red, Laterite, Alluvium, Mixed, Saline & Alkaline	Balimela	3610.00	2675.00	
							Sriram Sagar Project (SRSP)	3172.00	2322.00	
							Jayakwadi	2909.00	2170.00	
							Upper Indravati	2300.00	1485.50	
							Isapur (Upper Pemganga)	1254.00	951.00	
							Totladoh	1241.11	1091.00	
							Lower Penganga	1045.37	864.80	
							Yeldari (Jintur)	934.44	809.77	
							Upper Wardha	786.48	614.80	
							Gosikhurd	769.48	376.59	
							Mula	736.32	608.89	
							Lower Dudhana	344.80	242.00	
							Bembla	322.07	302.67	
							Bhandardara	312.60	304.10	
							Itiadoh dam	288.83	225.12	
							Lower wardha	253.34	216.87	
							Siddheshwar	250.85	80.96	
							Human	247.00	227.75	
							Sapali (Upper Penganga)	241.00	199.00	
							Nilwande	236.00	228.75	
							Kamthikhairy	230.00	180.00	
							Darna	226.87	219.82	
							Erai	226.50	193.00	
							Tultuli	225.05	216.95	
							Manjra (kaij)	224.09	176.96	
							Gangapur	215.88	203.88	
							Mukane	214.16	203.47	
							Sirpur (Deori)	203.84	192.52	

Source : SE, Godavari & Krishna Circle, Central Water Commission, Hyderabad

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.5	**Basin: Krishna**									
2.5.1	**Krishna** Rises from near Mahabaleshwar about 64 Km. from Arabian Sea at an elevation of 1337 m. Length 1401 Km.	Maharashtra Karanataka Andhra Pradesh & Telangana	69,044 1,13,622 25,385 51,388	1) Koyna 2) Varna 3) Panchganga 4) Dudhganga 5) Ghataprabha 6) Don 7) Malaprabha 8) Bhima 9) Tungabhadra 10) Swarnamukhi 11) Dindi 12) Peddavagu 13) Halia 14) Musi 15) Paleru 16) Munneru 17) Main Krishna	4890 1948 2575 2350 8829 2486 11549 70614 71417 2585 3490 2343 3780 11212 3263 10409 258948	13° 10' to 19° 22' N	73° 17` to 81° 9' E	07 to 49	750 MM	3917
		Total	258948							

Source : SE, Godavari & Krishna Circle, Central Water Commission, Hyderabad.

(Contd.)…

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.5	**Basin: Krishna**									
2.5.1	**Krishna** Mahabaleshwar Western Ghats Altitude: 1337 M Length: 1401 Km.	**Total = 69**	Iron Gold Bauxite Limestone Manganese Copper Quartz Redoxide Soapstone	Textiles Sugar Chemical Cement Automobile Engineering Nuclear Energy Steeel Cotton Pharma	19579 251360 Sq. Km. Site Vijayawada	Lateritic soil Deep black soil Black cotton Lime Alluvium Red soil	Almatti Dam	3483.21	3137.18	--
							Narayanpur Dam	943.31	740.35	19137.59
							P D Jurala Project	338.15	192.40	--
							Tungabhadra Dam	2921.02	2855.89	5381.49
							Srisalam Dam	6207.62	6110.90	--
							Nagarjuna Sagar Dam	8837.11	5108.25	--
							Prakasam Barrage	108.90	86.94	36192.48
							Koyna Dam	2980.68	2835.96	--
							Warana Dam	-	779.37	--
							Ujjani Dam	3320.01	1517.19	--
							Veer Dam	278.33	266.21	--
							Hippargi Barrage	169.92	169.92	--
							Singatluru Barrage	88.34	73.63	6199.39
							Musi Project	126.31	122.91	--
							Sunkesula Barrage	33.98	33.98	6484.90
							Pulichinthala Project	1296.21	1296.21	--

Source : SE, Godavari & Krishna Circle, Central Water Commission, Hyderabad.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.6	**Basin: Cauvery**									
2.6.1	Originate at Talacauvery in Coorg Distt. of Karnataka at an elevation of 1541 m. Length 800 Kms.	Karnataka Tamil Nadu Kerala Puducherry **Total**	34273 43856 2866 160 **81155**	Harangi Hemavati Lakshmana Tirtha Kabani Shinsha Arkavathi Bhawani Amravathi Others **Total**	717 5410 1690 7040 8469 4150 6154 8380 39145 **81155**	10° 05' to 13^{0} 30' N	75^{0} 30' to 79^{0} 45' E	20 to 30	500 to 3800	Annual 1500 to 2500

Source : Cauvery Basin, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

(Contd.)

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.6	**Basin: Cauvery**									
2.6.1	**Cauvery**	G=0 GD=14 GDQ=17 GDSQ=23 **Total=54**	Stone Mining	Paper Mills Sugar Mills Chemical Factory Cotton Mills	Runoff:- 4573 Site:- Musiri Catcment Area:- 66243	Black Cotton Red Laterite Ailuvial Forest	Krishnaraja Sagar Hemavathi Mettur Bhawani Sagar Reservoir Kabini Reservoir	1400.35 1050.62 2708.79 928.80 552.74	1275.69 1012.60 2646.77 907.80 453.06	

Source : Cauvery Basin, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.7	**Basin: Pennar**									
2.7.1	**Pennar** Rises from Chennakesava Hills of Nandidurg range in Karnataka Length 597 Km.	Karnataka Andhra Pradesh **Total**	6937 48276 **55213**	Jayamangali Chitravathi Kunderu Papagini Sagileru Cheyyeru Others **Total**	1282 5908 8057 7423 3077 7325 22141 **55213**	13^{0} 16' to 15^{0} 52' N	74^{0} 14' to 80^{0} 10' E	15.2 to 40.9	508 to 988	

Source : Water Year Book (June 2019 - May 2020) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data.

(Contd.)

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.7	**Basin: Pennar**									
2.7.1	**Pennar**	GD=4 GDQ= 4 GDSQ= 4 Total = 12	Quartzite Dolamite Lime Stone		NA	Red Black Sandy	Somasila	2093.00		

Source : Water Year Book (June 2019 - May 2020) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (ao-b')	Longitute (xo-y')	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.8	**Basin: East Flowing Rivers from Mahandi to Pennar**									
2.8.1	**Rushikulya** Rises from Matabarhi village of Kandhamal Distt. Of Orissa at an elevation of 1000 m. Lenth 162 Km	Orissa **Total**	7700 **7700**	Rushikulya Baghua Barhanadi Pathama Ghodapada **Total**	2798 736 2353 663 1150 **7700**	19-07 to 20-19	84-01 to 85-06	12 to 44	1360	-
2.8.2	**Vamsadhara** Rises from Near Lanjigah village in Kalahandi Distt. Of Orissa Length 254 Km	Orissa Andhra Pradesh **Total**	8015 2815 **10830**	Vamsadhara Harbhangi(Ganguda) Sanna Nadhi Mahendrathanaya Chauldua Phalphalia **Total**	5458 1689 1276 1115 768 524 **10830**	18-15 to 19-55	83-20 to 84-20	12 to 43	1400	-
2.8.3	**Sarda** Elevation of Origin is 1000 m. Length 122 Kms.	Andhra Pradesh **Total**	2665 **2665**	Bodderu Peru **Total**	125 963 **2665**	17-25 to 18-17	82-32 to 83-06	18 to 42.5	1000	-
2.8.4	**Nagavali** Rises from Near Lakhbahal village in Kalahandi Distt. Of Orissa at an elevation 1300 m. Length 256 Km.	Orissa Andhra Pradesh **Total**	4462 5048 **9510**	Nagavali Janjhavati Suvaarnamukhi Vegavathi Others **Total**	5704 931 1275 994 606 **9510**	18-10 to 19-44	82-53 to 84-05	16 to 40	1000	-
2.8.5	**Gundlakama** Rises near Iskagudem Village in Kurnool Distt. of Andhra Pd. at an elevation of 600 m. Length 220 Km.	Andhra Pd. **Total**	8494 **8494**	Kandleru	-	15-38	78-47	-	-	-
2.8.6	**Paleru** Rises from near Gogulapalle Village in Nellore Distt. of Andhra Pradesh at an elevation of 325 m. Length 104 Km.	Andhra Pd. **Total**	2483 **2483**	-	-	15-17	79-13	-	-	-

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, Bhoi Nagar, Bhubaneshwar (2019-20)Rushikulya, Vamsadhara, Sarada & Nagavali Basin.

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.8	**Basin: East Flowing Rivers from Mahandi to Pennar**									
2.8.1	**Rushikulya** (water withdrawals during 1997-99)	G=3 GDSQ=1 **Total = 4**	Clay, Lime Stone, Manganese, Sand Talc, Black Sand & Grinding Material	Chemical Sugar Spinning Mills	2241 (1993-94 To 2019-20) Purushottampur (7112)	Red & Yellow Laterite Alluvial Saline	Rushikulya System	-	-	-
2.8.2	**Vamsadhara** (water withdrawals during 1997-99)	G=7 GDSQ=2 **Total=9**	Manganese, Grayphite, Lime Stone, Bauxite, Mica&Quaartz	No large scale Industries	2612 (1971-72 To 2019-20) Kashi Nagar (7820)	Red & Black Red Sandy Black Laterite Yellow	-	-	-	-
2.8.3	**Sarda** (water Withdrawals during 1997-99)	GD=1 **Total=1**	Manganese Grayphite, Aluminiium Bauxite & Mica Quaaartz, Fire Clay	Steel Plant	601 (1991-92 To 2019-20) Anakapalli (2090	Red & Coastal Sands Laterite Alluvial Forest	-	-	-	-
2.8.4	**Nagavali** (water withdrawals during 1997-99)	G=3 GDSQ=1 **Total = 4**	Manganese Grayphite Lime Stone Bauxite & Mica,Quartz	No Large scale Industries.	2485 (1991-92 To 2019-20) Srikakulam (9500)	Coastal Sand Red Mixed Laterite Forest	Thotapally Narayan Puram Jaiyavathi	- - -	- - -	189.73 79.97 113.27
2.8.5	**Gundlakamma**	GDSQ=1 **Total=1**	-	-	Site:-Marella Catchment Area:- 7681 Runoff:- 273	-	-	-	-	-
2.8.6	**Paleru**	GD=1 **Total=1**	-	-	Site:- Vikkiralapeta Catchment Area:- 2179.7 Runoff:- 0	-	-	-	-	-

Source : CE, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, Bhoi Nagar, Bhubaneshwar (2019-20)Rushikulya, Vamsadhara, Sarada & Nagavali Basin.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.9	**Basin: East Flowing Rivers from Pennar to Kanyakumari**									
2.9.1	**Swarnamukhi** Rises from Pakada village in Chittur Distt. of Andhra Pd. at an elevation of 300 m. Length 130 Km.	Andhra Pd. **Total**	3225 **3225**	-	-	13-25	79-09	22.5 to 32	762 to 1270	-
2.9.2	**Kalingi** Rises near Kalahasti in Andhra Pradesh Length 76 Km.	Andhra Pd. **Total**	5927 **5927**	Kalleru	-	-	-	-	-	-
2.9.3	**Palar** Rises beyond Talag- rore village in Kolar Distt. of Karnataka at an elevation of 900 m Length 348 Km.	Karnataka Andhra Pd. Tamil Nadu **Total**	3044 4681 10146 **17871**	Poini Cheyyar Others **Total**	2400 1953 13518 **17871**	12-39 to 12-54	78-32 to 79-56	22.5 to 32.5	762 to 1270	-
2.9.4	**Ponnaiyar** Rises near Hongashenhalli Village in Kolar Distt. of Karnataka at an elevation of 900m. Length 396 Km.	Karnataka Andhra Pradesh Tamil Nadu **Total**	3530 210 12279 **16019**	-	-	11-45 to 13-30	77-33 to 79-47	25 to 30	762 to 1270	-
2.9.5	**Vellar** Rises near village Tumba in Chottori Hills of Eastern Ghats in Salem Distt. of Tamil Nadu at an elevation of 900 m. Length 210 Kms	Tamil Nadu **Total**	8922 **8922**	-	-	-	-	-	-	-

Source : Water Year Book (June 2019 - May 2020) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data.

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.9	**Basin: East Flowing Rivers from Pennar to Kanyakumari**									
2.9.1	**Swarnamukhi**	GDSQ = 1 GD=1 **Total=2**	-	-	Site:- Naidupeta Catchment Area:- 2650 Runoff:- 72	-	-	-	-	-
2.9.2	**Kalingi**	GD=1 GDSQ=1 **Total=2**	-	-	Site:- Sulurpet Catchment Area:- 5927 Runoff:-32	-	-	-	-	-
2.9.3	**Palar**	GD=3 GDQ=3 GDSQ=1 **Total=7**	-	-	Site:-Chengalpet Catchment Area:- 16230 Runoff:- 77	-	-	-	-	-
2.9.4	**Ponnaiyar**	GD=2 GDQ=2 GDSQ=2 **Total=6**	Lime Stone, Sand Stone, Quartzite	-	Site:-Villupuram Catchment Area:- 12900 Runoff:- 0	Krishnagiri Sathanur Reservoir	66.10 228.91	-	-	-
2.9.5	**Vellar**	GD=5 GDQ=1 GDSQ=2 **Total=8**	-	-	Site:-Kudalaiyathur Catchment Area:-7890 Runoff:- 80	-	-	-	-	-

Source : Water Year Book (June 2019 - May 2020) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data.

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.9	**Basin: East Flowing Rivers from Pennar to Kanyakumari**									
2.9.6	**Vaigai :** Rises in Western slopes of Varusha- nadu Hills near Kottaimalai in Madurai Distt. of Tamil Nadu at an elevation of 1200 m. Length 258 Km.	Tamil Nadu	7741	Mangalar Suruliyar Varahanadi Others	375 1210 380 5776	09-17 to 09-32	77-23	25 to 35	635 to 1270	-
		Total	**7741**	**Total**	**7741**					
2.9.7	**Vaippar :**Rises on the Eastern slopes of the Varushandu Hill ranges of Western ghat near Sivagiri in Thirunelveli Distt. in Tamil Nadu at an elevation of 900 m. Length 125 Km.	Tamil Nadu	5069	Arjunanadhi Vijyanadhi	_ _		-	-	-	- -
		Total	**5069**							
2.9.8	**Thambraparani** Rises on Eastern slopes of Westernghat near Alwarkurichi village in Thirunelveli Distt. of Tamil Nadu at an elevation of 1400 m. Length 130 Km.	Tamil Nadu	5482	Chittar Manimuthar	-	08 - 46	77 - 15	-	-	-
		Total	**5482**							
2.9.9	**Varahanadi** originated from northern parts of Pakkammalai Hills at an elevation of 566**m** past of Gingee Taluk. Length 78.5 Km.	Tamil Nadu	2564	-	-	-	-	-	-	-

Source : Water Year Book (June 2019 - May 2020) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data. (Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.9	**Basin: East Flowing Rivers from Pennar to Kanyakumari**									
2.9.6	**Vaigai**	GDSQ = 3 **Total=3**	-	-	Site:-Paramakudi Catchment Area:- 6976 Runoff:- 21	-	Vaigai Reservoir	194.8	-	-
2.9.7	**Vaippar**	GDQ=1 **Total=1**	-	-	Site:-Irrukkankudi Catchment Area:- 3721 Runoff:- 0	-	-	- -	- -	-
2.9.8	**Thambraparani**	GD = 1 GDSQ=1 **Total=2**	-	-	Site:-Murappanadu Catchment Area:- 4380 Runoff:-593	-	-	-	-	-
2.9.9	**Varahanadi**	GD = 1 GDQ=1 **Total= 2**	-	-	Site:-Kumarapalayam Catchment Area:- 2208 Runoff:-18	-	-	-	-	-

Source : Water Year Book (June 2019 - May 2020) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.10	**Basin: Narmada**									
2.10.1	**Narmada** Originates from Amarkantak of Shehdol Distt. Of Madhya Pradesh at an elevation of 1057m Length 1312 Km	Madhya Pradesh Maharashtra Gujarat **Total**	85859 1538 11399 **98796**	Burhner Hiran Tawa Chhota Tawa Kundi Orsand Others **Total**	4228 4795 6338 5055 3973 3946 70461 **98796**	21°20' to 23°45'	72°32' to 81°45'	4.5 to 49	596 to 1623	Lower Zone 12 to 28 In winter upper and middle Zone 1 to 3
2.11	**Basin: Tapi**									
2.11.1	**Tapi** Rises from Near Multai in Betul Distt. of Madhya Pradesh at an elevation of 752 m. Length 724 Km.	Madhya Pradesh Maharashtra Gujarat **Total**	9804 51504 3837 **65145**	Tapi(Main) Gomai Arunavati Buray Panjhra Bori Aner Girna Waghur Purna **Total**	22522 1148 935 1419 3257 2580 1702 10061 2592 18929 **65145**	20° 05' to 22° 03'	72° 38' to 78° 17'	Max: 22.8° C to 42.5° C Min: 33.7° C to 12.4° C	848.9	-

Source : Water Year Book of Tapi & Narmada Basin for year 2019-20

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.10	**Basin: Narmada**									
2.10.1	**Narmada**	Rain G= 2 G= 5 GDQ = 7 GDSQ= 11 **Total =25**	Bauxite Clay Coal Dolomite Graphite Iron ore Manganese Talc & Limestone	Few large scale & Medium scale industries	Garudeshwar Catchment Area 87892 Sq. kms.	Shallow Black, Medium Black, Medium Deep Black, Mixed Red & black Sandy, Loam	Karjan Sardar Sarover Jobat Man Upper Beda Maheshwar Narmada Sagar (ISP) Sukta (Bhagwant Sagar) Kotar Tawa Barna Bargi (Rani Avanti Bai P) Matiyari Onkareshwar	630.00 9500.00 - - - - 12220.00 - 265.00 2310.00 539.00 - - 141.50	NA	
2.11	**Basin: Tapi**									
2.11.1	**Tapi**		Coal, Palagonite, Chlorophaete Iddingsite, Sand stones, clay, laterite, amorphous, crystaline silica, Chalcedony, agate, Zeolites, Quartz, Calcite, Jasper, Rock crystal, Limestones, Pyroxene augite, Megnesia, Iron, Alkalies, Apophyllite, Lime nodules, Iron ore, Limenite sand & Megnetite. etc.	Spinning and textiles ginning and pressing, Cane and bambo work, Tanning leather goods, Paper and pulp industries trap/basalt crushing units and Sugar factories, Chemical & dimond processing and poloshing industries.	Burhanpur: 660 MCM 8,487 Sq. km. Gopalkheda:928 MCM 9,500 Sq. Km. Yerli: 1720 MCM 16,517 Sq. km. Gidhade:2650 MCM 54,750Sq. Km. Sarangkheda:3,257 MCM 58,400 Sq. Km. Dedtalai: 2,644 MCM 3,860 Sq. Km.	Coarse shallow soil Medium black soil Deep black soil	Hathnur Dam Girna Dam Ukai Dam	388.00 608.45 8,510	255.00 523.55 7,092	-

Source : Water Year Book of Tapi & Narmada Basin for year 2019-20

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.12	**Basin: West Flowing Rivers from Tapi to Tadri**									
2.12.1	**Aghanashini** - Rises from Western Ghat of Karnataka at an elevation 676 m. Length 117 Km.	Karnataka	1350	-	-	-	-	20 to 32.7	2028 to 5465	-
		Total	**1350**							

Source : Water Year Book (June 2019 - May 2020) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.12	**Basin: West Flowing Rivers from Tapi to Tadri**									
2.12.1	**Aghanashini**	GDQ=1	-	-	1596 Santeguli (1090)	-	-	-	-	-

Source : Water Year Book (June 2019 - May 2020) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.13	**Basin: West Flowing Rivers from Tadri to Kanyakumari**									
2.13.1	**Haladi (Varahi) -** Rises near Someswara in the reserved forest of Karnataka at an elevation of 870 m. Length 70 Km.	Karnataka **Total**	761 **761**	-	-	-	-	21.7 to 32.4	5516	-
2.13.2	**Swarna (Yennehole) -** Rises fromWestern Ghat of Dakshin Kannada Distt. Length 61 Km.	Karnataka **Total**	165 **165**	-	-	-		21.7 to 32.4	4436	
2.13.3	**Netravati -** Rises between Kudermukh of Ballalaryan Durga in Dakshina Kannada Distt. of Karnataka at an elevation of 1000 m. Length 103 Km.	Karnataka **Total**	3657 **3657**	Kumaradhara	-	-	75-20	16 to 42	2002 to 5277	-
2.13.4	**Payaswani -** Originate from Pattighat reserved forest in Coorg Distt. of Karnataka at an elevation of 1350 m. Length 105 Km.	Karnataka Kerala **Total**	581 957 **1538**	-	-	-	- -	-	-	-
2.13.5	**Valapatanam -** Rises from South of Ammatti Village in the Distt. of Coorg of Karnatak at an elevation of 900 m. Length 101 Km.	Karnataka Kerala **Total**	546 1321 **1867**	-	-	12-13	75-52	22 to 32.9	2369 to 4268	-

Source : Water Year Book (June 2019 - May 2020) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.13	**Basin: West Flowing Rivers from Tadri to Kanyakumari**									
2.13.1	**Haladi**	GDQ=1	-	-	Site:- Haladi Catchment Area:- 583 Runoff:- 2314	-	-	-	-	-
2.13.2	**Swarna**	GDQ=1	-	-	Site:- Yennehole Catchment Area:- 327 Runoff:- 1587		Proposed Dam Site	370.95	108.65	
2.13.3	**Netravathi**	GDSQ=1	-	-	Site:- Bantwal Catcment Area:- 3184 Runoff:- 10644	-	-	- -	- -	-
2.13.4	**Payaswani**	GD=1 GDSQ=1	-	-	Site:- Erinjipuzha Catcment Area:- 957 Runoff:- 2297	-	-	-	-	-
2.13.5	**Valapatanam**	GDSQ=1	-	-	Site:- Perumannu Catcment Area:- 1070 Runoff:- 5062		Kattampally	-	-	-

Source : Water Year Book (June 2015- May 2016) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.13	**Basin: West Flowing Rivers from Tadri to Kanyakumari**									
2.13.6	**Chaliyar (Beypore)**Rises from Elambalari Hills in Kerala State at an elevation of 2067 m. Length 169 Km.	Kerala Tamil Nadu **Total**	2545 388 **2933**	Cherupuzha Vadapurampuzha Iringipuzha Chaliyarpuzha	-	-	-	25.8 to 29.4	1289 to 5042	-
2.13.7	**Kadalundi(Karmpuzha/Oruvanpurampuzha)** Rises from East of Karuvarukkundu Village in Calicut Distt. in Kerala at an elevation of 900 m. Length 130 Km.	Kerala **Total**	1112 **1112**	-	-	11-18	76-15	25.8 to 29.4	1289 to 5042	-
2.13.8	**Bharathapuzha (Ponnani/Aliyar/Kannadipuzha)**Rises in the Eastern slopes of Anamalai Hills of Western Ghat in Tamil Nadu at an elevation of 2250 m. and Length is 209 Km.	Tamil Nadu Kerala **Total**	1786 4400 **6186**	Palar Kalpathipuzha Gayathripuzha Pulanthode	-	10-26 to 11-13	75-53 to 77-13	22.2 to 37.4	2000 to 3000	-
2.13.9	**Chalakudi** Rises from Anamalai Hills of Western Ghat Length 130 Km.	Kerala Tamil Nadu **Total**	1404 300 **1704**			-	-	25.9 to 28.7	1494 to 4588	-
2.13.10	**Periyar -** Rises at the forest Sivagiri Peak 80 Km. South of Devikulam at an elevation of 2438 m. Length 244 Km.	Kerala Tamil Nadu **Total**	5284 114 **5398**	Edamala				25.9 to 28.7	Good Rainfall Max.8656	-

Source : Water Year Book (June 2019 - May 2020) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.13	**Basin: West Flowing Rivers from Tadri to Kanyakumari**									
2.13.6	**Chaliyar (Beypore)**	GD= 2 GDSQ= 2	-	-	Site:- Kuniyil Catchment Area:- 1876 Runoff:- 4915	-	-	-	-	-
2.13.7	**Kadalundi**	GDQ=1 GDSQ=2	-	-	Site:- Karathodu Catchment Area:- 750 Runoff:- 1699	-	-	-	-	-
2.13.8	**Bharathapuzha**	GD= 1 GDQ = 3 GDSQ=2	-	-	Site:- Kumbidi Catchment Area:- 5755 Runoff:- 4621	-	Malampuzha Res. Tirumurthi Aliayar	228.40	226.96	-
2.13.9	**Chalakudi**	GDSQ=2	-	-	Site:- Arangaly Catchment Area:- 1342 Runoff:- 2005	-	Chalakudi River Diversion Scheme Sholayar H.E.S. Peringilkuthu Left Bank Scheme	443.50	299.50	-
2.13.10	**Periyar**	GDQ = 2 GDSQ=1	-	-	Site:- Neeleswaram Catchment Area:- 4234 Runoff:- 6182	-	Periyarvalley Project Edamalayar Idukky Hydel Project	453.50 1089.80 1996.30	299.35 1017.80 1489.50	- 1824.00 2027.90

Source : Water Year Book (June 2019 - May 2020) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.13	**Basin: West Flowing Rivers from Tadri to Kanyakumari**									
2.13.11	**Muvattupuzha -** Rises from the East of Erattupetta village in Distt. Of Kottayam in Kerala State at an evelation of 1200 m Length 121 Km.	Kerala	1554	Thodupuzha Aar Kaliyar Kothmangalam Aar	-	9-43	76-53	25.9 to 28.7	2779 to 4526	-
		Total	**1554**							
2.13.12	**Meenachil River** in the Distt. Kottayam of Originate at East of Errattupata Kerala State at an evalation 900 m. Length 78 Km.	Kerala	1272	Kadapuzha Aar Karipadthode Trikovil Aar Poonzan Aar	-	9-40	76-52	26.2 to 29.4	2420 to 4686	-
		Total	**1272**							
2.13.13	**Pamba -** Rises in the Peermedu Plateau at an elevation 1670 m. Length 176 Km.	Kerala	2235	Kaki Aar	-	-	-	22.6 to 32.7	2276 to 4275	-
		Total	**2235**							
2.13.14	**Achankovil -** Rises from South of the Devermalai in the Quillon Distt. of Kerala State at an elevation of 1500 m. length 128 km.	Kerala	1484	-	-	09-10	77-15	26.1 to 29.1	2520	-
		Total	**1484**							
2.13.15	**Kallada -** Rises in Papanasam range South of Kulathupuzha in Quillon Distt. of Kerala State at an elevation of 900 m. length 121 km.	Kerala	1699	-	-	-	-	26.1 to 29.1	2225 to 4038	-
		Total	**1699**							
2.13.16	**Vamanapuram** - Originates in the Chemunji Motai at an elevation of 1860 m. Length 88 Km.	Kerala	687	-	-	-	-	26.2 to 28.8	1836 to 4651	-
		Total	**687**							

Source : Water Year Book (June 2019 - May 2020) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

(Contd.)

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.13	**Basin: West Flowing Rivers from Tadri to Kanyakumari**									
2.13.11	**Muvattupuzha**	GD=1 GDSQ=2	-	-	Site:- Ramamangalam Catchment Area:- 1208 Runoff:- 4059	-	-	-	-	-
2.13.12	**Meenachil River**	GD=1 GDSQ=1	-	-	Site:- Kidangoor Catchment Area:- 615 Runoff:- 1748	-	-	-	-	-
2.13.13	**Pamba**	GD=2 GDQ=1 GDSQ=2	-	-	Site:- Malakkara Catchment Area:- 1713 Runoff:- 2821		Pamba Hydel Project	487.30	471.68	1046.80
2.13.14	**Achankovil**	GDSQ=1	-	-	Site:- Thumpamon Catchment Area:- 810 Runoff:- 1086	-	-	-	-	-
2.13.15	**Kallada**	GDQ=1 GDSQ=1	-	-	Site:- Pattazhy Catchment Area:- 1210 Runoff:- 1800	-	Kalada Irrigation Project	524	507	-
2.13.16	**Vamanapuram**	GDSQ=1	-	-	Site:- Ayilam Catchment Area:- 540 Runoff:- 341	-	-	-	-	-

Source : Water Year Book (June 2019 - May 2020) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.14	**Basin: Mahi**									
2.14.1	**Mahi** Rises from Near village Sardarpur in Dhar Distt. of Madhya Pradesh at an elevation of 500 m. Length 583 Km.	Madhya Pradesh Rajasthan Gujarat **Total**	6695 16453 11694 **34,842**	Som Anas Panam Others **Total**	8707 5604 2470 18061 **34842**	22^{0} 00' to 24^{0} 45' N	72^{0} 30' to 75^{0} 15' E	min.tem varies from 4 to 14 max.temp varies from 44 to 46	1147.5	3.5

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.14	**Basin: Mahi**									
2.14.1	**Mahi** **Origin-Northern** slopes of Vindhayas Altitude-500 m Length-583 km	G= 8 GD= 4 GDQ = 1 GDSQ= 3 **Total = 16**	Phyllites gneisses Quartzite & Granite	Engineering. Handicraft Stonework Cement Chemical Liquier Sugar Textile Wools etc.	11652 at Khanpur (32,510 Sq km CA	Deep and medium black alluvial soil, red-yellow	Mahi Bajaj Sagar Dam kadana Dam Panam Dam Jakham Machhan nalla Wanakbori Weir Jaisamand Hadaf kabutary Bhadar Umaria Edalwada Somkamla Amba Dam	2180.00 1542.00 735.80 141.90 37.91 41.88 414.60 32.26 9.58 46.72 13.53 11.53 126.06	1712.00 1203.00 679.20 131.60 29.16 36.22 296.10 25.02 8.07 40.06 11.67 10.50 125.83	information not available

Source : Water Year Book of Mahi, Sabarmati and Other West Flowing Rivers. Basin for year 2019-2020

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (Centigrade) (^{o}C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.15	**Basin: Sabarmati**									
2.15.1	**Sabarmati** Originates in Aravali Hills in Rajasthan at an elevation of 762 m. Length 371 Km.	Rajasthan Gujarat **Total**	4124 17550 **21,674**	Sei Wakal Harnav Hathamati Watrak	946 1625 972 1526 8638	22^{0} 15' to 25^{0} 00'	71^{0} 00' to 73^{0} 45'	Min temp varies from 3.5 to 18 Max.Temp varies from 40 to 46.	1016.9	No observation by CWC

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.15	**Basin: Sabarmati**									
2.15.1	**Sabarmati**	G=7 GD= 4 GDQ= 1 GDSQ=1 **Total=13**	Phyllites gneisses Quartzite & Granite	Engineering. Handicraft Stonework Cement Chemical Liquier Sugar Textile Wools etc.	2548 at Voutha 19636 Sq. Km CA	Deep and medium black alluvial soil, red-yellow	Sei Dam Dharoi Dam Hanav-II Guhai Hathamati Meshwo Mazam Watrak Dam Waidy Raska Weir Moti Fatewadi Vasna Barrage	31.34 907.88 21.67 62.34 161.00 82.00 43.86 176.90 13.60	24.16 731.99 19.97 57.04 153.00 77.00 36.58 154.30 12.30	information not available

Source : Water Year Book of Mahi, Sabarmati and Other West Flowing Rivers. Basin for year 2019-2020

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (^{o}C)	Average Annual rainfall (MM)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.16	**Basin: West flowing rivers of Kutch and Saurashtra including Luni**									
2.16.1	**Luni** Western Slope of Aravali Hills near Ajmer in Rajasthan at an elevation of 772 m. Length 511 Km.	Rajasthan **Total**	32879 **32,879**	Jojari(Mithri) Lolari Guhiya & Sukri (Hemavas) Bandi (Hemavas) Sukari Mithri Jawai Khari Bandhi Sugi	1060 1611 4126 3016 3280 2637 2701 2671 1161 1370	24-11 to 26-43	70-37 to 74-39	Min temp varies from 5 to 7.5 Max.Temp varies from 46.4 to 48	323.3	No observation by CWC
2.16.2	**Banas** Rises from village Pindwara of Sirohi Distt. in Rajasthan at an elevation of 372.51 m. Length 266 Km.	Rajasthan Gujarat **Total**	3269 5405 **8,674**	Sipu Sukli Batria Sewaram Suket Balaram Khari	1420 438 218 202 79 345 1391	23-30 to 24-55	71-15 to 73-15	Min temp varies from 5 to 8 Max.Temp varies from 40 to 44.5	871.3	No observation by CWC
2.16.3	**Shetrunji** Originates at Chchai Hills in Gir Forest of Junagarh Distt.of Gujarat at an elevation of 380 m. Length 182 Km.	Gujarat **Total**	5514 **5514**	Satali Theli Safara Shel Gagaria Kharai Kharo Rajwal Talaji	651 484 226 303 754 665 261 321 134	21-00 to 21-47	70-50 to 72-10	Min temp varies from 12 to 31 Max.Temp varies from 19 to 42	420	No observation by CWC

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Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributries & their Catchment Area		Basin Location		Climate Details		
				Tributary	Area (Sq.Km)	Latitude (a^{o}-$b^{'}$)	Longitute (x^{o}-$y^{'}$)	Temprature Variation (^{o}C)	Average Annual rainfall (MM)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2.16	**Basin: West flowing rivers of Kutch and Saurashtra including Luni**									
2.16.4	**Bhadar** Rises from Near Vaddi village of Rajkot Distt. of Gujarat at an elevation of 261 m. Length 198 Km.	Gujarat	7094	Vasavadi Gondali Surwa Galolio Chappervadi Phopal Utawali Moj Venu **Total**	583 513.85 273.6 198.25 455.4 590.5 103.6 105.15 953.12 **7094**	21-25 to 22-10	69-45 to 71-20	Min temp varies from 8 to 10 Max.Temp varies from 26 to 44	1132.8	No observation by CWC
2.16.5	**Machhu** Rises from near village Khokhara in Surendra Nagar Distt. of Gujarat at an elevation of 220 m. Length 142 Km.	Gujarat	2515	Beti Jampuri Bania Machhori Asoi Maha **Total**	235.69 119.14 113.96 140.62 197.84 507.64 **2515**	22-10 to 23-10	70-40 to 71-15	Min temp varies from 4 to 11 Max.Temp varies from 24 to 41	1057	No observaton by CWC
2.16.6	**Rupen** Originate -Taranga hills near Kheralu Taluka of Mehasana District Altitude-180m Length-156km	Gujarat	2500	Khari Pushpavati Khari (Right) **Total**	180 446 170 **2500**	23-25 to 24-00	71-30 to 72-46	Min temp varies from 8 to 16 Max.Temp varies from 18 to 39	817.8	No observation by CWC

Source : Water Year Book of Mahi, Sabarmati and Other West Flowing Rivers. Basin for year 2019-2020

Table 2 : Salient Features of Different River Basins during 2019-2020

Sl. No.	Basin Name	Number of Hydrological Observation Site	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
							Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.16	**Basin: West flowing rivers of Kutch and Saurashtra including Luni**									
2.16.1	**Luni** Origin- Aravalli Hills Altitude- 772m Length -511km	GD=2 **Total=2**	details not available	details not available	19 at Gandhav (32010 sq. km)	Saline and deseart,red-yellow	Jawai Dam Jaswant Sagar Dam Hemawas Sardar Samand Banki bund	198.00 52.80 62.50 88.00 48.60	184.00 52.60 62.50 88.00 34.50	information not available
2.16.2	**Banas** Originates - Aravalli hills Altitude-372.5m Length-266lm	G=3 GD=2 GDQ=2 GDSQ=1 RF=2 **Total=10**	details not available	details not available	31 at Kamalpur (6960 sq. km.)	Alluvial saline, red-yellow	Swaroopganj Dam Dantiwada Dam Sipu Dam	39.05 464.00 177.80	- 444.00 156.00	information not available
2.16.3	**Shetrunji** Originates - Chchai hills in Gir forest Altitude - 380m Length- 182 km	GDSQ=1 **Total=1**	details not available	details not available	143 at Lowara (3953 sq. km.)	Deep and mediumblack ,alluvial	Shetrunji Irrigation Scheme	350.00	309.00	information not available
2.16.4	**Bhader** Originate-Vaddi about 26km N-W of Jasdan in Rajkot District Altitude- 261 m Length-198km	GDSQ=1 **Total=1**	details not available	details not available	942 at Ganod (6266 sq. km.)	Deep and mediumblack ,alluvial	Bhadar Irrigation Scheme	238.00	221.00	information not available
2.16.5	**Machhu** Originate-Hills of Jasdan near village Khokhara in Chotila Taluka of Surendranagar Altitude-220m Length-142 km	GD=1 **Total=1**	details not available	details not available	786 at Gungun (2137 sq. km.)	Red-yellow ,alluvial	Machhu - 1 Machhu - 2	70.80 100.55	- -	information not available
2.16.6	**Rupen** Originate -Taranga hills near Kheralu Tq of Mehasana District Altitude-180m Length-156km	GD=1 **Total=1**	details Not available	details not available	80 at Sapwada (2125 sq. km.)	Saline, alluvial	-	-		information not available

Source : Water Year Book of Mahi, Sabarmati and Other West Flowing Rivers. Basin for year 2019-2020

Table 3 : Basin-wise Details of Hydrological Observations Sites as on September 2020										
Sl. No.	Basin Name	Number and Type of Sites								Total no. of Sites
		Guage (G), Discharge(D), Water Quality(Q), Sediment(S), Snow Gauge and Metrological Site(SG&Met), Water Quality Sample Station(WQSS)								
(1)	(2)	(3)								(4)
		G	GD	GQ	GDS	GDQ	GDSQ	Excl. SG&Met.	WQSS	
1	**Mahanadi**	30	2			1	22	6	8	**69**
2	**Suberanrekha, Burhabalang**	6	2			1	6		5	**20**
3	**Brahmani & Baitarni**	12		1			11	1	14	**39**
4	**Godavari**	48	43	4		13	32	17		**157**
5	**Krishna**	14	14	3		12	29	18		**90**
6	**Cauvery**		13			17	24			**54**
7	**Pennar**		4			4	4			**12**
8	**East Flowing River from Mahanadi to Pennar**	13	2				5			**20**
9	**East Flowing River from Pennar to Kanya Kumari**		19			10	8	1		**38**
10	**Narmada**	18	37	1		5	10	2		**73**
11	**Tapi**	17	18		1	1	3	7		**47**
12	**West Flowing River from Tapi to Tadri**	7	6			4	5	3		**25**
13	**West Flowing River from Tadri to KanyaKumari**		16			9	26			**51**
14	**Mahi**	10	4			2	3	1		**20**
15	**Sabarmati**	7	4			1	1	5	1	**19**
16	**West Flowing Rivers from Kutch & Saurashtra including Luni**	3	10			2	3	4		**22**
Total		**185**	**194**	**9**	**1**	**82**	**192**	**65**	**28**	**756**
Total No. of sites -1774 (Classified & Unclassified)										
Source : RDC-2 Directorate CWC										

Table 4 : Important Historical / Hydrological Observations by sites and River Basin during 2019-20

Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
I	**Basin : Mahanadi**										
1	Andhiyar khore	2210	21°47'00"	81°36'30"	252	258.93	09/08/1979	2019-20	29/11/1977	12/07/1980	01/06/1980
2	Bamnidhi	9730	21°53'55"	82°42'29"	223	228.883	22/08/1975	2019-20	18/02/1971	01/01/1973	01/09/1972
3	Baronda	3225	20°55'06"	81°52'56"	283	289.33	18/09/1980	2019-20	06/12/1977	29/06/1980	02/06/1980
4	Basantpur	57780	21°43'18"	82°47'27"	206	219.32	20/09/1980	2019-20	11/05/1971	01/09/1972	01/09/1972
5	Boudh	-	20°51'56"	84°18'48"	74	86.39	22/07/2018	2019-20	31/03/2015	-	01/08/2019
6	Ghatora	3035	22°02'04"	82°13'34"	246	253.5	21/07/1994	2019-20	17/09/1979	01/11/2000	01/11/1991
7	Gunderdehi	-	20°57'11"	81°16'45"	292	295.33	09/09/2019	2019-20	15/07/2013	04/09/2019	04/09/2019
8	Jondhra	29645	21°43'00"	82°20'34"	219	230.57	14/07/1994	2019-20	21/07/1979	11/10/1980	02/06/1980
9	Kalma	-	21°38'25"	83°21'34"	190	200.99	29/08/2018	2019-20	17/10/2016	03/02/2020	01/07/2019
10	Kantamal	19600	20°39'00"	83°43'55"	118	132.7	19/09/2008	2019-20	26/08/1971	22/07/1976	01/01/1972
11	Kesinga	11960	20°11'51"	83°13'30"	116	178.5	04/07/2006	2019-20	07/11/1978	22/09/2006	01/06/2001
12	Kotni	6990	21°13'02"	81°14'19"	268	279.61	12/07/1994	2019-20	30/09/1978	25/07/2014	01/06/2015
13	Kurubhata	4625	21°59'15"	83°12'15"	215	220.28	18/07/1995	2019-20	01/04/1978	22/07/1980	01/07/1980
14	Manendragarh	1100	23°12'10"	82°12'54"	411	420.44	12/07/1990	2019-20	21/06/1989	09/07/1993	01/10/1992
15	Padampur	-	21°00'56"	83°06'17"	171.27	178.715	27/08/2018	2019-20	-	-	-
16	Pathardihi	2511	21°20'28"	81°35'48"	271	279.63	01/07/2007	2019-20	05/06/1989	-	01/06/1995
17	Rajim	8760	20°58'00"	81°52'30"	275	282.68	30/08/1994	2019-20	01/02/1971	04/12/1972	01/09/1972
18	Rampur	2920	21°39'57"	82°31'30"	219	229.655	29/08/2003	2019-20	20/02/1971	05/07/1976	15/01/1972
19	Salebhata	4650	20°59'00"	83°32'22"	130	139.58	29/08/2003	2019-20	12/11/1971	01/05/1973	15/09/1972
20	Seorinarayan	48050	21°43'00"	82°35'30"	209.5	224.31	30/08/2003	2019-20	09/12/1985	11/02/2013	01/06/2015
21	Simga	30761	21°37'33"	81°41'36"	244	257.59	13/07/1994	2019-20	09/09/1971	30/12/1972	01/09/1972
22	Sundargarh	5870	22°06'55"	84°00'40"	214	222.6	23/06/1996	2019-20	30/12/1977	21/07/1980	02/06/1980
23	Tikarpara	124450	20°38'00"	84°37'08"	50	74.57	10/09/2011	2019-20	28/05/1972	01/06/1973	01/12/1972

Source : Water Year Book (June 2019 to May 2020) Mahanadi Basin.

Table 4 : Important Historical / Hydrological Observations by sites and River Basin during 2019-20

Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
II	**Basin : Subernarekha**										
1	Adityapur	6309	22°47'35"	86°10'29"	123	137.56	20/08/1975	2019-20	22/11/1971	06/02/1975	01/01/1976
2	Fekoghat	700	22°18'29"	86°52'02"	40	50.00	06/07/2007	2019-20	18/06/1988	-	-
3	Ghatsila	14176	22°34'52"	86°27'39"	72	85.05	17/08/1974	2019-20	16/03/1971	30/12/1972	01/09/1972
4	Gopiballavpur	-	22°13'11"	86°54'17"	30.5	68.4	27/07/2017	2019-20	15/09/2014	-	-
5	Govindpur	4495	21°32'55"	86°55'04"	0	8.9	31/10/1999	2019-20	07/03/1992	21/03/2003	01/05/2003
6	Jamshedpur	12649	22°49'00"	86°12'39"	111	126.255	03/09/1973	2019-20	01/02/1972	27/11/1972	01/09/1972
7	Jamsholaghat	16000	22°13'11"	86°42'49"	42	51.72	24/09/2011	2019-20	16-06-04	-	-
8	Muri	1330	23°22'14"	85°52'09"	231	237.5	24/09/2006	2019-20	01/11/1989	-	01/05/1991
9	Rajghat	18260	21°46'03"	87°09'44"	3	14.42	07/09/2016	2019-20	01/03/2013	-	-
10	Ghatshila road bridge	-	22°35'40"	86°26'52"	-	-	-	2019-20	06/01/1990	-	-
11	Baridhi Nala	-	22°47'58"	86°14'56"	-	-	-	2019-20	04/01/1991	-	-
12	Kulpatanga	-	22°45'57"	86°09'33"	-	-	-		04/01/1991	-	-
Source: Water Year Book (June 2019 to May 2020) Baitarani, Subernarekha & Burhabalang Basin.											
III	**Basin : Brahamani & Baitarani**										
1	Altuma	830	20°55'51"	85°31'09"	44	50.15	21/07/2009	2019-20	25/07/1990	19/08/2013	-
2	Anandpur	8570	21°12'37"	86°07'11"	28	68.14	18/06/2008	2019-20	07/03/1972	01/06/1972	01/09/1972
3	Bolani	-	22°06'19"	84°51'02"	160	163.5	19/08/2019	2019-20	15/03/2019	-	-
4	Bonaigarh	-	21°48'26"	84°58'07"	130	138.715	20/08/2019	2019-20	15/03/2019	-	-
5	Champua	1710	22°03'57"	85°40'56"	367	376.35	13/08/1991	2019-20	20/07/1990	09/08/2001	08/09/2001
6	Gomlai	21950	21°50'04"	84°54'46"	135	147.27	20/08/2007	2019-20	21/01/1979	17/07/1980	17/07/1980
7	Jaraikela	9160	22°19'34"	85°04'48"	185	194.01	06/08/1997	2019-20	01/08/1972	01/06/1975	01/09/1975
8	Jenapur	33955	20°52'44"	86°00'52"	13	23.73	26/09/2011	2019-20	20/07/1979	09/07/1980	01/03/1980
9	Kamalang	-	20°53'14"	85°16'43"	-	-	-	2019-20	11/01/1990	-	-

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Table 4 : Important Historical / Hydrological Observations by sites and River Basin during 2019-20

Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
III	**Basin : Brahamani & Baitarani**										
10	Nandira	-	20°53'16"	85°15'44"	-	-	-	2019-20	11/01/1990	-	-
11	Panposh	19448	22°13'35"	84°48'22"	168.5	179.35	07/08/1997	2019-20	21/06/1996	01/08/1996	01/11/1990
12	Purunagarh	-	21°31'34"	84°42'44"	189.9	192.23	14/07/2019	2019-20	15/03/2019	-	-
13	RSP Nala	-	22°12'39"	84°52'24"	-	-	-	2019-20	11/01/1990	-	-
14	Talcher	29750	20°55'08"	85°14'08"	-	-	-	2019-20	08/06/1985	08/06/1985	08/06/1985
15	Tilga	3160	22°37'24"	84°25'03"	372	378.83	27/07/2017	2019-20	15/06/1979	21/07/1980	01/06/1980
Source: Water Year Book (June 2019 to May 2020) Brahmani Basin											
IV	**Godavari**										
1	Allamvari ghanapur	1563	18°23'10"	80°23'34"	78.5	97.24	21/08/2018	2019-20	01/07/2017	-	-
2	Ambabal	1968	19°17'00"	81°47'20"	534	542.45	05/07/2006	2019-20	30/10/1993	-	-
3	Ambgaon(bagadi)	2150	20°46'42"	79°51'05"	92.79	-	-	2019-20	18/10/2019	-	01/06/2019
4	Ankushapur	2315	18°22'36"	79°37'37"'	171.5	100.26	12/08/2018	2019-20	01/06/2017	-	-
5	Ashti	50990	19°41'12"	79°47'02"	141.42	155.1	13/07/1994	2019-20	14/07/1965	14/03/1966	01/06/1966
6	Atreyapuram	143.24	16°48'54"	81°49'00"	90	-	-	2019-20	06/01/2020	-	-
7	Bakhari	1200	22°19'29"	79°28'05"	519.5	-	-	2019-20	26/09/2019	-	01/06/2019
8	Bamni (balharsha)	46020	19°48'50"	79°22'46"	157.97	176.32	15/08/1986	2019-20	16/10/1965	13/12/1965	03/06/1966
9	Betmogrra	2105	18°42'12"	77°32'30"	347.5	362.24	02/10/2016	2019-20	03/07/1997	-	15/07/1997
10	Bhadrachalam	280505	17°39'57"	80°53'02"	32.61	50.14	08/08/2010	2019-20	11/07/2007	-	03/10/2006
11	Bhatpalli	3100	19°19'47"	79°30'15"	156	168.5	02/10/1988	2019-20	01/10/1986	07/10/1988	04/01/1988
12	Bichubaghu	325	21°41'35"	78°51'49"	336..5	-	-	2019-20	17/08/2019	-	-
13	Cherribeda	890	19°38'23"	81°29'07"	564.4	573.9	04/07/2006	2019-20	13/11/1996	-	-
14	Chindnar	17270	19°05'00"	81°18'00"	327.15	340.1	05/07/2006	2019-20	07/12/1971	-	-
15	Degloor	1900	18°32'12"	77°34'56"	352	363.85	24/08/2000	2019-20	17/07/1987	01/01/1994	15/09/1988

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Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
IV	**Godavari**										
16	Dhalegaon	30840	19°12'00"	76°22'00"	385.575	399.855	13/08/2006	2019-20	16/08/1964	11/07/1971	01/07/1972
17	Dhanora(wardha)	22100	19°54'13"	79°11'11"	162.67	-	-	2019-20	15/02/2020	-	-
18	G.r.bridge	33934	18°57'00"	76°45'00"	364	378.37	14/08/2006	2019-20	19/06/1976	01/07/1976	01/07/1976
19	Gandlapet (Terminal Site on River Peddavagu)	1360	18°49'16"	78°26'17"	310	317.9	30/08/1990	2019-20	10/09/1986	-	31/07/1988
20	Garmillapalli	782	18°26'49"	79°42'17"	145	101.68	12/08/2018	2019-20	01/06/2017	01/06/2017	-
21	Hivra	10240	20°32'50"	78°19'29"	230	246.31	07/09/1994	2019-20	11/08/1987	26/06/1990	16/12/1987
22	Jagdalpur	7380	19°60'30"	82°10'18"	532.501	544.551	15/08/1986	2019-20	21/09/1965	21/09/1965	01/12/1979
23	Janepally	578.2	18°48'49"	78°34'48"	336.655	-	-	2019-20	01/01/2019	-	-
24	Janwada	14717.58	18°01'57"	77°28'21"	510.708	-	-	2019-20	01/06/2019		
25	Jeeraguda	1468.35	18°52.8'0"	82°27.4'0"	543.89	-	-	2019-20	22/08/2019	-	-
26	Jogisakhra	250	20°29'43"	80°01'16"	203.78	-	-	2019-20	17/10/2019	-	-
27	Kanergaon	3515	19°57'45"	77°08'57"	465	473.22	24/07/2013	2019-20	20/07/1992	-	-
28	Kanuru agraharam	131.48	16°49'45"	81°45'17"	0	-	-	2019-20	27/06/2019	-	-
29	Keolari	2970	22°22'53"	79°53'59"	424.52	437.92	14/08/2006	2019-20	29/06/1987	-	01/06/2014
30	Kiwaibalenga	910	19°38'30"	81°33'45"	562	571.79	06/08/2010	2019-20	29/08/2005	-	-
31	Kokiwada	2000	21°53'52"	79°14'04"	88	-	-	2019-20	14/01/2020	-	01/06/2019
32	Konta	19550	17°48'00"	81°23'00"	29	49.91	17/08/1986	2019-20	28/10/1965	01/01/1968	05/05/1968
33	Kopergaon gauge ,Rainfal,W/L	6840	19°52'00"	74°28'28"	485.5	495.6	03/08/2016	2019-20	31/07/2014	-	01/04/2014
34	Kosagumda	1635	19°16'37"	82°14'00"	547	555.87	06/08/2010	2019-20	13/11/1996	-	-
35	Kothapalle	5232	17°49'36"	81°33'15"	0	-	-	2019-20	10/01/2020	-	-
36	Kumhari	8070	21°53'04"	80°10'31"	289	304.335	18/08/2002	2019-20	01/12/1986	01/09/2014	01/02/2012
37	Kunturla	713.15	18°45'3"	82°25'45"	851.15	861.32	20/072018	2019-20	30/03/2018	-	-

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Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
IV	**Godavari**										
38	Lodhikheda	1625	21°34'45"	78°51'56"	90.5	-	-	2019-20	17/08/2019	-	01/06/2019
39	Mahagaon pus	2600	19°47'46"	77°46'23"	266	-	-	2019-20	20/08/2019	-	-
40	Mahalgaon	15600	21°33'02"	80°01'36"	259.025	-	-	2019-20	02/12/2019	-	01/06/2019
41	Mancherial	102900	18°50'00"	79°27'00"	124.316	137.386	20/10/1995	2019-20	01/06/1966	01/06/1966	01/12/1979
42	Mangrul	2500	20°11'20"	77°59'13"	279.375	289.89	19/07/2000	2019-20	09/11/1992	-	-
43	Mouda	11600	21°08'47"	79°23'22"	242.4	-	-	2019-20	16/12/2019	-	-
44	Mungoli township	22441	19°51'54"	79°07'34"	80.05	-	-	2019-20	11/12/2019	-	01/06/2019
45	Murthahandi	-	19°03'00"	82°17'00"	533.6	545.09	06/08/2010	2019-20	01/12/1988	-	-
46	Nagaram	8010	18°25'10"	79°33'26'	168	-	-	2019-20	01/06/2019	-	-
47	Nagari	2100	20°25'33"	78°52'28"	93.82	-	-	2019-20	19/11/2019	-	-
48	Nanded	52038	19°04'00"	77°30'00"	340.5	349.675	26/09/2016	2019-20	01/06/2016	-	01/04/2014
49	Nandgaon	4580	20°31'32"	78°48'32"	198.03	212.55	13/07/1994	2019-20	21/07/1986	13/08/1988	01/01/1988
50	Nowrangpur	3545	19°12'00"	82°31'00"	549.745	560.636	29/07/1969	2019-20	20/06/1971	21/06/1971	01/01/1972
51	P.G. Bridge	18441	19°49'03"	78°34'40"	198.63	217.92	07/08/2006	2019-20	21/07/1965	19/10/1965	31/05/1966
52	Pachegaon (Terminal site on River Pravara)	5800	19°32'00"	74°52'00"	470	481.45	12/10/1990	2019-20	23/07/1983	-	01/04/2014
53	Patala	20829	20°07'34"	79°00'03"	171.02	-	-	2019-20	20/12/2019	-	01/06/2019
54	Patansaongi	3250	21°19'16"	79°01'29"	92.74	-	-	2019-20	23/08/2019	-	01/06/2019
55	Pathagudem	40000	18°49'00"	80°21'00"	85.75	103.5	05/08/2006	2019-20	20/07/1964	21/07/1965	01/01/1972
56	Perur	268200	18°33'00"	80°22'00"	68.15	68.15	15/08/1986	2019-20	17/09/1965	24/02/1968	24/10/1968
57	Polavaram	307800	17°14'45"	81°39'35"	10.897	28.02	16/08/1986	2019-20	01/01/1966	25/10/1966	25/10/1966
58	Potteru (seasonal)	1120	18°10'13"	81°47'40"	120.5	131.99	04/08/2006	2019-20	20/05/1997	-	-

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Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
IV	**Godavari**										
59	Pratapur	1708	19°31'30"	74°23'03"	523	525.64	23/08/2018	2019-20	01/11/2016	-	-
60	Purad	1250	19°57'52"	79°01'40"	95.15	-	-	2019-20	21/08/2019	-	-
61	Purna (Terminal Site on River Purna)	15000	19°11'00"	77°02'00"	358	371.80	27/07/2005	2019-20	02/09/1969	10/10/1972	01/11/1972
62	Rajegaon	5380	21°37'26"	80°15'12"	272	284.26	23/07/2014	2019-20	26/07/1986	01/09/2014	01/02/2012
63	Rajoli	1900	20°11'37"	79°39'55"	180.62	239.615	14/08/1986	2019-20	25/06/1986	-	-
64	Ramakona	2500	21°43'08"	78°49'27"	335.95	349.5	30/07/1991	2019-20	21/11/1986	12/11/2014	01/06/2014
65	Saigaon	9960	18°03'00"	77°03'00"	542.723	554.253	07/10/1983	2019-20	10/11/1967	19/07/1973	16/08/1973
66	Sakhara	46290	20°37'17"	79°56'14"	84.345	-	-	2019-20	06/02/2020	-	01/06/2019
67	Sakmur/sirpur	47500	19°33'38"	79°36'55"	148.5	161.95	08/08/2006	2019-20	01/02/1968	01/06/2014	01/06/2014
68	Salebardi	1800	20°54'45"	79°55'38"	224.3	233.52	15/09/2005	2019-20	21/06/1986	-	-
69	Saloora	30081.73	18°42'12"	77°47'45"	92.5	93.845	30/08/2018	2019-20	30/08/2018	06/08/2019	-
70	Sangam	1565	17°35'50"	80°49'40"	51	58.25	21/09/2015	2019-20	24/08/1996	-	-
71	Sangampally	1080	18°45'45"	80°33'50"	111.435	-	-	2019-20	28/11/2018	-	-
72	Saradaput	3047	18°36'00"	82°08'00"	224	239.53	04/08/2006	2019-20	05/09/1970	-	-
73	Satrapur	11100	21°13'00"	79°13'59"	263.3	277.61	06/09/1994	2019-20	30/05/1986	01/08/1988	09/12/1987
74	Sirimoda	439.62	18°37'20"	82°52'28"	854.55	-	-	2019-20	23/08/2019	-	-
75	Somanpally (seasonal)	12691	18°38'30"	79°49'35"	121	127.344	24/07/1989	2019-20	17/03/1967	-	-
76	Sonarpal	1523	19°16'00"	81°52'00"	534	542.57	04/07/2006	2019-20	05/12/1991	-	-
77	Talnar	-	18°35'67"	81°51'42"	80.57	-	-	2019-20	02/01/2017	-	-
78	Tekra	108780	18°58'42"	79°56'49"	95.09	112.40	09/09/1994	2019-20	15/07/1964	01/07/1965	15/06/1966
79	Tharnam	1500	19°44'22"	78°33'52"	211	-	-	2019-20	20/08/2019	-	-
80	Tumnar	1700	19°00'30"	81°14'20"	315.007	325.977	14/06/2004	2019-20	09/12/1991	-	-

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Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
IV	**Godavari**										
81	Valamuru	323.49	17°38'00"	81°38'00"	0	6.06	20/08/2018	2019-20	01/07/2017	-	-
82	Wairagarh	2600	20°25'14"	80°05'27"	208.705	215.905	07/08/2007	2019-20	07/08/1992	-	01/10/2014
83	Yelli	53630	19°02'00"	77°28'00"	331	354.2	07/08/2006	2019-20	22/04/1978	01/06/1978	01/07/1978
84	Zari	5550	19°23'41"	76°46'24"	373	385.71	27/07/2005	2019-20	18/06/1987	-	01/08/1988
Source : Water Year Book (June 2019 to May 2020) Godavari Basin.											
V	**Krishna**										
1	Airani	7075	14°36'21"	75°48'15"	83	-	-	2019-20	28/12/2018	-	-
2	Anantharam	2448.4	17°26'05"	79°24'43"	226.5	-	09/02/2019	2019-20	26/10/2016	-	-
3	Arjunwad (seasonal)	12660	16°46'51"	74°37'59"	523.225	540.995	27/08/1997	2019-20	12/01/1969	26/12/2014	01/09/2014
4	Bawapuram	67180	15°52'57"	77°57'26"	270.245	281.585	02/10/2009	2019-20	01/04/1964	01/06/1965	01/01/1972
5	Byladahalli	2300	14°26'02"	75°46'47"	528.4	537.7	17/11/1992	2019-20	11/06/1985	10/12/1997	02/06/1986
6	Cholachguda	9373	15°52'43"	75°43'16"	522	536.61	02/10/2009	2019-20	01/06/1982	01/06/1982	01/06/1982
7	Dameracherla	11501	16°44'21"	79°40'11"	53	62.5	05/10/2009	2019-20	27/07/1968	02/09/2013	01/01/1980
8	Daredu	3100	17°22'46"	80°07'49"	108.5	101.36	21/08/2018	2019-20	16/11/2016	-	-
9	Doddipadu	3240	15°44'24"	77°59'35"	285.803	289.443	13/10/2017	2019-20	18/11/2014	-	-
10	Gokak falls	2770	16°11'24"	74°47'29"	536	546.40	23/09/2005	2019-20	14/07/1971	27/12/2014	01/09/2014
11	Halia	3100	16°47'25"	79°20'19"	127.9	133.507	22/09/1991	2019-20	11/07/1984	-	01/06/1992
12	Haralahalli	14582	14°49'50"	75°40'28"	507.436	518.109	18/11/1992	2019-20	13/12/1966	01/11/1972	01/11/1972
13	Hariharapura	663	13°31'20"	75°18'12"	837	-	-	2019-20	14/12/2018	-	01/05/2019
14	Holehonnur	2990	13°58'34"	75°41'07"	552.725	561.985	03/08/2013	2019-20	01/07/2003	-	01/07/2003
15	Honnali	7075	14°14'14"	75°39'45"	533.9	546.4	16/07/1994	2019-20	21/06/1980	15/09/1995	02/06/1986
16	Hoovinahole	2585	13°58'57"	76°44'57"	93.5	95.82	06/09/2008	2019-20	02/10/2001	-	01/06/2008
17	Huvinhedigi	55150	16°29'25"	76°55'23"	342.24	357.84	02/10/2009	2019-20	01/02/1976	01/06/1976	01/02/1976
18	Kalmane	256	13°39'07"	75°10'45"	710	-	-	2019-20	17-Dec-18	-	-
19	Karad	5462	17°17'40"	74°11'25"	549.915	563.922	24/08/1997	2019-20	21/06/1965	22/06/1965	01/09/1972
20	Keesara	9854	16°42'53"	80°19'13"	27.5	36.81	20/05/1969	2019-20	26/06/1964	02/07/1965	01/01/1972
21	Kellodu	4320	13°45'15"	76°19'11"	644.7	650.25	13/11/2010	2019-20	11/07/1990	-	01/07/1994

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Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
V	**Krishna**										
22	Kuppelur	1850	14°30'00"	75°38'02"	531.67	541.84	08/08/2007	2019-20	24/07/1990	23/07/2014	01/07/1994
23	Kurundwad	15190	16°41'01"	74°36'11"	519.455	538.72	13/08/2006	2019-20	26/06/1972	06/08/2003	01/07/2003
24	Lakkavalli	1975	13°42'22"	75°38'42"	85	-	-	2019-20	13/12/2018	-	01/05/2019
25	Madhira	1850	16°55'05"	80°21'32"	44.5	50.82	21/09/2005	2019-20	07/06/1984	01/03/2014	01/06/1992
26	Mahishi	1406	13°41'50"	75°20'08"	807	-	-	2019-20	21/12/2018	-	-
27	Malkhed	7650	17°12'12"	77°09'23"	390	400.65	24/09/2016	2019-20	15/08/1990	08/09/1992	01/06/1992
28	Mantralayam	60630	15°56'43"	77°25'38"	306	318.77	02/10/2009	2019-20	01/06/1972	26/07/1977	01/08/1977
29	Marol	4901	14°56'20"	75°37'05"	507.551	517.451	09/08/2007	2019-20	01/02/1966	16/09/1972	01/02/1973
30	Melaganur	593.75	15°50'44"	77°01'31"	332.5	342.22	17/08/2018	2019-20	24/10/2016	-	-
31	Mirawadi	2640	18°32'19"	74°10'60"	508.5	-	-	2019-20	16/06/2018	-	03/07/2019
32	Mudhol	6734	16°19'00"	75°12'00"	530	538.10	20/08/2018	2019-20	25/07/2000	08/09/2003	01/11/2000
33	Munugodu	647.8	16°33'17"	80°12'23"	24.5	27.63	20/08/2018	2019-20	24/10/2016	-	-
34	Nandre	3035	16°56'58"	74°31'45"	526.5	-	-	2019-20	07/08/2018	-	-
35	Narasingpur	22856	17°58'17"	75°08'21"	448.243	462.383	10/08/2006	2019-20	22/02/1966	-	-
36	Paleru bridge	2928	16°56'56"	80°02'57"	70.357	78.447	24/07/1989	2019-20	01/07/1964	01/03/2014	01/06/1992
37	Paragaon	6251	18°33'30"	74°22'30"	85	93.57	06/08/2016	2019-20	02-Sep-15	-	-
38	Phulgaon	2205	18°40'01"	74°00'08"	537	543.95	05/08/2014	2019-20	20/06/1992	-	02/08/1993
39	Sadalga (seasonal)	2322	16°33'44"	74°31'42"	525.16	538.41	13/08/2006	2019-20	24/06/1969	-	-
40	Samdoli (seasonal)	1948	16°51'18"	74°29'50"	528.594	546.324	05/08/2005	2019-20	01/12/1964	26/12/2014	01/09/2014
41	Sarati	7200	17°54'43"	75°00'27"	466.128	476.089	02/08/1976	2019-20	01/06/1965	01/06/1966	01/09/1972
42	Shimoga	2831	13°55'37"	75°35'06"	558.3	567.91	02/08/2014	2019-20	22/01/1972	14/09/1972	01/01/1973
43	Suddakallu	2340	16°34'22"	78°25'24"	427.7	98.4	15/10/2017		05/10/2017	-	-
44	T. Ramapuram	23500	15°39'40"	76°57'56"	349.368	353.858	14/10/1971	2019-20	23/08/1964	-	01/01/1980
45	Takli	33916	17°24'51"	75°50'52"	408	423.653	12/08/2006	2019-20	01/06/1965	01/12/1966	01/09/1972
46	Talikot	2486	16°29'01"	76°17'03"	496	501.20	11/09/2015	2019-20	21/09/1995	-	-

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						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
V	**Krishna**										
47	Targaon	2304	17°31'00"	74°09'00"	579	-	-	2019-20	07/08/2018		
48	Terwad (seasonal)	2425	16°40'31"	74°34'30"	520	540.39	06/08/2005	2019-20	22/08/1979	-	-
49	Valigonda	5830	17°21'56"	79°01'56"	94	-	-	2019-20	01/06/2019	-	01/06/2019
50	Veerlapalem	624.5	16°41'15"	79°32'46"	63	47.83	20/08/2018	2019-20	21/10/2016	-	-
51	Vijayawada	251360	16°30'04"	80°37'30"	8.152	18.192	07/08/1967	2019-20	24/03/1964	01/02/1965	01/01/1972
52	Vikkiralapeta	2179.7	15°17'48"	79°54'46"	7.7	0	01/06/2018	2019-20	22/03/2017	-	-
53	Wadakbal	12092	17°32'03"	75°53'06"	417	428.538	29/09/1989	2019-20	06/08/1964	01/06/1965	01/09/1972
54	Wadenapally	235544	16°47'39"	80°04'23"	22.054	42.484	05/10/2009	2019-20	10/12/1965	01/12/1966	01/01/1972
55	Yadgir	69863	16°44'15"	77°07'31"	350.503	361.873	07/09/1969	2019-20	11/11/1964	01/06/1965	01/01/1972
Source : Water Year Book (June 2019 to May 2020) Krishna Basin.											
VI	**Cauvery**										
1	Akkihebbal	5236	12°36'10"	76°24'03"	745	752.38	03/08/2013	2019-20	23/01/2002	26/03/2013	02/09/2002
2	Alandurai	156.4	10°57'07"	76°47'07"	441	442.85	03/11/2018	2019-20	-	-	-
3	Annavasal	-	10°58'30"	79°45'14"	4	5.985	24/11/1999	2019-20	01/02/1999	-	01/09/2005
4	Balasamudram	344	10°25'32"	77°32'22"	242	-	23/02/2019	2019-20	01/01/2019	-	-
5	Belur	565.75	13°10'08"	75°52'21"	940	940.56	02/11/2018	2019-20	01/11/2016	-	-
6	Bendrahalli	1900	12°09'13"	77°04'48"	631	635.2	07/11/2010	2019-20	18/08/2005	-	01/04/2008
7	Bettadamne	266.69	13°04'09"	75°40'46"	898.25	899.28	05/11/2018	2019-20	01/11/2018	-	-
8	Biligundulu	36682	12°10'56"	77°43'26"	255	264.35	05/07/1980	2019-20	30/08/1971	01/06/1972	01/06/1978
9	Chikka Malur	2275	12°39'09"	77°11'05"	653	654.130	09/11/2018	2019-20	01/11/2018	-	-
10	Chikkarasinakere	280	12°30'36"	77°02'12"	609	611.21	24/11/2018	2019-20	01/11/2018	-	-
11	Chunchunkatte	2995	12°30'34"	76°18'04"	748	759.02	18/08/2018	2019-20	19/07/2008	-	03/10/2008
12	Elunuthimangalam	3386	11°01'54"	77°53'15"	129	132.05	24/10/1999	2019-20	07/08/1998	01/03/2013	03/10/2000
13	Gandhavayal	90.71	11°22'27"	76°59'32"	92	95.150	24/11/2013	2019-20	15/03/2013	-	01/04/2013
14	Gopurajapuram	-	10°51'05"	79°48'00"	-2	3.24	08/11/2005	2019-20	01/02/1999	-	01/10/2005
15	Hogenakkal	1636	12°07'16"	77°46'55"	252	256.35	24/10/2005	2019-20	05/10/1996	-	01/11/2004

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VI	**Cauvery**										
16	Hommaragalli	2325	12°06'52"	76°27'48"	660	-	-	2019-20	01/11/2018	-	-
17	Jannapura	146.19	13°03'25"	75°57'42"	991	992.02	02/11/2018	2019-20	01/11/2018	-	-
18	K.M. Vadi	1330	12°20'46"	76°17'16"	765	772.19	04/07/1980	2019-20	26/06/1979	-	01/07/1979
19	Kodumudi	53233	11°04'52"	77°53'25"	121.57	128.01	18/08/2018	2019-20	21/06/1971	11/07/1972	01/06/1978
20	Kokkedoddy	6200	12°17'46"	77°26'25"	369	370.45	24/11/2018	2019-20	01/11/2018	-	-
21	Kollegal	21082	12°11'21"	77°06'00"	622	629.75	29/07/1991	2019-20	06/02/1971	15/03/1972	01/06/1978
22	Kottathara	130.38	11°07'23"	76°40'46"	288	289.46	23/04/2019	2019-20	26/03/2019	-	-
23	Kudige	1934	12°30'09"	75°57'40"	809	818.92	28/07/1991	2019-20	01/11/1973	01/11/1973	01/06/1978
24	Kudlur	709	11°50'26"	77°27'46"	433	438.56	19/04/2001	2019-20	06/03/1999	01/03/2013	02/02/2001
25	Kukkalthurai	60.52	11°29'08"	76°49'57"	1495	1496.42	04/11/2018	2019-20	01/11/2018	-	-
26	Lakshmananpatti	1331	10°29'53"	77°56'45"	-	0	01/02/2019	2019-20	01/02/2019	-	-
27	M.H. Halli	3050	12°49'08"	76°08'00"	838	846.477	28/07/1991	2019-20	16/10/1978	01/06/1994	01/07/1980
28	Menangudi	-	10°56'56"	79°42'14"	4	7.94	10/11/1997	2019-20	21/08/1996	-	01/09/2005
29	Mukkodlu	103.56	12°29'26"	75°46'18"	884	884.75	04/11/2018	2019-20	01/11/2018	-	-
30	Musiri	66243	10°56'36"	78°26'06"	82	85.825	07/07/1980	2019-20	01/06/1972	31/03/1973	01/06/1978
31	Muthankera	1260	11°48'30"	76°05'02"	705	712.74	22/06/1992	2019-20	01/06/1973	15/02/1974	01/06/1978
32	Nallamaranpatty	9080	10°52'51"	77°59'05"	126	134.85	19/11/1979	2019-20	23/01/1978	10/12/1978	16/08/1978
33	Nallathur	-	11°00'08"	79°45'01"	0	4.86	17/12/2009	2019-20	01/06/2006	-	01/09/2008
34	Napoklu	335	12°18'51"	75°41'54"	861	861.27	30/03/2019	2019-20	01/11/2018	-	-
35	Nellithurai	1475	11°17'16"	76°53'28"	301	308.25	23/07/1989	2019-20	01/06/1979	01/07/2002	01/06/1979
36	Odandhurai	120.82	11°19'18"	76°53'34"	328	-	-	2019-20	01/06/2019	-	-
37	Peralam	-	10°57'59"	79°39'41"	6	9.835	27/11/2008	2019-20	01/02/1999	-	01/09/2005
38	Porakudi	-	10°54'14"	79°42'26"	2	7.2	28/11/2008	2019-20	01/02/1999	-	01/09/2005
39	Pudunagara	220	12°04'12"	77°24'36"	585.5	586.98	24/11/2018	2019-20	01/11/2018	-	-
40	Sakleshpur	617	12°56'37"	75°47'37"	882.47	892.97	16/07/2009	2019-20	05/04/2002	26/03/2013	02/09/2002
41	Savandapur	5776	11°31'17"	77°30'36"	179	187.75	17/08/2018	2019-20	17/07/1978	24/04/1979	02/04/1979

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VI	**Cauvery**										
42	Sevanur	258	11°33'07"	77°43'55"	170	172.38	13/10/2009	2019-20	20/09/1999	-	01/10/2001
43	T. Bekuppe	3500	12°30'29"	77°25'39"	600	607.28	10/09/2017	2019-20	24/11/2003	26/03/2013	01/12/2003
44	T. Narasipur	7000	12°13'48"	76°53'39"	635	641.815	19/08/1981	2019-20	12/03/1971	20/03/1972	01/06/1978
45	T.k.halli	7890	12°25'00"	77°11'33"	580	585.925	03/10/1984	2019-20	12/06/1978	01/06/1985	02/06/1979
46	Thandalaiputhur	1058	10°59'28"	78°30'48"	95	0	01/01/2019	2019-20	01/01/2019	-	-
47	Thengudi	-	10°55'00"	79°38'20"	5	9.62	28/11/2008	2019-20	02/07/1997	07/11/2003	01/09/2005
48	Thengumarahada	1370	11°34'22"	76°55'09"	336.65	341.65	16/07/2009	2019-20	01/06/1979	01/06/2002	01/.06/1979
49	Thevur	1248	11°31'38"	77°45'03"	168	173.2	27/10/2010	2019-20	24/09/1999	-	01/10/2001
50	Thimmanahalli	1010	12°58'57"	76°02'17"	902.425	909.665	16/07/2009	2019-20	29/06/2000	-	02/09/2002
51	Thoppur	362	11°56'18"	78°03'26"	320	325.81	24/11/2005	2019-20	21/10/1999	-	01/11/2001
52	Thoreshettahalli	6410	12°39'59"	77°02'24"	621	622.83	23/11/2018	2019-20	01/11/2018	-	-
53	Urachikottai	44100	11°28'40"	77°42'00"	154	165.83	06/07/1980	2019-20	01/06/1979	04/01/2001	01/06/1979
54	Varanavasi	468	11°05'33"	79°05'06"	58	0	01/01/2019	2019-20	22/10/2018	-	-
Source : Water Year Book (June 2019 to May 2020) Cauvery Basin.											
VII	**Pennar**										
1	Chennur	37981	14°34'20"	78°48'00"	114	123.375	24/08/2000	2019-20	13/07/1989	08/08/1989	01/09/1989
2	Nellore	50800	14°28'13"	79°59'20"	7.23	51.215	18/11/1991	2019-20	28/08/1987	21/06/2014	01/09/1988
3	Nandipalli	2486	14°43'16"	79°01'08"	95	102.43	19/10/1996	2019-20	18/06/1990	12/06/2013	01/06/1994
4	Tadipatri	12482	14°55'19"	78°00'59"	224	230.34	04/11/1975	2019-20	12/12/1971	-	01/09/1979
5	Alladupalli	8758	14°43'02"	78°40'07"	131.955	142.085	24/06/2007	2019-20	21/08/1985	11/07/1996	01/07/1987
6	Singavaram	6262	14°35'52"	78°00'48"	254	259.415	21/10/1996	2019-20	25/09/1979	-	15/09/1981
7	Kamalapuram	7187	14°35'30"	78°41'00"	132.65	138.161	17/11/1991	2019-20	16/06/1990	-	01/06/1994
8	Nagalamedike	5050	14°11'20"	77°22'20"	544.55	546.755	17/09/2002	2019-20	17/07/1978	-	01/06/1980
9	Nandalur	5183	14°15'17"	79°06'59"	133	137	17/11/2015	2019-20	21/03/2013	-	-
10	Dipuru	1115	14°37'09"	79°33'40"	51.1	0	01/11/2018	2019-20	01/11/2018	-	-
11	Kalasapdu	996	15°06'45"	78°56'17"	184.5	0	01/11/2018	2019-20	01/11/2018	-	-
Source: Water Year Book (June 2019 to May 2020) East Flowing Rivers Basin.											

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VIII	**East Flowing Rivers Between Mahanadi to Pennar**										
1	Marella	7681	15°52'55"	79°54'36"	28	101.42	21/05/2010	2019-20	28/06/2007	01/08/2007	01/09/2007
2	Purushottampur	7112	19°30'15"	84°51'58"	8	18.55	12/10/2018	2019-20	14/06/1989	15/01/2001	08/10/2001
3	Gunupur	6740	19°05'42"	83°48'50"	80.25	85.95	07/08/2007	2019-20	01/06/2001	15/11/2013	30/12/2013
4	Kashinagar	7820	18°50'49"	83°52'04"	51	57.85	07/08/2007	2019-20	28/04/1971	13/10/1972	01/09/1972
5	Srikakulam	9500	18°18'52"	83°53'13"	6.65	12.61	14/10/2014	2019-20	25/08/1990	27/06/2001	27/06/2001
6	Anakapalli	2090	17°41'20"	82°59'47"	20.4	27.48	11/04/2012	2019-20	16/0/8/1989	-	-
Source: Water Year Book (June 2019 to May 2020) East Flowing Rivers Basin.											
IX	**East Flowing Rivers Between Pennar to Kanyakumari**										
1	A.p.puram	1095	08°54'05"	77°38'55"	61	67.823	14/11/1992	2019-20	01/12/1979	-	01/06/1993
2	Ambasamudram	850	09°55'32"	77°30'42"	296.5	298.85	10/12/2017	2019-20	05/01/1999	09/10/2002	01/08/1999
3	Arcot	10174	12°54'50"	79°20'00"	156.81	160.665	03/09/1981	2019-20	20/09/1979	-	01/06/1988
4	Avarankuppam	3300	12°41'03"	78°32'22"	365.275	368.45	11/09/1981	2019-20	07/06/1978	-	01/08/1979
5	Ayalambedu	179	13°07'43"	79°28'43"	93	0	01/11/2018	2019-20	01/11/2018	-	-
6	Chengalpet	16230	12°39'00"	79°56'50"	24	28.2	03/12/2015	2019-20	01/10/1978	-	01/06/1979
7	Gummanur	4620	12°33'18"	78°08'18"	490	495	11/09/1981	2019-20	20/09/1978	26/08/1981	20/09/1978
8	Harur	827	12°04'40"	78°30'08"	340	0	01/01/2019	2019-20	01/01/2019	-	-
9	Irrukkankudi	3721	09°19'27"	77°59'26"	46	51	14/12/1998	2019-20	25/11/1989	-	01/06/1993
10	Kallidaikurichi	698	08°41'36"	77°27'57"	68	70.86	24/12/2018	2019-20	24/10/2018	-	-
11	Kalpadai	128	11°47'20"	78°47'12"	195.75	197.1	25/11/2018	2019-20	01/11/2018	-	-
12	Kudalaiyathur	7890	11°25'20"	79°28'15"	11	48.892	05/12/1993	2019-20	15/11/1989	-	01/06/1993
13	Kumarapalayam	2208	11°59'00"	79°40'50"	8.825	13.86	02/12/2015	2019-20	02/11/2004	-	12/12/2005

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Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
14	Magaral	1803	12°42'34"	79°44'57"	58	62.28	16/12/1996	2019-20	25/11/1971	-	01/11/1983
15	Maniyampattu	1055	12°13'54"	79°30'53"	95	0	01/11/2018	2019-20	01/11/2018	-	-
16	Mayambadi	116	11°44'15"	78°47'27"	218	221.2	16/11/2018	2019-20	01/11/2018	-	-
17	Melkalpoondi	1731	11°29'05"	78°56'18"	98	0	01/11/2018	2019-20	01/11/2018	-	-
18	Monnavedu	2140	13°13'25"	79°56'43"	95	0	27/10/2018	2019-20	27/10/2018	-	-
19	Murappanadu	4380	08°42'52"	77°50'06"	14.025	21.075	12/11/1979	2019-20	23/11/1977	15/02/1979	15/08/1978
20	Naidupeta	2650	13°56'54"	79°53'46"	20.13	44.34	26/11/1979	2019-20	01/12/1978	22/10/2013	01/12/1980
21	Nariyampattu	870	12°50'52"	78°43'16"	95	0	01/11/2018	2019-20	01/11/2018	-	-
22	Pallamala	1008	13°43'05"	79°47'33"	93.35	97.475	23/11/2018	2019-20	-	-	-
23	Penneswaramadam	5652	12°23'44"	78°14'43"	442.5	445.235	17/10/2018	2019-20	17/10/2018	-	-
24	Paramakudi	6796	09°33'12"	78°35'11"	38	40.42	09/11/1977	2019-20	03/11/1971	01/03/2013	05/11/1989
25	Pattukottai	474	10°25'01"	79°17'30"	42	45.7	17/11/2018	2019-20	01/11/2018	-	-
26	Puduvayal	1215	13°20'12"	80°08'46"	89.35	94.45	06/12/2018	2019-20	01/11/2018	-	-
27	Rayachoti	406	14°04'56"	78°45'19"	94.85	0	01/11/2018	2019-20	01/11/2018	-	-
28	Singasadanapalli	2059	12°52'01"	77°50'27"	840.5	844.465	19/04/2019	2019-20	01/11/2018	-	01/01/2016
29	Sulurpet	5927	13°42'28"	80°00'36"	-2	19.235	15/11/1991	2019-20	05/10/1988	23/10/2013	01/12/1988
30	Theni	1200	10°00'04"	77°29'06"	278	287.95	19/11/1979	2019-20	01/06/1978	29/01/1979	15/07/1978
31	Thirunavalur	786	11°44'47"	79°24'24"	32	0	01/10/2018	2019-20	01/11/2018	-	-
32	Thiruvalam	2295	12°59'05"	79°16'02"	192.25	0	01/11/2018	2019-20	01/11/2018	-	-
33	V.kalathur	1017	11°24'08"	78°55'48"	97	0	01/11/2018	2019-20	01/11/2018	-	-
34	Vazhavachanur	10780	12°03'57	78°58'41"	133	137.575	01/12/2017	2019-20	21/07/1978	19/10/2001	01/08/1978
35	Venganur	40	11°26'32"	79°01'29"	75.5	0	01/11/2018	2019-20	01/11/2018	-	-
36	Villupuram	12900	11°52'14"	79°27'34"	42	45.7	13/11/1977	2019-20	09/10/1972	-	01/01/1987
37	Verupakshapuram	1675	13°47'40"	79°42'08"	52.3	55.8	21/11/2018	2019-20	-	-	-

Source: Water Year Book (June 2019 to May 2020) East Flowing Rivers Basin.

Table 4 : Important Historical / Hydrological Observations by sites and River Basin during 2019-20

Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
X	**Narmada**										
1	Bamni	1864	22°36'15"	80°21'43"	436	446.93	15/09/2005	2019-20	30/11/1999	01/07/2002	01/07/2002
2	Barmanghat	26453	23°10'50"	79°00'55"	306	330.455	30/08/1973	2019-20	20/11/1971	27/08/1972	01/06/1979
3	Belkhedi	1508	22°55'40"	79°20'23"	340	359.95	21/07/1994	2019-20	16/03/1977	-	01/09/1986
4	Chanwada	3846	22°30'00"	73°27'55"	18	33.55	07/09/1994	2019-20	01/11/1979	01/08/1988	15/03/1980
5	Chhidgaon	1729	22°24'21"	77°18'28"	287	300.75	23/08/2013	2019-20	22/12/1976	-	16/09/1986
6	Dindori	2292	22°56'53"	81°40'34"	660	669.64	02/08/1988	2019-20	01/08/1988	-	15/03/1990
7	Gadarwara	2270	22°55'26"	78°47'30"	321	332.47	18/09/1999	2019-20	01/02/1977	15/06/1978	16/06/1979
8	Garudeshwar	-	21°53'24"	73°39'00"	10	39.78	07/09/1994	2019-20	23/03/1972	21/03/1973	15/06/1977
9	Handia	54027	22°29'30"	76°59'38	258	274.15	24/08/2013	2019-20	26/04/1977	11/12/1977	01/08/1979
10	Hoshangabad	44548	22°45'36"	77°41'24"	282	300.805	20/08/1974	2019-20	16/09/1972	29/12/1972	15/07/1979
11	Kogaon	3919	22°06'06"	75°41'02"	151	227.728	01/07/1972	2019-20	01/07/1978	-	15/09/1986
12	Mandleshwar	72809	22°10'18"	75°39'39"	138	157.23	06/09/1994	2019-20	28/08/1971	14/04/1972	18/06/1979
13	Manot	4667	22°44'03"	80°30'48"	442	459.65	18/08/1984	2019-20	16/12/1976	09/11/1979	01/01/1980
14	Mohgaon	4090	22°45'56"	80°37'23"	447	467.3	08/08/2004	2019-20	13/01/1977	27/08/1992	16/09/1986
15	Motinaroli	804	21°24'16"	72°57'48"	5	19.25	05/08/2019	2019-20	17/10/1990	-	01/07/1991
16	Narmada at Bijora	14561	22°55'30"	79°55'30"	366	378.00	09/09/2019	2019-20	01/06/1967	01/06/1980	-
17	Patan	3950	23°18'42"	79°39'46"	338.5	356.8	06/07/2005	2019-20	30/08/1979	-	01/09/1986
18	sandia	33953.5	22°54'57"	78°20'51"	297	316.89	19/09/1999	2019-20	18/04/1978	09/08/1978	15/09/1979

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Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
XI	**Tapi**										
1	Dahigaon	8599	20°49'59"	75°25'25"	215.8	-	-	2019-20	23/03/2019	-	-
2	Morane	1933	20°54'33"	74°42'04"	264	266.5	05/08/2019	2019-20	28/03/1978	29/08/1986	01/07/1986
3	Gopalkheda	9500	20°52'35"	76°59'14"	236	266.05	21/08/2018	2019-20	17/02/1977	30/07/1979	01/08/1979
4	Yerli	16517	20°56'11"	76°28'27"	213	233.54	08/05/2019	2019-20	01/03/1972	09/04/1973	01/06/1977
5	Dedtalai	3860	21°30'47"	76°45'26"	270	-	-	2019-20	06/02/2014	24/01/1984	01/08/1979
6	Burhanpur	8487	21°17'12"	76°30'18"	213	239.5	29/08/1978	2019-20	14/09/1972	23/12/1972	01/06/1977
7	Gidhade	54750	21°17'45"	74°48'45"	119	137.805	16/09/1998	2019-20	19/06/1990	-	01/09/1990
8	Sarangkheda	58400	21°25'55"	74°31'37"	108	126	08/08/2006	2019-20	19/10/1977	13/07/1984	01/01/1980
9	Ghala	63325	21°17'50"	73°01'31"	1.87	9.485	12/09/2019	2019-20	30/01/2014	-	01/08/1983
10	Lohara	1886.7	20°49'50"	76°45'50"	234	240.75	23/09/2019	2019-20	31/08/2019	-	-
11	Kurankheda	1194.05	20°42'11.23"	77°14'34.45"	270	-	-	2019-20	08/08/2019	-	-
12	Wankhed	18330.75	20°59'18"	76°44'0"	251	-	-	2019-20	29/07/2019	-	-
13	Pimpri	324.07	21°07'42"	75°40'2"	83	-	-	2019-20	-	-	-
14	Dhupeshwar	16882.2	20°57'27"	76°16'45"	202	-	-	2019-20	20/08/2019	-	-
15	Nawtha	8041	21°25'57"	76°26'06"	227	-	-	2019-20	-	-	-
16	Shindkheda	1080.45	21°16'07"	74°44'58"	149	-	-	2019-20	17/08/2019	-	-
17	Shirpur	700.74	21°20'22.44"	74°53'24.29"	141	-	-	2019-20	22/08/2019	-	-
18	Prakasha (damarkheda)	6819	21°31'00"	74°23'48"	109	-	-	2019-20	01/10/2014	-	-
19	Saygaon	911.93	20°30'28.50"	74°47'41.59"	340	-	-	2019-20	07/10/2020	-	-
20	Bamrul	930.95	20°39'45.19"	75°16'12.9"	245	-	-	2019-20	05/11/2020	-	-
21	Gavachhiver	365	21°15'13"	73°09'43"	17	-	-	2019-20	02/07/2019	-	-

Source : Water Year Book (June 2019 to May 2020) Tapi Basin.

Table 4 : Important Historical / Hydrological Observations by sites and River Basin during 2019-20

Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
XII	**West Flowing Rivers From Tapi To Tadri**										
1	Addoor	688	12°55'44"	74°57'14"	-1	15.48	04/08/2004	2019-20	17/07/2003	-	02/09/2002
2	Adakasthala	231	12°40'28"	75°06'54"	90	-	-	2019-20	07/07/2019	-	-
3	Ambarampalayam	950	10°37'53"	76°56'46"	217	224.78	08/11/2009	2019-20	09/03/1978	01/08/2002	01/08/1978
4	Anjanari	315	16°56'04"	73°30'50"	11	17.71	16/07/1999	2019-20	08/08/1991	-	-
5	Arangaly	1342	10°17'10"	76°19'20"	0	9.2	17/08/2018	2019-20	27/04/1978	08/07/1980	01/08/1978
6	Ashramam	258	08°09'33"	77°27'32"	1	5.73	02/12/2017	2019-20	21/09/1999	-	02/12/2002
7	Ayilam	540	08°42'54"	76°51'00"	0	10.367	10/10/1992	2019-20	18/12/1978	26/12/1978	02/01/1979
8	Badlapur	785	19°09'44"	73°15'16"	9.017	17.517	30/072014	2019-20	27/06/1981	22/12/2014	02/07/1993
9	Bantwal	3184	12°52'51"	75°02'28"	1	12.65	26/07/1974	2019-20	01/11/1970	22/06/1972	15/06/1978
10	Belne bridge	605	16°13'18"	73°36'40"	8.5	18.38	29/07/2010	2019-20	16/06/2000	-	03/07/2000
11	Collem	117	15°20'20"	74°14'55"	65	71.55	01/08/1985	2019-20	15/12/1979	-	-
12	Durvesh	2019	19°42'45"	72°55'50"	0	15.22	17/09/1998	2019-20	26/01/1971	26/01/1971	01/06/1977
13	Erinjipuzha	957	12°29'45"	75°09'25"	9.1	18.79	18/07/1999	2019-20	25/06/1985	13/06/1988	01/07/1988
14	Gadat	1510	20°51'22"	72°59'05"	1.5	13.01	29/06/2005	2019-20	12/03/1979	01/02/1985	01/04/1980
15	Ganjim	880	15°28'16"	74°05'58"	0	10.62	18/07/1988	2019-20	20/01/1979	-	-
16	Haladi	583	13°34'54"	74°51'28"	-2	21.666	09/08/1986	2019-20	30/12/1985	-	01/09/1993
17	Kalampur	405	09°59'26"	76°37'56"	5	17.31	16/08/2018	2019-20	23/06/1986	01/06/1988	01/06/1988
18	Kalathukadavu	70	09°43'32"	76°43'37"	22	-	-	2019-20	01/072019	-	-
19	Kallooppara	731	09°24'13"	76°39'01"	0	9.58	16/08/2018	2019-20	19/06/1985	19/05/1986	02/06/1986
20	Karathodu	750	11°03'25"	76°02'22"	2	93.615	09/07/1987	2019-20	20/06/1986	22/06/1989	01/12/1988

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Table 4 : Important Historical / Hydrological Observations by sites and River Basin during 2019-20

Sl. No.	Site Name	Drainage Area (Km^2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
XII	**West Flowing Rivers From Tapi To Tadri**										
21	Kidangoor	615	09°40'30"	76°36'10"	-1.2	7.9	03/08/1994	2019-20	02/07/1985	01/06/1987	02/06/1986
22	Kumbidi	5755	10°51'16"	76°01'12"	2	11.27	17/08/2018	2019-20	08/01/1979	24/06/1980	03/12/1979
23	Kuniyil	1876	11°14'22"	76°01'24"	0	12.53	18/08/1981	2019-20	04/01/1979	21/01/1979	15/01/1979
24	Kuttyadi	238	11°39'03"	75°45'30"	0	8.3	16/08/2018	2019-20	13/03/2000	01/06/2013	01/10/2002
25	Kuzhithurai	841	08°18'21"	77°11'50"	0	8.83	08/12/2010	2019-20	01/11/2000	-	02/12/2002
26	Madamon	1101	09°21'50"	76°50'16"	90	-	-	2019-20	28/06/2019	-	01/11/2019
27	Mahuwa	1995	21°00'52"	73°08'25"	9	19.05	05/07/2006	2019-20	12/11/1970	18/06/1973	15/06/1977
28	Malakkara	1713	09°19'57"	76°39'47"	-1	9.58	16/08/2018	2019-20	19/06/1985	18/06/1986	01/07/1986
29	Mangaon	259	18°13'53"	73°17'01"	3.905	10.255	24/07/1989	2019-20	27/06/1980	22/12/2014	02/07/1993
30	Mankara	2775	10°45'40"	76°29'10"	45	51.5	09/08/2018	2019-20	21/06/1985	24/09/2013	02/06/1986
31	Muradpur	636	17°34'20"	73°10'60"	-5	5.55	16/07/2018	2019-20	01/06/2018	-	-
32	Nagothane	420	18°31'09"	73°09'23	2	12.42	16/07/1999	2019-20	25/09/1996	-	-
33	Nanipalsan	764	20°12'00"	73°17'00"	95	103.925	03/08/2004	2019-20	01/06/1991	-	-
34	Neeleswaram	4234	10°11'01"	76°29'44"	-3	12.12	17/08/2018	2019-20	16/03/1971	26/09/1972	15/06/1978
35	Nellipalli	871	09°01'40"	76°55'29"	0	-	-	2019-20	19/07/2019	-	07/11/2019
36	Ozerkheda	640	20°06'01"	73°16'16"	80.1	90.81	04/08/2019	2019-20	01/06/1991	-	-
37	Pattazhy	1210	09°04'22"	76°45'40"	-2	13.702	15/11/1992	2019-20	20/04/1978	25/09/1980	15/10/1978
38	Pen	125	18°44'12"	73°06'39"	7	14.73	25/07/2005	2019-20	17/09/1996	-	-
39	Perumannu	1070	11°58'51"	75°34'40"	3.47	14.89	09/08/2018	2019-20	26/06/1985	26/07/1986	02/06/1986
40	Peruvampadam	75	11°18'58"	76°11'45"	18	-	-	2019-20	26/06/2019	-	-

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						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
XII	**West Flowing Rivers From Tapi To Tadri**										
41	Pudur	1313	10°46'39"	76°30'44"	58	64.93	08/11/2009	2019-20	02/09/1985	01/10/2013	02/06/1986
42	Pulamanthole	940	10°53'53"	76°11'31"	10.4	90.145	09/08/1986	2019-20	17/02/1986	28/08/1986	02/06/1986
43	Pullakkayar	86	09°34'28"	76°53'10"	93.54	-	-	2019-20	01/06/2019	-	-
44	Ramamangalam	1208	09°56'37"	76°28'42"	0	9.8	17/08/2018	2019-20	25/04/1978	20/02/1979	15/08/1978
45	Sanoor	30	13°10'51"	74°59'40"	95	-	-	2019-20	21/06/2019	-	-
46	Santeguli	1090	14°26'04"	74°35'20"	8	18.09	13/07/2000	2019-20	09/06/1988	-	01/09/1993
47	Thumpamon	810	09°13'30"	76°42'52"	5	13.735	07/11/1978	2019-20	28/01/1978	23/03/1981	15/10/1978
48	Vandiperiyar	712	09°34'24"	77°05'26"	789	793.62	27/07/2005	2019-20	07/06/2000	-	01/10/2002
49	Yennehole	327	13°17'39"	74°58'51"	15	24.65	06/07/2009	2019-20	24/07/1989	-	01/09/1993
Source: Water Year Book (June 2019 to May 2020) West Flowing Rivers Basin.											
XIII	**West Flowing Rivers From Tadri To Kanyakumari**										
1	Arkkannur	297	08°52'21"	76°50'48"	79	-	-	2019-20	10/07/2019	-	-
2	Aruvippuram	342.22	08°25'12"	77°05'33"	88	-	-	2019-20	04/06/2016	-	-
3	Chakkalakuth	214	11°15'51"	76°14'18"	10	-	-	2019-20	20/06/2019	-	-
4	Kondazhy	947	10°43'24"	76°24'10"	25	-	-	2019-20	27/08/2019	-	-
5	Kottappuram	70	10°41'41"	76°11'59"	13.5	-	-	2019-20	01/07/2019	-	-
6	Manakkadu	275	09°54'30"	76°41'23"	32	-	-	2019-20	01/06/2019	-	-
7	Manikal	40	09°31'52"	76°54'44"	75	-	-	2019-20	17/09/2019	-	-
8	Palakadavu	745	10°25'30"	76°14'16"	0	-	-	2019-20	21/07/2019	-	-
9	Pallipady	178	10°02'22"	76°37'00"	15	-	-	2019-20	01/07/2019	-	-
10	Pulikukku	1047	12°42'36"	75°28'02"	80	-	-	2019-20	02/06/2019	06/02/2020	01/02/2020
11	Thiruvarambu	304.1	08°21'51"	77°15'32"	95	-	-	2019-20	09/08/2019	-	-
12	Thiruvattar	230.15	08°19'40"	77°16'01"	95	-	-	2019-20	14/06/2019	-	-
13	Thottathinkadavu	177	11°21'43"	76°00'07"	18	-	-	2019-20	14/06/2019	15/10/2019	01/10/2019
14	Vellaikadavu	277	08°29'53"	77°00'15"	86	-	-	2019-20	20/07/2019	-	23/05/2020
Source: Water Year Book (June 2019 to May 2020) West Flowing Rivers Basin.											

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						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
XIV	**Mahi**										
1	Chakaliya	3121	23°02'58"	74°19'14"	215	226.90	11/08/2006	2019-20	13/02/1991	-	-
2	Dhariawad	1510	24°04'43"	74°28'02"	203	209.35	11/08/2006	2019-20	01/06/1988	-	-
3	Mataji	3880	23°20'57"	74°43'31"	284	307.00	04/10/1988	2019-20	21/07/1982	21/07/1982	21/07/1982
4	Paderdibadi	16247	23°46'02"	74°08'12"	131	141.80	16/08/1986	2019-20	24/06/1978	21/07/1980	01/07/1978
5	Khanpur	32510	22°31'55"	73°08'27"	8.22	26.82	12/08/2006	2019-20	21/12/1978	01/05/1988	01/01/1979
6	Sohagpura	183	23°55'06"	74°42'01"	397	402.08	14/09/2019	2019-20	06/08/2015	-	-
7	Rangeli	8329	23°52'22"	74°13'25"	150	158.24	19/08/2006	2019-20	15/07/1978	-	01/07/1988
Source: Water Year Book (June 2019 to May 2020) Mahi, Sabarmati & Others West Flowing Rivers Basin.											
XV	**Sabarmati**										
1	Kheroj	3650	24°13'45"	73°00'26"	208	215.18	17/07/1993	2019-20	22/06/1992	-	-
2	Derol Bridge	6724	23°34'24"	72°48'25"	87	94.73	20/08/1994	2019-20	01/06/1991	25/09/1992	15/07/1992
3	Vautha	19636	22°38'59"	72°32'08"	12	20.66	10/07/2007	2019-20	24/06/2000	-	01/01/2000
4	Jotasan	1421	24°21'20"	73°10'05"	285	291.55	20/08/2006	2019-20	-	-	-
5	Ratanpur	2916	22°58'31"	72°53'02"	37	44.75	01/08/1997	2019-20	11/07/1989	-	-
6	Kheda	7550	22°44'45"	72°40'49"	19	26.825	02/07/2005	2019-20		-	-
Source: Water Year Book (June 2019 to May 2020) Mahi, Sabarmati & Others West Flowing Rivers Basin.											
XVI	**West Flowing Rivers Of Kutch, Saurashtra including Luni**										
1	Una	395.01	20°49'42"	71°02'51"	15.5	17.292	31/08/2017	2019-20	26/07/2014	-	-
2	Karoti	415	24°35'36"	72°33'48"	90	92.90	01/08/2019	2019-20	22/06/2018	-	-
3	Chhasara	965.51	23°20'35"	68°45'57"	88	92.74	09/09/2019	2019-20	-	-	-
4	Savni	960.83	20°56'45"	70°27'19"	91	93.23	07/10/2019	2019-20	-	-	-
5	Jamraval	960.83	21°55'25"	69°29'05"	95	99.11	03/10/2019	2019-20	-	-	-
6	Chitrasani	345	24°17'20"	72°29'54"	184	187.90	25/07/20117	2019-20	01/06/1990	-	15/07/1988
7	Abu road	1600	24°29'37"	72°47'30"	254.85	258.397	09/08/1992	2019-20	01/06/1990	-	01/07/1988
8	Sarotry	2200	24°22'04"	72°32'48"	186	190.99	24/07/2017	2019-20	01/06/1990	-	-
9	Kamalpur	6960	23°47'59"	71°45'00"	34	37.38	27/07/1997	2019-20	25/07/1971	25/08/1973	01/06/1977
10	Pingalwada	2400	22°06'37"	73°04'44"	2	19.05	09/09/1994	2019-20	30/06/1989	-	15/03/1990
11	Balotra	19000	25°49'19"	72°13'23"	102	107.15	06/07/1990	2019-20	05/07/1990	-	-
12	Gandhav	32010	24°59'22"	71°40'47"	31	38.88	19/07/1979	2019-20	24/06/1974	-	-
13	Sapawada	2125	23°32'54"	72°00'52"	36	39.5	28/07/2017	2019-20	31/08/1989	-	-
14	Lowara	3953	21°26'36"	71°33'42"	56	66.93	09/11/1982	2019-20	29/11/1970	25/07/1973	01/07/1977
Source: Water Year Book (June 2019 to May 2020) Mahi, Sabarmati & Others West Flowing Rivers Basin.											

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

I	Basin:Mahanadi											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Andhiarkhore	Monsoon	217	292	201	517	459	91	224	70	107	0
		Non-Monsoon	9	13	13	33	31	13	22	2	0	9
		Annual	226	305	214	550	490	104	247	73	107	9
2	Bamnidhi	Monsoon	1328	4164	2126	1785	3166	1005	1169	1047	1611	1491
		Non-Monsoon	174	165	239	305	255	280	185	238	203	257
		Annual	1502	4329	2365	2090	3421	1285	1354	1285	1814	1748
3	Baronda	Monsoon	1853	799	912	1514	1210	401	1307	387	1312	223
		Non-Monsoon	10	1	1	1	3	1	5	29	2	0
		Annual	1863	800	913	1515	1213	402	1313	416	1314	223
4	Basantpur	Monsoon	19539	22030	20306	24287	26650	6779	8370	6366	12859	13531
		Non-Monsoon	486	634	753	696	517	426	646	441	530	1242
		Annual	20025	22664	21059	24982	27167	7205	9016	6806	13389	14774
5	Ghatora	Monsoon	395	1091	889	793	911	707	673	493	561	2742
		Non-Monsoon	1	0	0	37	34	15	15	7	6	70
		Annual	396	1091	889	831	945	722	688	499	568	2812
6	Jondhra	Monsoon	9213	11410	10601	17748	15622	2887	4920	1925	3931	5388
		Non-Monsoon	0	0	53	0	114	57	246	102	100	460
		Annual	9213	11410	10654	17748	15736	2944	5166	2027	4030	5848
7	Kantamal	Monsoon	9036	6305	8210	10999	13131	6229	8451	7416	15386	11314
		Non-Monsoon	1240	319	1062	1548	1333	581	1137	1083	2041	1528
		Annual	10276	6624	9272	12547	14464	6810	9587	8499	17427	12842
8	Kesinga	Monsoon	6388	4416	5496	8834	9292	5128	4871	5852	7281	6689
		Non-Monsoon	976	268	1024	1856	1118	628	896	975	1315	1334
		Annual	7364	4684	6520	10690	10410	5756	5767	6827	8596	8023
9	Kotni	Monsoon	2346	1879	1815	4092	1931	320	2049	1401	2120	852
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	2346	1879	1815	4092	1931	320	2049	1401	2120	852
10	Kurubhata	Monsoon	1211	2867	1642	2170	1676	1776	2202	2516	1567	1880
		Non-Monsoon	53	134	46	109	55	107	105	102	74	331
		Annual	1264	3001	1688	2278	1731	1883	2307	2619	1641	2212
11	Manendragarh	Monsoon	185	445	236	227	304	79	245	155	246	347
		Non-Monsoon	1	2	4	11	11	4	7	3	0	7
		Annual	186	447	240	237	315	84	252	158	246	354

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar.

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

I	Basin:Mahanadi											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
12	Pathardih	Monsoon	1000	1311	995	1637	1328	450	1259	571	796	215
		Non-Monsoon	1	0	0	0	0	1	0	1	0	0
		Annual	1000	1311	995	1637	1328	451	1260	572	796	215
13	Rajim	Monsoon	3490	1982	1831	3572	3713	603	2262	929	4103	69
		Non-Monsoon	42	1	0	9	19	0	33	1	0	0
		Annual	3532	1983	1831	3581	3732	603	2295	930	4103	69
14	Rampur	Monsoon	764	1249	1001	1299	1359	543	666	416	994	0
		Non-Monsoon	7	14	4	19	8	14	10	8	0	0
		Annual	771	1263	1005	1318	1366	557	676	425	994	0
15	Salebhata	Monsoon	1000	2112	2876	1720	4162	829	865	544	1543	2137
		Non-Monsoon	8	28	29	54	24	22	28	22	32	101
		Annual	1008	2140	2905	1774	4186	851	894	566	1575	2238
16	Seorinarayan	Monsoon	14273	18075	16832	20838	20857	6271	6723	4454	9862	10660
		Non-Monsoon	384	415	242	450	304	362	458	268	135	568
		Annual	14657	18490	17074	21288	21161	6633	7180	4721	9997	11228
17	Simga	Monsoon	4837	5744	4419	9277	7592	2192	4630	2351	2934	1267
		Non-Monsoon	102	67	52	126	55	72	70	35	0	142
		Annual	4939	5811	4472	9403	7648	2264	4700	2386	2934	1409
18	Sundergarh	Monsoon	1809	4089	3000	2305	1962	2546	2641	2644	1894	2441
		Non-monsoon	73	124	106	147	92	90	98	98	67	363
		Annual	1882	4213	3105	2452	2053	2635	2739	2742	1961	2803
19	Tikarpara	Monsoon	33466	39915	43193	46492	63601	25090	31998	23744	47616	46482
		Non-Monsoon	5830	5311	4940	5149	4832	3846	4202	4219	4926	6965
		Annual	39296	45226	48133	51640	68433	28936	36200	27963	52542	53447
20	Boudh	Monsoon	-	-	-	-	-	-	34504	25361	45197	49377
		Non-Monsoon	-	-	-	-	-	-	3806	2996	4218	5338
		Annual	-	-	-	-	-	-	38311	28356	49415	54715
21	Kalma	Monsoon	-	-	-	-	-	-	489	11375	18670	20900
		Non-Monsoon	-	-	-	-	-	-	165	183	146	742
		Annual	-	-	-	-	-	-	653	11558	18816	21642
22	Padampur	Monsoon	-	-	-	-	-	-	574	436	929	997
		Non-Monsoon	-	-	-	-	-	-	26	2	4	0
		Annual	-	-	-	-	-	-	599	438	933	997

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

II	Basin : Subarnarekha & Bhurhabalang											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Adityapur	Monsoon	203	3140	2089	4612	2844	1593	3021	3501	2243	21
		Non-Monsoon	31	71	51	296	91	103	160	248	294	0
		Annual	234	3211	2140	4908	2935	1696	3181	3749	2537	21
2	Anandpur	Monsoon	1154	6479	2579	5762	4093	1964	2479	3004	4581	4250
		Non-Monsoon	153	329	149	278	181	179	135	570	359	704
		Annual	1307	6808	2728	6040	4274	2143	2614	3573	4940	4955
3	Champua	Monsoon	389	1567	702	1138	993	610	602	973	896	687
		Non-Monsoon	51	100	55	112	88	93	58	113	115	154
		Annual	440	1667	757	1250	1081	702	660	1086	1011	840
4	Ghatsila	Monsoon	1312	12681	6105	8302	6318	2776	4365	5648	4515	8
		Non-Monsoon	544	1194	578	711	772	714	1076	731	449	0
		Annual	1856	13876	6682	9013	7090	3491	5441	6380	4964	8
5	Govindpur	Monsoon	1687	4236	1968	6017	3434	1575	1549	4967	3468	28
		Non-Monsoon	163	128	87	724	1157	610	719	1906	966	0
		Annual	1850	4364	2055	6741	4592	2185	2269	6874	4433	28
6	Jamshedpur	Monsoon	618	8875	4285	8897	6636	4403	7308	7203	5332	32
		Non-Monsoon	176	387	343	287	497	254	734	1108	894	0
		Annual	794	9262	4628	9184	7133	4657	8042	8311	6226	32
7	Muri	Monsoon	63	664	358	340	253	250	258	1017	442	2
		Non-Monsoon	10	27	23	50	27	7	106	316	38	0
		Annual	73	691	381	390	279	257	364	1333	479	2
8	Gopiballavpur	-	-	-	-	-	-	-	2885	5255	2816	46
		-	-	-	-	-	-	-	224	817	570	0
		-	-	-	-	-	-	-	3110	6072	3386	46

Source : Mananadi & Eastern Rivers Organisation, CWC, Bhubaneswar.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

III	Basin : Brahamni & Baitarani											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Altuma	Monsoon	216	817	452	677	671	249	430	233	605	416
		Non-Monsoon	26	68	49	64	44	51	24	42	67	53
		Annual	242	885	501	741	716	299	454	275	672	469
2	Gomlai	Monsoon	2878	15449	7958	12689	10367	7711	10381	12764	9382	9860
		Non-Monsoon	168	431	312	671	287	294	132	430	500	1445
		Annual	3046	15880	8270	13360	10654	8005	10513	13194	9882	11305

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

III	Basin : Brahamni & Baitarani											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
3	Jaraikela	Monsoon	987	5042	2697	2385	1292	1281	2078	2917	1555	1884
		Non-Monsoon	96	272	113	320	153	133	126	208	155	509
		Annual	1083	5314	2810	2704	1445	1413	2204	3125	1710	2393
4	Jenapur	Monsoon	3525	18484	10523	12673	14236	9043	7299	11301	12698	9033
		Non-Monsoon	1880	3423	3507	3139	1648	1717	0	3075	1943	3540
		Annual	5405	21907	14030	15811	15883	10760	7299	14375	14641	12573
5	Panposh	Monsoon	2942	17693	9856	11008	8310	5773	7407	12380	9134	10015
		Non-Monsoon	256	501	298	700	211	338	348	448	361	2484
		Annual	3198	18194	10154	11708	8521	6111	7755	12828	9495	12498
6	Tilga	Monsoon	831	2505	1830	2117	1660	985	1417	1479	1296	1652
		Non-Monsoon	68	127	82	155	92	87	86	97	104	254
		Annual	899	2632	1913	2273	1751	1073	1503	1576	1400	1906

Source : Mananadi & Eastern Rivers Organisation, CWC, Bhubaneswar.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

IV	Basin : Godavari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Ambabal at Narangi	Monsoon	1107	478	587	809	940	523	1114	647	587	946
		Non-Monsoon	35	165	0	0	0	0	62	0	0	0
		Annual	1142	642	587	809	940	523	1176	647	587	946
2	Betmogrra at Maner	Monsoon	211	228	9	148	30	0	178	4	91	385
		Non-Monsoon	25	8	0	10	0	0	0	0	0	2
		Annual	236	236	9	158	30	0	178	4	91	386
3	Bhadrachalam at Godavari	Monsoon	103332	45598	70766	136197	47130	40924	78950	33213	63090	103312
		Non-Monsoon	4849	1908	4339	6595	2725	1592	1881	887	964	1102
		Annual	108181	47506	75105	142791	49856	42517	80830	34100	64054	104415
4	Cherribeda at Bardha	Monsoon	805	306	621	939	1457	889	1919	415	565	1079
		Non-Monsoon	37	11	15	33	33	15	12	7	8	25
		Annual	842	317	636	972	1490	903	1931	422	573	1104
5	Chindnar at Indravathi	Monsoon	11505	4640	8746	9955	10587	7519	11549	7056	7142	14172
		Non-Monsoon	582	135	257	638	340	187	143	152	100	262
		Annual	12087	4775	9003	10593	10927	7707	11691	7207	7242	14435
6	Degloor at Lendi	Monsoon	254	221	227	263	42	0	759	46	11	120
		Non-Monsoon	43	0	0	20	0	0	0	0	0	0
		Annual	297	221	227	283	42	0	759	46	11	120

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

IV	Basin : Godavari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
7	Dhalegaon at Godavari	Monsoon	408	193	0	0	0	0	694	0	0	1958
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	408	193	0	0	0	0	694	0	0	1958
8	G.R.Bridge at Godavari	Monsoon	698	498	231	717	220	0	949	341	93	1538
		Non-Monsoon	0	0	0	55	0	0	0	0	0	0
		Annual	698	498	231	773	220	0	949	341	93	1538
9	Gandlapet at Peddavagu	Monsoon	63	62	19	355	3	0	12	0	3	36
		Non-Monsoon	0	0	0	26	0	0	0	0	0	0
		Annual	63	62	19	381	3	0	12	0	3	36
10	Jagdalpur at Indravathi	Monsoon	2629	1160	2365	2691	2448	2217	2202	2235	2149	3633
		Non-Monsoon	211	49	40	78	34	0	0	0	0	132
		Annual	2841	1210	2405	2769	2482	2217	2202	2235	2149	3765
11	Kiwaibalenga at Bawardhi	Monsoon	1286	468	798	1248	341	274	552	628	647	1170
		Non-Monsoon	40	6	8	27	12	5	3	4	4	9
		Annual	1326	474	806	1275	353	279	555	632	651	1179
12	Konta at Sabari	Monsoon	14707	7442	13296	16960	15322	13155	11097	12647	18105	20228
		Non-Monsoon	4761	2274	4385	4598	4198	3533	3222	2784	2807	3711
		Annual	19468	9716	17680	21557	19520	16688	14319	15431	20913	23939
13	Kosagumda at Bhaskal	Monsoon	1232	646	889	1020	1209	815	853	1036	694	1190
		Non-Monsoon	100	16	38	63	53	28	14	13	19	24
		Annual	1332	662	927	1083	1262	843	867	1049	712	1214
14	Mancherial at Godavari	Monsoon	9100	2381	1825	6670	767	873	7855	183	2050	2561
		Non-Monsoon	667	266	398	820	250	251	226	48	22	0
		Annual	9767	2647	2224	7489	1017	1124	8081	232	2071	2561
15	Murthahandi at Journala	Monsoon	1260	781	1048	1342	1193	811	1048	1113	1287	1848
		Non-Monsoon	384	120	231	247	195	143	75	93	87	152
		Annual	1645	900	1279	1589	1388	955	1123	1206	1374	2000
16	Nowrangpur at Indravathi	Monsoon	1006	484	854	1214	1218	731	699	761	1810	1753
		Non-Monsoon	220	46	64	144	94	69	48	62	70	94
		Annual	1225	531	917	1358	1312	800	746	824	1880	1847
17	Pachegaon at Pravara	Monsoon	178	380	54	161	69	0	523	496	122	849
		Non-Monsoon	43	0	131	98	195	135	8	5	0	0
		Annual	222	380	185	259	265	135	531	502	122	849

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

IV	Basin : Godavari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
18	Pathagudem at Indravthi	Monsoon	29689	13336	25587	38360	23315	18168	10195	13343	21976	37683
		Non-Monsoon	1482	323	742	1634	1016	413	334	238	293	800
		Annual	31172	13658	26329	39994	24331	18582	10529	13581	22268	38483
19	Perur at Godavari	Monsoon	94978	50737	77426	143249	51030	41435	82394	28196	63173	94703
		Non-Monsoon	5251	1836	3164	5847	2416	1149	1425	556	619	750
		Annual	100229	52573	80590	149096	53445	42584	83820	28752	63791	95454
20	Polavaram at Godavari	Monsoon	107288	50647	82244	138191	52145	48424	81829	40342	76622	112965
		Non-Monsoon	9883	5171	9455	11682	6192	4366	4390	3349	4010	4145
		Annual	117171	55818	91698	149873	58338	52791	86219	43691	80632	117111
21	Kopergaon at Godavari	Monsoon	-	-	-	-	1150	350	1851	1832	865	4090
		Non-Monsoon	-	-	-	-	0	167	0	0	0	0
		Annual	-	-	-	-	1150	516	1851	1832	865	4090
22	Potteru (Seasonal) at Potteru vagu	Monsoon	1577	1311	1178	2000	1863	1340	1204	1890	2419	2564
		Non-Monsoon	151	69	118	251	149	87				
		Annual	1728	1380	1297	2251	2011	1427	1204	1890	2419	2564
23	Purna at Purna	Monsoon	1436	344	243	1303	116	67	659	185	245	328
		Non-Monsoon	130	12	0	17	0	0	4	24	0	0
		Annual	1565	357	243	1321	116	67	663	209	245	328
24	Saigaon at Manjera	Monsoon	2282	587	56	171	9	0	2281	221	22	3
		Non-Monsoon	102	0	0	0	0	0	0	0	0	0
		Annual	2384	587	56	171	9	0	2281	221	22	3
25	Sangam at Murredu	Monsoon	415	143	225	196	146	244	273	202	242	256
		Non-Monsoon	82	8	58	59	17	14	7	4	14	10
		Annual	496	151	283	255	163	258	279	206	256	266
26	Saradaput at Sabari	Monsoon	4374	2841	4616	5837	4508	3444	4497	3908	5959	7066
		Non-Monsoon	1174	445	962	1132	895	739	502	449	635	855
		Annual	5548	3286	5577	6970	5403	4183	4999	4358	6594	7921
27	Somanpally (Seasonal) at Maner	Monsoon	1905	306	1060	2450	290	267	967	219	784	1204
		Non-Monsoon	115	8	31	142	12	2			1	16
		Annual	2020	314	1091	2591	302	269	967	219	785	1220

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

IV	Basin : Godavari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
28	Sonarpal at	Monsoon	948	342	627	737	604	570	1071	663	401	992
	Markandi	Non-Monsoon	50	2	10	33	8	4	0	0	6	39
		Annual	998	344	637	769	612	574	1071	663	407	1030
29	Tumnar at	Monsoon	1758	685	1482	1551	783	1021	1321	1078	1443	2114
	Dantewara	Non-Monsoon	119	50	102	177	118	36	26	33	44	69
		Annual	1877	735	1585	1728	901	1058	1347	1111	1487	2182
30	Yelli at Godaavari	Monsoon	4949	1383	145	2610	82	0	4604	1186	1238	3482
		Non-Monsoon	36	0	0	5	0	0	0	0	0	0
		Annual	4985	1383	145	2615	82	0	4604	1186	1238	3482
31	Zari at Dudha	Monsoon	618	192	39	321	43	1	841	166	36	126
		Non-Monsoon	1	0	0	0	0	0	26	0	0	0
		Annual	618	192	39	321	43	1	867	166	36	126

Source : SE, Godavari Circle, Central Water Commission, Hyderabad

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

V	Basin : Krishna											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Arjunwad	Monsoon	5407	7328	4099	7809	5974	1438	7208	3929	7179	14064
	(Seasonal) at	Non-Monsoon	2	0	0	0	0	0		SEASONAL SITE		
	Krishna	Annual	5410	7328	4099	7809	5974	1438	7208	3929	7179	14064
2	Bawapuram at	Monsoon	4396	3425	1073	7847	7048	1032	356	1667	5079	7686
	Tungabhadra	Non-Monsoon	1316	196	277	38	165	126	0	16	2	164
		Annual	5713	3622	1351	7885	7213	1159	356	1683	5081	7850
3	Dameracherla at	Monsoon	815	508	73	1633	344	133	1028	665	281	707
	Musi	Non-Monsoon	829	235	64	536	360	16	64	207	66	265
		Annual	1644	743	137	2168	704	149	1093	872	347	972
4	Doddipadu at	Monsoon						68	37	208	55	72
	Hundri	Non-Monsoon	Discharge observations started from 18-11-2014				7	40	10	36	3	27
		Annual					7	108	47	244	58	99
5	Halia at Halia	Monsoon	201	100	12	409	88	59	169	36	41	239
		Non-Monsoon	222	70	14	92	75	8	11	19	27	77
		Annual	423	170	27	501	163	67	180	55	68	315
6	Huvinhedigi at	Monsoon	9280	13437	4526	11507	10293	882	7948	5907	11032	33820
	Krishna	Non-Monsoon	1246	696	625	664	587	276	195	118	168	348
		Annual	10526	14134	5151	12171	10880	1158	8143	6025	11200	34169

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

V	Basin : Krishna											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
7	Karad at Krishna	Monsoon	2634	3703	1501	3708	2309	962	2305	1358	2449	8458
		Non-Monsoon	123	39	0	7	0	44	0	0	0	0
		Annual	2757	3742	1501	3716	2309	1006	2305	1358	2449	8458
8	Keesara at Munneru	Monsoon	3532	883	1922	1921	422	906	996	765	1512	1117
		Non-Monsoon	685	182	508	372	180	3	12	17	101	126
		Annual	4218	1065	2429	2293	602	909	1009	783	1614	1243
9	Kurundwad at Krishna	Monsoon	9817	11582	8574	12350	10147	3440	10937	8640	11876	21699
		Non-Monsoon	9	0	0	0	0	0	0	0	0	0
		Annual	9826	11582	8574	12350	10147	3440	10937	8640	11876	21699
10	Madhira at Wyra	Monsoon	732	276	354	313	126	184	70	124	456	223
		Non-Monsoon	240	92	136	101	119	7	6	36	21	44
		Annual	973	369	491	414	246	191	75	161	478	267
11	Malkhed at Kagna	Monsoon	2038	629	541	899	724	88	2335	950	154	379
		Non-Monsoon	259	55	66	182	82	64	50	30	5	11
		Annual	2297	684	607	1081	806	151	2386	979	160	389
12	Mantralayam at Tungabhadra	Monsoon	5537	4006	1325	7610	6736	1273	518	1642	5480	7603
		Non-Monsoon	2137	542	628	467	745	450	1	133	150	326
		Annual	7674	4548	1953	8077	7481	1723	519	1776	5630	7929
13	Narasingpur at Bhima	Monsoon	1685	2055	65	1964	993	10	957	3102	1017	7670
		Non-Monsoon	172	0	0	0	0	53	376	167	157	0
		Annual	1857	2055	65	1964	993	63	1333	3269	1173	7670
14	Paleru Bridge at Paleru	Monsoon	Discharge observation suspended on 31-5-2007 and restarted GQ to GDSQ wef 1-3-2014.				103	34	19	43	145	156
		Non-Monsoon				22	96	1	2	34	30	55
		Annual				22	199	35	21	78	174	211
15	Phulgaon (Seasonal) at Bhima	Monsoon	359	890	470	2672	1170	255	1041	1459	902	2122
		Non-Monsoon	0	0	0	0	0	0		SEASONAL SITE		
		Annual	359	890	470	2672	1170	255	1041	1459	902	2122
16	Sadalga (Seasonal) at Dudhganga	Monsoon	2117	2864	1727	2504	1926	783	2353	1900	2636	4399
		Non-Monsoon	51	0	0	0	30	0		SEASONAL SITE		
		Annual	2167	2864	1727	2504	1956	783	2353	1900	2636	4399
17	Samdoli (Seasonal) at Varna	Monsoon	2114	3190	2105	3129	2713	948	2744	1975	3277	5728
		Non-Monsoon	0	0	0	0	0	0		SEASONAL SITE		
		Annual	2114	3190	2105	3129	2713	948	2744	1975	3277	5728

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

V	Basin : Krishna											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
18	Sarati at Nira	Monsoon	969	678	36	1170	250	0	644	618	550	2878
		Non-Monsoon	77	0	0	0	0	0	0	0	0	0
		Annual	1046	678	36	1170	250	0	644	618	550	2878
19	T Ramapuram	Monsoon	592	210	271	378	346	635	102	716	194	995
	(Seasonal) at Hagari	Non-Monsoon	180	79	113	78	175	146	0	82	21	136
		Annual	772	289	384	456	521	781	102	798	216	1131
20	Takli at Bhima	Monsoon	1470	2056	0	2022	1733	0	814	2868	626	7385
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	1470	2056	0	2022	1733	0	814	2868	626	7385
21	Terwad (Seasonal)	Monsoon	3435	4797	3931	5079	4250	1748	4984	4113	5703	9286
	at Panchganga	Non-Monsoon	0	0	0	0	14	0		SEASONAL SITE		
		Annual	3435	4797	3931	5079	4264	1748	4984	4113	5703	9286
22	Vijayawada at	Monsoon	10849	7279	1229	10849	2373	237	1439	12	1000	20336
	Krishna	Non-Monsoon	2976	27	486	413	0	0	0	0	16	0
		Annual	13825	7306	1715	11262	2373	237	1439	12	1016	20336
23	Wadakbal at Sina	Monsoon	1872	112	17	222	82	3	440	985	16	218
		Non-Monsoon	264	2	1	3	26	0	5	4	4	5
		Annual	2136	115	18	225	108	3	445	989	21	224
24	Wadenapally at											
	Krishna	Monsoon	12426	11330	984	12522	5663	511	2759	641	1384	24829
	krishna	Non-Monsoon	4693	2257	1806	3315	2055	508	875	969	594	976
		Annual	17118	13586	2790	15837	7718	1019	3634	1610	1978	25805
25	Warunji at Koyna	Monsoon	1835	2963	890	2625	1651	330	2322	1697	3077	7229
		Non-Monsoon	160	79	0	14	0	19	0	0	0	0
		Annual	1995	3042	890	2639	1651	349	2322	1697	3077	7229
26	Yadgir at Bhima	Monsoon	7156	3662	822	3954	2195	395	4143	6713	1052	10476
		Non-Monsoon	896	294	221	374	0	6	0	0	0	0
		Annual	8053	3956	1043	4328	2195	401	4143	6713	1052	10476
27	Aleru at	Monsoon	-	-	-	-	-	-	-	0	0	0
	Anantharam	Non-monsoon	-	-	-	-	-	-	-	0	0	0
		Annual	-	-	-	-	-	-	-	0	0	0

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

V	Basin : Krishna											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
28	Munneru at Daredu	Monsoon	-	-	-	-	-	-	-	16	743	2376
		Non-monsoon	-	-	-	-	-	-	-	1	12	554
		Annual	-	-	-	-	-	-	-	17	755	2930
29	Tungabhadra at Melaganur	Monsoon	-	-	-	-	-	-	-	1377	5711	6987
		Non-monsoon	-	-	-	-	-	-	-	212	205	424
		Annual	-	-	-	-	-	-	-	1589	5917	7411
30	Mula at MirawadiI	Monsoon	-	-	-	-	-	-	-	-	1358	5003
		Non-monsoon	-	-	-	-	-	-	-	-	0	0
		Annual	-	-	-	-	-	-	-	-	1358	5003
31	Yedduvagu at Munugodu	Monsoon	-	-	-	-	-	-	-	27	71	228
		Non-monsoon	-	-	-	-	-	-	-	30	20	67
		Annual	-	-	-	-	-	-	-	57	91	295
32	Yerala at Nandre	Monsoon	-	-	-	-	-	-	-	-	26	4491
		Non-monsoon	-	-	-	-	-	-	-	-	6	15
		Annual	-	-	-	-	-	-	-	-	32	4506
33	Bhima at Paragaon	Monsoon	-	-	-	-	-	-	2815	3427	2610	6181
		Non-monsoon	-	-	-	-	-	-	0	0	0	0
		Annual	-	-	-	-	-	-	2815	3427	2610	6181
34	Krishna at Targaon	Monsoon	-	-	-	-	-	-	-	-	393	2877
		Non-monsoon	-	-	-	-	-	-	-	-	0	30
		Annual	-	-	-	-	-	-	-	-	393	2907
35	Musi at Valigonda	Monsoon	-	-	-	-	-	-	-	-	-	438
		Non-monsoon	-	-	-	-	-	-	-	-	-	11
		Annual	-	-	-	-	-	-	-	-	-	449
36	Tungapadu at Veerapalem	Monsoon	-	-	-	-	-	-	-	14	49	124
		Non-monsoon	-	-	-	-	-	-	-	41	24	68
		Annual	-	-	-	-	-	-	-	55	73	192
37	Dindi at Suddakallu	Monsoon	-	-	-	-	-	-	-	33	0	12
		Non-monsoon	-	-	-	-	-	-	-	0	0	0
		Annual	-	-	-	-	-	-	-	33	0	13

Source : SE, Godavari & Krishna Circle, Central Water Commission, Hyderabad.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VI	Basin : Cauvery											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Akkihebbal at Hemavathi	Monsoon	783	896	344	1202	813	478	407	235	1712	1625
		Non-Monsoon	435	248	68	122	140	57	39	41	52	225
		Annual	1218	1144	412	1324	953	535	447	276	1764	1850
2	Bendrahalli at Suvarnathi	Monsoon	49	34	6	24	54	28	2	6	151	32
		Non-Monsoon	20	5	1	3	3	4	0	1	5	11
		Annual	70	39	7	26	57	32	2	7	156	43
3	Biligundulu at cauvery	Monsoon	4292	5647	2088	6610	5291	3807	1841	2996	10784	7194
		Non-Monsoon	1575	1162	756	738	906	554	133	503	500	820
		Annual	5867	6809	2844	7348	6197	4361	1973	3500	11284	8014
4	Chunchunkatte at Cauvery	Monsoon	1584	2073	1269	2581	2190	1338	1061	1247	4491	2650
		Non-Monsoon	151	89	10	71	148	24	27	82	56	129
		Annual	1734	2163	1279	2652	2338	1363	1088	1329	4547	2780
5	Hogenakkal at Chinnar	Monsoon	17	5	1	6	24	21	0	24	0	0
		Non-Monsoon	27	2	0	0	1	13	0	1	0	0
		Annual	44	7	1	6	25	34	0	25	0	0
6	K.M.Vadi at Lakhshmanthirtha	Monsoon	186	353	126	534	288	238	48	82	512	667
		Non-Monsoon	11	2	0	4	8	2	0	0	4	22
		Annual	197	354	126	538	295	240	48	82	516	689
7	Kollegal at Cauvery	Monsoon	3611	5080	1661	6531	5120	2916	1574	2083	12271	6986
		Non-Monsoon	946	608	371	407	512	267	155	387	303	780
		Annual	4557	5688	2032	6938	5632	3182	1730	2470	12575	7766
8	Kudige at Cauvery	Monsoon	1773	2421	1672	4144	3227	2208	1933	2850	5050	2595
		Non-Monsoon	211	163	111	162	201	170	139	227	87	144
		Annual	1984	2584	1782	4306	3428	2377	2072	3078	5137	2739
9	Gandhavayal	Monsoon	-	-	-	-	-	42	3	24	54	39
		Non-Monsoon	-	-	-	-	-	16	5	36	6	29
		Annual	-	-	-	-	-	58	8	60	60	68
10	M.H.Halli at Hemavathi	Monsoon	473	748	419	784	606	385	503	290	2224	1321
		Non-Monsoon	321	177	202	40	153	68	56	210	49	196
		Annual	794	925	621	824	760	453	559	501	2272	1517
11	Sakleshpur at Hemavathi	Monsoon	1088	1118	842	1393	1246	726	556	673	1397	1779
		Non-Monsoon	119	81	44	77	83	52	29	46	43	115
		Annual	1207	1199	886	1470	1329	778	585	719	1441	1894

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VI	Basin : Cauvery											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
12	T. Bekuppe at Arkavathi	Monsoon	143	169	83	145	115	183	126	482	212	261
		Non-Monsoon	84	81	55	78	107	100	72	87	75	84
		Annual	227	250	138	223	222	283	197	568	288	344
13	T.K.Halli at Shimsa	Monsoon	753	497	156	286	269	389	8	175	282	353
		Non-Monsoon	277	147	58	54	81	24	0	9	17	71
		Annual	1030	644	214	340	350	414	8	183	300	424
14	T.Narasipur at Kabini	Monsoon	1282	2190	909	2113	2078	1339	753	1141	6099	3130
		Non-Monsoon	392	322	200	55	181	178	0	351	349	391
		Annual	1675	2512	1109	2168	2260	1517	753	1492	6448	3520
15	Thimmanahalli at Yagachi	Monsoon	325	177	59	136	120	91	18	2	91	464
		Non-Monsoon	69	29	9	23	28	15	3	2	7	27
		Annual	394	206	68	159	148	106	21	4	98	491
16	Urachikottai at Cauvery	Monsoon	3272	6022	2523	5143	3939	3477	1530	2084	8722	4674
		Non-Monsoon	1568	1860	639	1258	1675	1275	0	918	1496	1077
		Annual	4840	7882	3163	6402	5614	4752	1530	3002	10219	5750
17	Nellithurai at Bhavani	Monsoon	1613	1716	833	1902	1249	946	40	0	911	582
		Non-Monsoon	471	602	174	233	348	265	0	0	0	48
		Annual	2085	2318	1007	2136	1597	1211	40	0	911	630
18	Thengumarahada at Moyar	Monsoon	221	191	72	233	180	153	66	128	416	359
		Non-Monsoon	113	120	78	109	130	120	68	114	82	114
		Annual	334	311	150	342	311	273	135	242	498	473
19	Savandapur at Bhavani	Monsoon	391	314	176	234	338	268	100	119	846	486
		Non-Monsoon	252	250	76	123	210	205	54	145	203	285
		Annual	643	564	252	357	548	472	154	263	1049	771
20	Nallamaranpatty at Amaravathi	Monsoon	104	122	6	39	134	23	8	21	247	18
		Non-Monsoon	184	67	0	0	16	335	0	10	16	6
		Annual	288	189	6	39	150	358	8	31	263	24
21	Kodumudi at Cauvery	Monsoon	4061	7154	2826	5212	4256	3663	1544	1913	9430	4266
		Non-Monsoon	2549	2667	871	1431	1919	1564	42	918	1329	1078
		Annual	6609	9820	3697	6644	6176	5227	1586	2831	10759	5344
22	Musiri at Cauvery	Monsoon	3884	6465	2315	4947	3522	3105	1050	1469	8558	3419
		Non-Monsoon	1871	1862	596	936	1355	1457	6	728	1168	1154
		Annual	5755	8327	2911	5883	4877	4562	1056	2196	9726	4573
23	Elunuthimangalam at Noyyal	Monsoon	104	106	5	18	98	274	0	41	65	66
		Non-Monsoon	95	72	3	14	117	196	0	15	28	48
		Annual	200	178	8	32	214	470	0	56	93	114

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VI	Basin : Cauvery											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
24	Sevanur at Chittar	Monsoon	3	4	0	4	5	5	0	0	5	9
		Non-Monsoon	3	2	0	2	2	2	0	0	2	3
		Annual	6	7	0	6	7	7	0	0	7	12
25	Thevur at Sarabenga	Monsoon	24	11	0	6	6	6	0	0	8	15
		Non-Monsoon	5	5	0	3	4	4	0	0	6	5
		Annual	29	16	0	9	10	10	0	0	15	19
26	Thoppur at Thoppaiyar	Monsoon	1	2	0	0	0	0	0	0	0	0
		Non-Monsoon	6	0	0	0	0	4	0	0	0	0
		Annual	7	2	0	0	0	4	0	0	0	0
27	Kudlur at Palar	Monsoon	99	12	6	3	31	8	1	33	27	23
		Non-Monsoon	45	6	0	0	4	3	2	7	2	4
		Annual	144	18	6	3	35	12	3	39	29	27
28	Annavasal at Nattar	Monsoon	8	22	4	8	9	7	0	1	9	17
		Non-Monsoon	12	10	0	1	7	9	0	0	2	6
		Annual	20	31	4	10	16	16	0	1	11	23
29	Peralam at Vanjiyar	Monsoon	6	12	3	8	7	5	0	1	6	8
		Non-Monsoon	6	3	0	1	2	4	0	1	2	2
		Annual	12	14	4	9	9	9	0	3	8	10
30	Menangudi at Noolar	Monsoon	35	75	20	31	40	19	0	4	5	23
		Non-Monsoon	18	15	0	9	13	16	0	4	0	10
		Annual	53	91	20	41	53	34	0	9	5	33
31	Porakudi at Arasalar	Monsoon	45	71	31	17	33	34	0	18	32	29
		Non-Monsoon	54	38	0	1	11	43	0	19	4	20
		Annual	99	109	31	18	44	77	0	37	36	50
32	Thengudi at Thirumalairajanar	Monsoon	85	95	34	36	48	58	2	21	53	63
		Non-Monsoon	71	41	4	22	27	58	4	16	14	47
		Annual	156	136	38	58	75	117	6	36	67	109
33	Gopurajapuram at Puravidaiyanar	Monsoon	33	42	21	9	33	27	0	8	20	34
		Non-Monsoon	39	17	0	6	4	25	0	16	3	13
		Annual	72	59	21	15	37	52	0	25	23	47
34	Nallathur at Nandalar	Monsoon	37	78	29	17	71	47	4	26	30	48
		Non-Monsoon	47	16	0	8	12	50	8	12	7	29
		Annual	84	94	29	25	84	97	12	39	37	77

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VI	Basin : Cauvery											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
35	Muthankera at Kabini	Monsoon	1650	2414	1288	2998	2851	1646	1180	1505	4697	2879
		Non-Monsoon	189	97	66	142	183	124	73	129	100	166
		Annual	1838	2512	1354	3141	3034	1769	1253	1634	4798	3045
36	Noyyal at Alandurai	-	-	-	-	-	-	-	-	-	3	86
		-	-	-	-	-	-	-	-	-	3	16
		-	-	-	-	-	-	-	-	-	6	103
37	Varadhamanadhi at Balasamudram	-	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-	-	0	0
38	Siruvani at Kottathara	-	-	-	-	-	-	-	-	-	0	154
		-	-	-	-	-	-	-	-	-	3	44
		-	-	-	-	-	-	-	-	-	3	198
39	Kukkalhalla at Kukkathurai	-	-	-	-	-	-	-	-	-	2	11
		-	-	-	-	-	-	-	-	-	2	6
		-	-	-	-	-	-	-	-	-	4	17
40	Kodaganar at Lakshmananpatty	-	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-	-	0	0
41	Odandhurai	-	-	-	-	-	-	-	-	-		72
		-	-	-	-	-	-	-	-	-	0	36
		-	-	-	-	-	-	-	-	-	0	108
42	Ayyar at Thandalaiputhur	-	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-	-	0	0
43	Marudaiyar at Varanavasi	-	-	-	-	-	-	-	-	-		12
		-	-	-	-	-	-	-	-	-	0	4
		-	-	-	-	-	-	-	-	-	0	16
44	Yagachi at Belur	-	-	-	-	-	-	-	-	-	0	189
		-	-	-	-	-	-	-	-	-	1	2
		-	-	-	-	-	-	-	-	-	1	191
45	Hemavathi at Bettadamane	-	-	-	-	-	-	-	-	-	17	1064
		-	-	-	-	-	-	-	-	-	24	51
		-	-	-	-	-	-	-	-	-	41	1115
46	Kanva at Chikkamalur	-	-	-	-	-	-	-	-	-	0	2
		-	-	-	-	-	-	-	-	-	0	0
		-	-	-	-	-	-	-	-	-	0	2

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VI	Basin : Cauvery											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
47	Hebahalla at Chikkarasinakere	-	-	-	-	-	-	-	-	-	18	230
		-	-	-	-	-	-	-	-	-	31	47
		-	-	-	-	-	-	-	-	-	49	277
48	Hommaragalli	-	-	-	-	-	-	-	-	-	-	2514
		-	-	-	-	-	-	-	-	-	-	376
		-	-	-	-	-	-	-	-	-	-	2889
49	Votehole at Jannapura	-	-	-	-	-	-	-	-	-	3	98
		-	-	-	-	-	-	-	-	-	4	16
		-	-	-	-	-	-	-	-	-	7	115
50	Arkavathi at Kokkedoddy	-	-	-	-	-	-	-	-	-	15	229
		-	-	-	-	-	-	-	-	-	19	33
		-	-	-	-	-	-	-	-	-	34	262
51	Harangi at Mukkodlu	-	-	-	-	-	-	-	-	-	10	331
		-	-	-	-	-	-	-	-	-	17	30
		-	-	-	-	-	-	-	-	-	27	361
52	Napoklu at Tal Cauvery	-	-	-	-	-	-	-	-	-	13	1071
		-	-	-	-	-	-	-	-	-	24	41
		-	-	-	-	-	-	-	-	-	37	1112
53	Uduthorehalla at Pudunagara	-	-	-	-	-	-	-	-	-	0	2
		-	-	-	-	-	-	-	-	-	1	1
		-	-	-	-	-	-	-	-	-	1	3
54	Shimsha at Thoreshettihalli	-	-	-	-	-	-	-	-	-	5	66
		-	-	-	-	-	-	-	-	-	2	12
		-	-	-	-	-	-	-	-	-	7	78

Source : Cauvery Basin, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore. , (Serial no. 36 to 54:- new sites)

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VII	Basin : Pennar											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Nellore at Pennar	Monsoon	863	226	36	22	1	1015	0	0	0	593
		Non-monsoon	658	91	34	6	8	668	0	0	0	0
		Annual	1521	317	70	29	9	1683	0	0	0	593
2	Nandipalli at Sagileru	Monsoon	144	51	13	98	1	17	1	15	1	6
		Non-monsoon	115	39	10	6	0	0	3	1	0	0
		Annual	259	90	23	105	1	18	4	16	1	6

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VII	Basin : Pennar											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
3	Chennur at Pennar	Monsoon	3254	2034	554	2833	2597	466	1991	2925	2946	6971
		Non-monsoon	1146	414	98	569	136	29	400	646	100	812
		Annual	4400	2448	652	3401	2734	496	2391	3570	3045	7783
4	Kamalapuram at Papagni	Monsoon	11	29	0	128	0	55	7	92	0	18
		Non-monsoon	0	0	0	0	0	12	0	0	0	0
		Annual	11	29	0	128	0	67	7	92	0	18
5	Alladupalli at Kunderu	Monsoon	2310	1622	496	2387	2724	262	2085	2665	2461	5088
		Non-monsoon	821	379	143	797	155	17	402	497	94	718
		Annual	3131	2001	639	3184	2879	279	2487	3162	2554	5807
6	Tadapatri at Pennar	Monsoon	1	1	2	2	0	0	0	8	0	6
		Non-monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	1	1	2	2	0	0	0	8	0	6
7	Nagalamadike at Pennar	Monsoon	0	0	0	6	0	0	0	5	0	0
		Non-monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	0	0	0	6	0	0	0	5	0	0
8	Singavaram at Chitravathi	Monsoon	0	0	0	0	0	0	0	0	38	33
		Non-monsoon	21	0	0	0	0	0	0	16	9	0
		Annual	21	0	0	0	0	0	0	16	47	33

Source : East Flowing Rivers from Mahanadi to Kanyakumari, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

VIII	Basin : East Flowing Rivers from Mahanadi to Pennar											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Purushottam-pur	Monsoon	2457	986	1437	4923	2643	1595	1405	2137	2253	2605
		Non-Monsoon	354	36	62	177	88	93	118	401	278	381
		Annual	2811	1022	1500	5100	2731	1688	1523	2539	2531	2985
2	Gunupur	Monsoon	2080	1537	1934	2635	2889	970	701	1776	1769	2349
		Non-Monsoon	299	119	134	333	248	77	132	236	296	603
		Annual	2379	1656	2068	2968	3137	1047	834	2012	2065	2952
3	Kashinagar	Monsoon	2767	1797	2116	3446	4911	1265	1116	2311	2599	2244
		Non-Monsoon	372	157	152	404	368	173	202	458	465	568
		Annual	3139	1954	2268	3849	5279	1438	1318	2768	3064	2812
4	Srikakulam	Monsoon	4841	1511	2365	3169	3731	1111	1552	1445	1515	1886
		Non-Monsoon	1067	213	230	366	339	121	176	398	260	355
		Annual	5908	1724	2595	3535	4070	1232	1728	1843	1775	2241
5	Anakapalli	Monsoon	1268	833	1268	657	371	504	753	475	26	584
		Non-Monsoon	436	39	183	86	36	58	71	136	0	89
		Annual	1704	872	1451	743	407	563	825	611	26	673

Source : East Flowing Rivers from Mahanadi to Kanyakumari, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

IX	Basin : East Flowing Rivers from Pennar to Kanyakumari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Naidupeta at Swarnamukhi	Monsoon	199	61	47	30	3	628	0	41	0	8
		Non-monsoon	142	56	154	19	21	226	2	29	0	64
		Annual	341	117	202	50	24	854	2	70	0	72
2	Sulurpet at Kalingi	Monsoon	70	89	32	12	14	375	0	72	5	10
		Non-monsoon	23	52	103	0	4	175	1	0	0	22
		Annual	93	141	135	12	18	550	1	72	5	32
3	Chengalpet at Palar	Monsoon	38	46	7	5	2	729	6	102	4	18
		Non-monsoon	138	49	7	1	0	1216	75	69	1	59
		Annual	176	96	14	7	2	1945	81	171	5	77
4	Magaral at Cheyyar	Monsoon	0	7	1	0	0	148	0	0	0	0
		Non-monsoon	54	9	1	0	0	350	0	22	0	0
		Annual	54	17	2	0	0	497	0	22	0	0
5	Arcot at Palar	Monsoon	1	0	0	0	0	76	9	151	0	4
		Non-monsoon	5	0	0	0	0	92	0	35	0	5
		Annual	6	0	0	0	0	168	9	186	0	9
6	Kumarapalayam at Varahanadi	Monsoon	100	41	14	0	0	83	0	0	0	0
		Non-monsoon	238	101	0	0	0	295	0	4	0	18
		Annual	338	142	14	0	0	377	0	4	0	18
7	Villupuram at Ponnaiyar	Monsoon	139	39	21	0	0	101	0	111	0	0
		Non-monsoon	255	79	0	0	0	465	0	105	0	0
		Annual	394	119	21	0	0	566	0	216	0	0
8	Vazhavachanur at Ponnaiyar	Monsoon	147	40	25	6	2	58	2	192	6	4
		Non-monsoon	244	167	30	4	23	215	9	227	25	34
		Annual	391	208	55	10	25	273	12	419	30	38
9	Gummanur at Ponnaiyar	Monsoon	142	163	62	220	225	346	160	451	269	227
		Non-monsoon	63	54	37	46	113	144	109	227	116	52
		Annual	205	218	99	266	338	490	269	677	385	279
10	Kudalaiyathur at Vellar	Monsoon	377	232	22	2	3	146	0	2	3	1
		Non-monsoon	665	213	0	0	0	373	0	43	0	79
		Annual	1042	445	22	3	3	519	0	45	3	80
11	Avarankuppam at Palar	Monsoon	7	9	1	0	0	5	0	222	0	0
		Non-Monsoon	4	1	0	0	0	2	0	11	0	0
		Annual	11	9	1	0	0	7	0	233	0	0
12	Theni at Suruliyar	Monsoon	359	510	137	436	396	333	46	195	773	481
		Non-Monsoon	216	220	20	59	257	353	50	164	100	169
		Annual	576	731	158	495	652	686	96	358	873	649

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

IX	Basin : East Flowing Rivers from Pennar to Kanyakumari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
13	Murappanadu at Tambraparani	Monsoon	156	204	52	233	254	297	117	139	277	166
		Non-Monsoon	190	155	121	166	371	718	34	262	151	427
		Annual	346	359	173	399	625	1015	152	402	428	593
14	A.P.Puram at Chittar	Monsoon	0	2	0	0	1	28	0	0	1	0
		Non-Monsoon	0	1	0	2	3	16	0	0	0	9
		Annual	0	3	0	2	4	44	0	0	1	10
15	Paramakudi at Vaigai	Monsoon	20	11	0	0	11	0	0	0	31	19
		Non-Monsoon	46	15	0	0	5	71	0	0	0	2
		Annual Flow	66	26	0	0	15	71	0	0	31	21
16	Irrukkankudi at Vaippar	Monsoon	4	1	0	0	0	0	1	0	0	0
		Non-Monsoon	12	5	0	0	0	36	0	0	0	0
		Annual	17	6	0	0	0	36	1	0	0	0
17	Ambasamudram at Vaigai	Monsoon	29	71	6	1	26	33	0	0	14	60
		Non-Monsoon	35	29	0	2	14	54	0	12	1	33
		Annual	64	100	6	3	40	87	0	12	15	93

Source : East Flowing Rivers from Mahanadi to Kanyakumari, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

X	Basin : Narmada											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Orsang at Chandawada	Monsoon	793	1087	1411	584	694	314.22	420.5282	909	294	
		Non-Monsoon	15	17	28	16	13	0.00	9.9446	82	496	
		Annual	808	1104	1439	601	708	314.22	542	76	252	
2	Narmda at Garudeswar	Monsoon	6594	6594	20423	44917	7246	5548.96	11893	715	209	
		Non-Monsoon	1701	1701	2080	4212	1691	563.70	914.01	451	231	
		Annual	8295	8295	22503	49129	8937	6112.66	15989	1168	699	
4	Goi at Pati	Monsoon	624	415	257	584	327	190.36	237.74			
		Non-Monsoon	60	0	0	16	13	43.83	31.16			site closed
		Annual	684	415	258	601	339	234.19	303			
5	Uri at Dhulsar	Monsoon	129	602	160	316	179	85.23	137			
		Non-Monsoon	1	1	0	3	0	0	0			
		Annual	130	603	160	319	179	85.23	177			
6	Narmada at Rajghat	Monsoon	-	-	-	-	0	site closed				
		Non-Monsoon	-	-	-	-	0	w.e.f.				site closed.
		Annual	-	-	-	-	0	01.07.2007				

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

X	Basin : Narmada											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
7	Narmada AT Mandleswar	Monsoon	14423	33194	32516	51905	11947	12129.52	22652	6367	7379	41761
		Non-Monsoon	14038	-	12985	13137	12853	8596.71	10886	2849	9138	7789
		Annual	28461	44849	45501	65042	24799	20726.23	33675	9587	16567	48061
8	Kundi at Kogaon	Monsoon	1463	1039	608	1407	1434	656.72	571	675	1137	1602
		Non-Monsoon	78	0	5	24	34	5.26	127	55	72	181
		Annual	1531	1040	613	1431	1468	661.98	695	730	782	1585
9	Chhota Tawa at Ginnore	Monsoon	site closed w.e.f. 01.04.1999									
		Non-Monsoon										
		Annual										
10	Narmada at Motakka	Monsoon	-	-	-	-	-	Discharge	20935	-	-	-
		Non-Monsoon	-	-	-	-	-	started on	3550	-	-	-
		Annual	-	-	-	-	-	23.08.99 and	274	-	-	-
11	Narmada at Handia	Monsoon	12765	23945	23291	39445	10053	9548.15	23962	4430	11480	401118
		Non-Monsoon	41153	4428	3197	4554	4491	3612.81	3550	1549	2289	3872
		Annual	16918	28373	26488	43999	14544	13160.96	2275	6400	13788	44353
12	Ganjal at Chhidgaon	Monsoon	717	921	2129	2448	725	436.8	2260	335	324	2397
		Non-Monsoon	49	26	43	50	85	108	32	0	0	5
		Annual	766	947	2172	2498	810	544.8	19522	6400	289	2417
13	Narmada at Hoshangabad	Monsoon	9387	21516	18095	34505	8726	6260.8	15118	4217	6353	29174
		Non-Monsoon	3483	3754	2983	4039	3572	2754.34	4373	7130	2222	6439
		Annual	12870	25270	21078	38544	12298	9015.14	19522	5797	8636	35613
14	Narmada at Sandia	Monsoon	6538	19006	10877	24760	7130	4286.27	5784	2818	8352	196
		Non-Monsoon	2575	3348	2713	3891	3731	1927.67	2606	613	1700	2899
		Annual	9113	22354	13590	28651	10861	6213.94	15069	3465	101	22468
15	Shakkar at Gadarwara	Monsoon	1275	1257	2116	2833	1002	1040.82	2427	2327	294	1857
		Non-Monsoon	43	25	25	107	44	12.12	39	31	231	0
		Annual	1318	1282	2140	2941	1046	1052.94	2542	812	252	1863
16	Narmada at Barmanghat	Monsoon	5725	14990	7809	19072	5839	2386.57	9498	1089	6899	16296
		Non-Monsoon	2064	2846	2494	3256	2923	1835.58	218	793	1209	2537
		Annual	7789	17836	10302	22327	8762	4222.15	11690	2934	8223	18777
17	Sher at Belkheri	Monsoon	595	659	634	1236	511	310.1	779	330	1797	1290
		Non-Monsoon	11	6	14	49	16	9.37	16	0	0	2
		Annual	605	666	648	1285	527	319.47	809	334	1768	1296

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

X	Basin : Narmada											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
18	Hiran at Patan	Monsoon	1656	2785	1260	3421	818	515.85	1568	350	1275	1641
		Non-Monsoon	89	132	159	153	114	96.77	160	2	0	147
		Annual	1746	2898	1419	3574	932	612.62	1745	326	1389	1787
19	Banjar at Bamni	Monsoon	460	707	476	1260	743	481.4	821	339	684	1695
		Non-Monsoon	17	38	56	116	112	35.91	68	11	0	117
		Annual	477	745	532	1376	856	517.31	889	352	674	1801
20	Burhner at Mohgaon	Monsoon	1952	3242	2020	2944	1957	1310.85	2389	1285	1629	3440
		Non-Monsoon	62	142	106	216	169	87.4	122	59	56	236
		Annual	2014	3385	2126	3161	2126	1398.25	2506	1339	1767	3618
21	Narmada at Manot	Monsoon	1918	3711	2012	2580	2422	1285.98	1709	1056	1626	3482
		Non-Monsoon	106	166	165	294	288	123.2	149	59	137	356
		Annual	2023	3877	2177	2874	2710	1409.18	2075	1339	1774	3830
22	Narmada at Dindori	Monsoon	717	1592	1013	1527	1286	573	1125	558	796	1319
		Non-Monsoon	49	120	71	145	131	13.01	76	83	66	212
		Annual	766	1711	1083	1673	1417	586.01	1212	636	862	1532

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP).

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XI	Basin : Tapi											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gidhade	Monsoon	5909	4562	8061	10886	367	2650.19	3882	1029	3192	19513
		Non-Monsoon	0	0	0	0	0	0.00	0	11	0	2062
		Annual	5909	4562	8061	10886	367	2650.19	3882	1040	3192	21575
2	Dedtalai	Monsoon	NA	NA	NA	NA	3227.93	2639.33	2826	1269	1744	6380
		Non-Monsoon	NA	NA	NA	NA	83.46	4.28	0	0	0	26
		Annual	NA	NA	NA	NA	3311.38	2643.61	2826	1269	1744	6406
3	Purna at Gopalkheda	Monsoon	1369	600	1351	2313	88	928.37	865	97	307	798
		Non-Monsoon	31	0	8	61	2	0.00	4	4	0	0
		Annual	1400	601	1359	2374	90	928.37	868	101	307	798
4	Purna at Yerli	Monsoon	2374	854	1823	3755	131	1720.36	1646	140	514	1779
		Non-Monsoon	53	1	8	66	3	0.00	2	2	0	138
		Annual	2426	855	1832	3822	134	1720.36	1648	141	514	1916

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XI	Basin : Tapi											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
5	Sarangkheda	Monsoon	7001	6202	8298	12353	293	3256.60	5362	2520	1728	15480
		Non-Monsoon	0	0	0	0	0	0.00	0	0	0	3483
		Annual	7001	6202	8298	12353	293	3256.60	5362	2520	1728	18963
6	Tapi at Burhanpur	Monsoon	3874	5003	7949	8728	387	4099.36	4315	1845	1728	7292
		Non-Monsoon	109	36	84	198	4	0.00	83	7	16	336
		Annual	3983	5039	8033	8925	391	4099.36	4398	1852	1744	7628
7	Pingalwada	Monsoon	618.11	327.88	204.89	531.23	679.77	97.04	164	341	246	1106
		Non-Monsoon	80.53	13.17	88.03	96.96	115.22	105.60	78	160	171	116
		Annual	698.64	341.04	292.93	628.20	794.99	202.63	241	500	417	1222
8	Motinaroli	Monsoon	260.16	351.69	65.89	1229.24	526.25	285.69	107	248	217	690
		Non-Monsoon	47.07	29.75	21.02	90.59	109.99	133.67	106	51	26	102
		Annual	307.23	381.44	86.91	1319.84	636.24	419.36	213	299	243	792
9	Gadat	Monsoon	1199	1299	635	2152	1161	453	1416	1415	1979	2890
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	1199	1299	635	2152	1161	453	1416	1415	1979	2890
10	Durvesh	Monsoon	3507	3634	2459	3710	2970	1089	1866	3542	4152	5909
		Non-Monsoon	322	67	7	35	0	1	0	11	8	0
		Annual	3829	3701	2466	3745	2970	1089	1867	3553	4160	5909
11	Ozerkheda	Monsoon	767	1459	1289	1002	927	552	963	1441	1321	1775
		Non-Monsoon	75	7	39	24	185	147	4	20	0	0
		Annual	842	1466	1328	1026	1112	700	967	1461	1321	1775
12	Nanipalson	Monsoon	837	1074	748	1380	969	517	1114	1468	1065	2064
		Non-Monsoon	43	8	10	37	9	8	11	11	1	39
		Annual	880	1081	758	1417	978	526	1125	1479	1066	2103
13	Mahua	Monsoon	883	840	495	1522	512	246	906	736	811	1728
		Non-Monsoon	42	18	30	25	0	0	0	0	0	7
		Annual	926	858	525	1547	512	246	907	736	811	1735

Source: SE, Tapi Division, CWC, Gandhi Nagar.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XII	Basin : West Flowing Rivers from Tapi to Tadri											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Santeguli at Aghanashini	Monsoon	2609	3291	2436	3627	3219	1542	1653	1728	3062	3620
		Non-monsoon	89	73	65	78	87	55	56	72	64	100
		Annual	2698	3364	2501	3706	3306	1596	1709	1800	3126	3720
2	SANOOR	Monsoon	-	-	-	-	-	-	-	-	-	133
		Non-Monsoon	-	-	-	-	-	-	-	-	-	5
		Annual	-	-	-	-	-	-	-	-	-	138
3	KALATHUKADAVU	Monsoon	-	-	-	-	-	-	-	-	-	64
		Non-Monsoon	-	-	-	-	-	-	-	-	-	15
		Annual	-	-	-	-	-	-	-	-	-	80
4	MADAMON	Monsoon	-	-	-	-	-	-	-	-	-	1159
		Non-Monsoon	-	-	-	-	-	-	-	-	-	21
		Annual	-	-	-	-	-	-	-	-	-	1180
5	NELLIPALLI	Monsoon	-	-	-	-	-	-	-	-	-	402
		Non-Monsoon	-	-	-	-	-	-	-	-	-	98
		Annual	-	-	-	-	-	-	-	-	-	501
6	PERUVAMPADAM	Monsoon	-	-	-	-	-	-	-	-	-	237
		Non-Monsoon	-	-	-	-	-	-	-	-	-	3
		Annual	-	-	-	-	-	-	-	-	-	240
7	PULLAKKAYAR	Monsoon	-	-	-	-	-	-	-	-	-	51
		Non-Monsoon	-	-	-	-	-	-	-	-	-	8
		Annual	-	-	-	-	-	-	-	-	-	59

Source : West Flowing Rivers from Kanyakumari to Tapi, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore. (Serial no.2 to 7:- new sites)

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XIII	Basin : West Flowing Rivers from Tadri to Kanyakumari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Addoor at Gurpur	Monsoon	2667	2710	1879	2520	2024	1615	1604	1797	2478	2267
		Non-monsoon	6	15	0	0	0	0	0	0	0	0
		Annual	2672	2725	1879	2520	2024	1615	1604	1797	2478	2267
2	Avershe at Sita	Monsoon	1329	1454	1090	1228	1151	851	889	1037	1406	1411
		Non-monsoon	34	13	10	19	21	21	8	14	9	32
		Annual	1364	1468	1099	1248	1172	872	897	1051	1415	1443
3	Bantwal at Netravathi	Monsoon	11660	11930	9245	13006	10716	6799	7423	7472	12077	10644
		Non-monsoon	306	221	42	165	152	271	0	0	0	0
		Annual	11966	12152	9287	13171	10868	7070	7423	7472	12077	10644

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XIII	Basin : West Flowing Rivers from Tadri to Kanyakumari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
4	Haladi at Haladi	Monsoon	1535	1953	1599	1791	1643	1134	1101	1283	1848	1793
		Non-monsoon	423	549	548	517	491	436	303	340	571	521
		Annual	1958	2502	2148	2308	2134	1570	1404	1623	2419	2314
5	Yennehole at Yennehole	Monsoon	1393	1698	1173	1739	1496	1207	1247	1214	1992	1536
		Non-monsoon	44	21	18	15	22	28	7	23	10	51
		Annual	1437	1719	1191	1754	1518	1235	1254	1237	2002	1587
6	Arangaly at Chalakudy	Monsoon	1499	2016	925	2589	1997	1356	925	1308	4153	1937
		Non-monsoon	115	21	7	57	159	154	48	44	6	69
		Annual	1614	2037	932	2646	2155	1509	973	1352	4159	2005
7	Ashramam at Pazhayar	Monsoon	99	71	14	30	71	146	25	43	190	150
		Non-monsoon	69	27	0	22	36	1	0	109	0	19
		Annual	167	98	14	52	108	147	25	152	190	169
8	Ayilam at Vamanapuram	Monsoon	896	409	38	435	523	425	221	334	650	331
		Non-monsoon	119	98	0	44	57	82	0	87	15	10
		Annual	1014	506	38	479	579	507	221	421	664	341
9	Erinjipuzha at Payaswani	Monsoon	2259	2695	1633	1633	2524	1704	1457	1654	3063	2207
		Non-monsoon	93	87	61	61	95	61	37	69	35	90
		Annual	2353	2782	1694	1694	2619	1765	1494	1723	3098	2297
10	Kalampur at Kaliyar	Monsoon	1147	1044	713	1488	1404	858	758	971	1877	912
		Non-monsoon	20	12	6	46	64	92	0	65	22	13
		Annual	1167	1056	719	1534	1468	951	758	1036	1899	925
11	Kallooppara at Manimala	Monsoon	1953	1608	841	2115	2032	1296	754	1523	2394	1577
		Non-monsoon	183	176	20	153	238	219	19	201	0	0
		Annual	2136	1784	861	2268	2271	1516	773	1724	2394	1577
12	Karathodu at Kadalundi	Monsoon	1226	1418	619	1653	1838	808	449	975	2330	1684
		Non-monsoon	56	19	0	18	16	7	0	14	0	15
		Annual	1282	1437	619	1671	1854	815	449	990	2330	1699
13	Kidangoor at Meenachil	Monsoon	1788	1613	1021	2207	2023	1060	628	1552	2199	1712
		Non-monsoon	214	102	25	141	232	132	88	236	32	36
		Annual	2003	1715	1045	2348	2255	1192	716	1788	2231	1748
14	Kumbidi at Bharathapuzha	Monsoon	4642	5503	2198	5821	6009	2665	1544	2904	8242	4597
		Non-monsoon	453	239	47	187	331	183	20	175	28	24
		Annual	5094	5741	2245	6008	6340	2848	1564	3079	8270	4621

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XIII	Basin : West Flowing Rivers from Tadri to Kanyakumari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
15	Kuniyil at Chaliyar	Monsoon	3755	5016	2819	5743	4616	2542	1545	3123	6221	4826
		Non-monsoon	115	89	0	70	0	0	0	0	0	89
		Annual	3870	5105	2819	5814	4616	2542	1545	3123	6221	4915
16	Kuttyadi at Kuttyadi	Monsoon	954	1281	827	1706	1426	878	674	908	1803	1176
		Non-monsoon	114	109	70	102	131	78	34	85	46	112
		Annual	1068	1390	897	1807	1557	956	708	993	1849	1288
17	Kuzhithurai at Thambraparni	Monsoon	118	4	0	0	33	318	72	80	368	196
		Non-monsoon	164	0	0	0	119	107	0	90	16	34
		Annual	283	4	0	0	152	425	72	170	385	230
18	Malakkara at Pamba	Monsoon	4128	3288	1715	4253	3630	2460	1727	2916	4157	2624
		Non-monsoon	450	304	7	297	408	461	81	546	36	196
		Annual	4578	3593	1722	4550	4039	2921	1808	3461	4193	2821
19	Mankara at Bharathapuzha	Monsoon	522	899	233	780	884	348	154	241	1772	1002
		Non-monsoon	121	68	19	41	145	92	18	35	32	70
		Annual	643	967	252	821	1029	440	171	276	1804	1071
20	Neeleswaram	Monsoon	5961	5976	3758	8520	6705	4465	3357	4592	11824	5426
		Non-monsoon	1548	1513	201	871	1327	578	402	1012	650	756
		Annual	7509	7489	3960	9391	8033	5043	3759	5604	12475	6182
21	Pattazhy at Kallada	Monsoon	1782	982	464	1272	1243	691	934	1021	2545	1359
		Non-monsoon	691	442	100	467	449	377	105	707	234	440
		Annual	2473	1425	564	1739	1692	1068	1039	1729	2780	1800
22	Perumannu at Valapatnam	Monsoon	3092	3958	2829	5268	4542	2416	2349	2791	5977	4943
		Non-monsoon	155	116	66	106	113	50	56	49	44	119
		Annual	3248	4074	2894	5374	4655	2466	2405	2840	6021	5062
23	Pudur at Kannadipuzha	Monsoon	246	311	102	305	390	157	66	119	777	297
		Non-monsoon	83	43	4	16	77	50	0	13	23	29
		Annual	328	354	106	321	467	206	66	132	799	325
24	Pulamanthole at Pulanthodu	Monsoon	2022	2150	869	2030	1956	873	662	1376	3502	2256
		Non-monsoon	151	88	37	46	95	65	13	102	21	62
		Annual	2174	2237	906	2077	2051	938	675	1478	3523	2318
25	Ramamangalam at Muvattupuzha	Monsoon	4137	4199	2743	5316	4213	2914	2079	2813	4972	3453
		Non-monsoon	1609	1427	436	1327	1228	1094	563	1213	934	606
		Annual	5745	5627	3178	6643	5441	4008	2642	4026	5905	4059

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XIII	Basin : West Flowing Rivers from Tadri to Kanyakumari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
26	Thumpamon at Achankovil	Monsoon	1238	880	400	1225	1158	704	390	968	2166	1023
		Non-monsoon	162	95	5	165	110	104	9	149	24	63
		Annual	1400	975	406	1390	1269	809	399	1116	2190	1086
27	Vandiperiyar at Periyar	Monsoon	127	144	62	190	135	106	49	104	422	99
		Non-monsoon	12	12	2	10	10	26	0	14	3	3
		Annual	138	156	64	200	145	131	49	118	424	102
28	ADAKASTHALA	Monsoon	-	-	-	-	-	-	-	-	-	479
		Non-monsoon	-	-	-	-	-	-	-	-	-	11
		Annual	-	-	-	-	-	-	-	-	-	490
29	PULIKUKKU	Monsoon	-	-	-	-	-	-	-	-	-	2709
		Non-monsoon	-	-	-	-	-	-	-	-	-	89
		Annual	-	-	-	-	-	-	-	-	-	2798
30	ARKKANNUR	Monsoon	-	-	-	-	-	-	-	-	-	134
		Non-Monsoon	-	-	-	-	-	-	-	-	-	53
		Annual	-	-	-	-	-	-	-	-	-	187
31	ARUVIPPURAM	Monsoon	-	-	-	-	-	-	-	-	-	284
		Non-Monsoon	-	-	-	-	-	-	-	-	-	77
		Annual	-	-	-	-	-	-	-	-	-	360
32	CHAKKALAKUTH	Monsoon	-	-	-	-	-	-	-	-	-	796
		Non-Monsoon	-	-	-	-	-	-	-	-	-	10
		Annual	-	-	-	-	-	-	-	-	-	806
33	KONDAZHY	Monsoon	-	-	-	-	-	-	-	-	-	907
		Non-Monsoon	-	-	-	-	-	-	-	-	-	0
		Annual	-	-	-	-	-	-	-	-	-	907
34	KOTTAPPURAM	Monsoon	-	-	-	-	-	-	-	-	-	21
		Non-Monsoon	-	-	-	-	-	-	-	-	-	0
		Annual	-	-	-	-	-	-	-	-	-	21
35	MANAKKADU	Monsoon	-	-	-	-	-	-	-	-	-	523
		Non-Monsoon	-	-	-	-	-	-	-	-	-	597
		Annual	-	-	-	-	-	-	-	-	-	1120
36	MANIKAL	Monsoon	-	-	-	-	-	-	-	-	-	25
		Non-Monsoon	-	-	-	-	-	-	-	-	-	2
		Annual	-	-	-	-	-	-	-	-	-	27

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XIII	Basin : West Flowing Rivers from Tadri to Kanyakumari											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
37	PALAKADAVU	Monsoon	-	-	-	-	-	-	-	-	-	955
		Non-Monsoon	-	-	-	-	-	-	-	-	-	0
		Annual	-	-	-	-	-	-	-	-	-	955
38	PALLIPADY	Monsoon	-	-	-	-	-	-	-	-	-	758
		Non-Monsoon	-	-	-	-	-	-	-	-	-	19
		Annual	-	-	-	-	-	-	-	-	-	777
39	POOKKAYAM	Monsoon	-	-	-	-	-	-	-	-	-	423
		Non-Monsoon	-	-	-	-	-	-	-	-	-	40
		Annual	-	-	-	-	-	-	-	-	-	463
40	THIRUVARAMBU	Monsoon	-	-	-	-	-	-	-	-	-	50
		Non-Monsoon	-	-	-	-	-	-	-	-	-	16
		Annual	-	-	-	-	-	-	-	-	-	66
41	THIRUVATTAR	Monsoon	-	-	-	-	-	-	-	-	-	84
		Non-Monsoon	-	-	-	-	-	-	-	-	-	18
		Annual	-	-	-	-	-	-	-	-	-	103
42	THOTTATHINKADAVU	Monsoon	-	-	-	-	-	-	-	-	-	1120
		Non-Monsoon	-	-	-	-	-	-	-	-	-	29
		Annual	-	-	-	-	-	-	-	-	-	1149
43	VELLAIKADAVU	Monsoon	-	-	-	-	-	-	-	-	-	180
		Non-Monsoon	-	-	-	-	-	-	-	-	-	37
		Annual	-	-	-	-	-	-	-	-	-	218

Source : West Flowing Rivers from Kanyakumari to Tapi, SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore, (Serial no. 28 to 43:- New Sites)

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XIV	Basin : Mahi											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Chakaliya at Anas	Monsoon	454	614	1228	1260	704	583	4.12	3.6	1.4	6.0
		Non-Monsoon	3	2	0	153	52	14	0.04	0.0	0.0	0.0
		Annual	458	616	1228	1413	756	597	4.16	3.6	1.4	6.0
2	Dhariawad at Jakham	Monsoon	98	911	539	774	37	335	1.52	1.11	0.51	3.76
		Non-Monsoon	15	26	24	40	22	24	0.12	0.09	0.09	0.09
		Annual	114	937	562	814	59	359	1.64	1.19	0.60	3.85
3	Khanpur at Mahi	Monsoon	926	4787	6813	8225	1825	2404	20.50	11.98	2.39	40.11
		Non-Monsoon	152	228	226	562	379	289	1.02	0.79	0.84	1.83
		Annual	1078	5014	7039	8787	2204	2692	21.52	12.77	3.23	41.95

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Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XIV	Basin : Mahi											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
4	Mataji at Mahi	Monsoon	606	2999	2218	3337	661	1570	9.97	3.47	1.51	12.69
		Non-Monsoon	17	3	12	150	43	0	0.05	0.02	0.01	0.19
		Annual	623	3001	2230	3488	704	1570	10.02	3.49	1.52	12.88
5	Paderdibadi at Mahi	Monsoon	364	3458	2811	2729	1206	1484	15.02	8.21	5.25	17.11
		Non-Monsoon	42	319	138	274	153	194	0.86	1.06	9.34	1.41
		Annual	407	3777	2949	3003	1360	1678	15.88	9.27	14.59	18.52
6	Sapawada at Rupen	Monsoon	80	29	0	77	4	153	0.00	0.34	0.00	0.24
		Non-Monsoon	0	0	0	1	0	0	0.00	0.04	0.00	0.05
		Annual	81	29	0	78	4	153	0.00	0.38	0.00	0.29
7	Rangeli at Som	Monsoon	146	1138	889	1792	644	560	3.07	2.06	1.75	7.09
		Non-Monsoon	70	160	64	168	110	110	0.48	0.27	0.33	0.72
		Annual	217	1299	952	1960	754	671	3.55	2.33	2.08	7.82
8	Una	Monsoon	-	-	-	-	29	48	0.17	0.00	0.63	0.44
		Non-Monsoon	-	-	-	-	0	0	0.02	0.00	0.00	0.03
		Annual	-	-	-	-	29	48	0.19	0.00	0.63	0.47

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XV	Basin : Sabarmati											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Derol Bridge at Sabarmati	Monsoon	32	326	50	61	38	547	1.76	5.74	0.11	0.15
		Non-Monsoon	0	0	0	0	0	1	0.01	0.30	0.00	0.03
		Annual	32	326	50	61	38	549	1.77	6.04	0.11	0.18
2	Kheroj at Sabarmati	Monsoon	424	599	234	143	166	1138	3.11	3.56	0.35	2.33
		Non-Monsoon	38	37	3	8	0	0	0.18	0.00	0.00	0.19
		Annual	462	636	237	151	166	1138	3.28	3.56	0.35	2.52
3	Voutha at Sabarmati	Monsoon	933	2346	1620	2897	1363	1781	4.69	5.59	1.47	7.09
		Non-Monsoon	334	732	274	754	468	365	1.14	1.22	1.35	2.08
		Annual	1267	3078	1894	3651	1831	2146	5.84	6.82	2.82	9.17
4	Kotra (Jotasan) at Wakal	Monsoon	178	211	108	136	187	251	2.26	1.52	0.23	0.85
		Non-Monsoon	7	10	13	33	3	0	0.16	0.09	0.00	0.08
		Annual	185	220	121	169	190	251	2.42	1.61	0.23	0.93
5	Gadvel (Ratanpur) at Watrak	Monsoon	146	329	149	263	81	107	1.13	0.47	0.14	1.37
		Non-Monsoon	0	0	5	15	3	4	0.01	0.01	0.00	0.15
		Annual	146	329	155	277	85	111	1.13	0.48	0.14	1.52
6	Kheda at Watrak	Monsoon	150	356	230	343	131	109	0.84	0.99	0.06	0.80
		Non-Monsoon	0	1	0	2	0	3	0.01	0.03	0.00	0.11
		Annual	150	357	230	345	131	112	0.85	1.02	0.06	0.91

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar.

Table 5 : Sitewise Monsoon, Non-Monsoon & Annual flow of water from 2010-2011 to 2019-2020

XVI	Basin : WFR of Kutch, Saurashtra Including Luni											Unit:MCM
S. No.	Site Name	Season	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Chitrasani at Balaram	Monsoon	26	123	17	29	9	120	0.05	0.74	0.00	0.10
		Non-Monsoon	0	0	1	0	0	0	0.00	0.00	0.00	0.01
		Annual	26	123	18	29	9	120	0.05	0.74	0.00	0.11
2	Abu Road at Banas	Monsoon	42	252	147	60	9	43	0.20	1.11	0.02	0.28
		Non-Monsoon	0	4	2	1	0	0	0.00	0.00	0.00	0.01
		Annual	42	257	149	61	9	43	0.20	1.11	0.02	0.29
3	Kamalpur at Banas	Monsoon	76	96	111	102	88	257	0.22	2.49	0.00	0.11
		Non-Monsoon	2	0	7	3	6	0	0.00	0.00	0.00	0.00
		Annual	78	96	117	104	94	257	0.22	2.49	0.00	0.11
4	Sarotry at Banas	Monsoon	72	513	248	108	57	374	0.58	2.80	0.06	0.64
		Non-Monsoon	0	10	5	6	0	0	0.00	0.02	0.00	0.02
		Annual	72	523	253	115	57	374	0.59	2.82	0.06	0.66
5	Ganod at Bhadar	Monsoon	703	615	0	1078	0	381	1.00	0.40	0.17	3.31
		Non-Monsoon	0	16	0	11	0	0	0.00	0.04	0.00	0.08
		Annual	703	632	0	1089	0	381	1.00	0.44	0.17	3.39
6	Balotra at Luni	Monsoon	0	0	0	0	0	51	1.11	0.74	0.00	0.38
		Non-Monsoon	0	0	0	0	0	0	0.00	0.00	0.00	0.00
		Annual	0	0	0	0	0	51	1.11	0.74	0.00	0.38
7	Gandhav at Luni	Monsoon	0	0	0	0	0	249	3.58	1.65	0.00	0.07
		Non-Monsoon	0	0	0	0	0	0	0.00	0.00	0.00	0.00
		Annual	0	0	0	0	0	249	3.58	1.65	0.00	0.07
8	Gungan at Machhu	Monsoon	573	634	0	118	14	42	0.01	3.53	0.00	2.72
		Non-Monsoon	0	0	0	1	0	0	0.00	0.00	0.00	0.11
		Annual	573	634	0	119	14	42	0.01	3.53	0.00	2.83
9	Lowara at Shetrunji	Monsoon	564	504	54	423	127	439	0.57	4.63	0.00	0.49
		Non-Monsoon	8	1	0	3	0	1	0.01	0.00	0.00	0.02
		Annual	572	506	54	426	127	440	0.58	4.63	0.00	0.52

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(5)	(4)	(8)	(7)	(13)
I	Basin : Mahanadi											Unit : MCM
1	Manendragarh	420.44	12/07/1990	2329	411	01/05/2015	0	2329	12/07/1990	0	01/06/2019	2019-20
2	Bamnidhi	228.883	22/08/1975	12700	224.240005	12/05/2016	1.589	12700	22/08/1975	1.589	12/05/2016	2019-20
3	Sundargarh	222.6	23/06/1996	6341	214	10/05/2003	0	6341	23/06/1996	0	10/05/2003	2019-20
4	Rampur	229.655	29/08/2003	10958.38	219	26/03/1979	0	10958.38	29/08/2003	0	26/03/1979	2019-20
5	Salebhata	139.58	29/08/2003	7916	130	20/04/2016	0	7916	29/08/2003	0	20/04/2016	2019-20
6	Baronda	289.33	18/09/1980	6250	283	31/01/2016	0	6250	18/09/1980	0	01/06/2012	2019-20
7	Andhiyar khore	258.93	09/08/1979	694.64	252	13/06/2019	0	694.64	09/08/1979	0	13/06/2019	2019-20
8	Pathardihi	279.63	01/07/2007	908.99	272.024994	11/03/2019	0	908.99	01/07/2007	0	11/03/2019	2019-20
9	Kotni	279.61	12/07/1994	5269	268	30/05/2012	0	5269	12/07/1994	0	30/05/2012	2019-20
10	Simga	257.59	13/07/1994	10821	245.539993	02/05/2016	0	10821	13/07/1994	0	02/05/2016	2019-20
11	Jondhra	230.57	14/07/1994	12700	219.399994	04/03/2009	0	12700	14/07/1994	0	04/03/2009	2019-20
12	Ghatora	253.5	21/07/1994	2872	222.35	26/04/2020	0	2872	21/07/1994	0	26/04/2020	2019-20
13	Kesinga	178.5	04/07/2006	21192	167.729996	22/05/2009	18.16	21192	04/07/2006	18.16	22/05/2009	2019-20
14	Kantamal	132.699997	19/09/2008	20000	101.82	15/05/1973	0.100	20000	19/09/2008	0.100	15/05/1973	2019-20
15	Rajim	282.68	30/08/1994	8017	275	27/03/2015	0	8017	30/08/1994	0	01/06/2019	2019-20
16	Seorinarayan	224.31	30/08/2003	22800	211.675003	10/06/1997	0.407	22800	30/08/2003	0.407	10/06/1997	2019-20
17	Kurubhata	220.279999	18/07/1995	2200	215	17/05/2018	0	2200	18/07/1995	0	17/05/2018	2019-20
18	Basantpur	219.32	20/09/1980	26874	207.470001	12/04/2017	0.082	26874	20/09/1980	0.082	12/04/2017	2019-20
19	Tikarpara	74.5699997	10/09/2011	30400	53.36	24/05/1973	107.7	30400	10/09/2011	107.7	24/05/1973	2019-20
20	Gunderdehi	296.630005	08/09/2014	570.3	292.48999	06/02/2015	0	570.3	08/09/2014	0	06/02/2015	2019-20
21	Boudh	88.3000031	14/08/2019	31202	79.4599991	05/06/2015	0.000	31202	14/08/2019	0.000	05/06/2015	2019-20
22	Padampur	178.715	27/08/2018	2289.88	171.789993	26/05/2020	0	2289.88	27/08/2018	0	26/05/2020	2019-20
23	Kalma	200.990005	29/08/2018	16709	193.399994	23/02/2019	0	16709	29/08/2018	0	23/02/2019	2019-20

Source : Water Year Book (June 2019 to May 2020 Mahanadi Basin.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
II	**Basin : Subernarekha**											**Unit : MCM**
1	Govindapur	8.9	31/10/1999	1725	0.24	28/03/2019	6.73	1725	31/10/1999	6.73	28/03/2019	2019-20
2	Adityapur	137.56	20/08/1975	6415.8	124.1	23/07/2019	1.876	6415.8	20/08/1975	1.876	23/07/2019	2019-20
3	Muri	237.5	24/09/2006	428.2	233.16	30/03/2018	2.6	428.2	24/09/2006	2.6	30/03/2018	2019-20
4	Jamshedpur	126.255	03/09/1973	7673.89	114.45	31/05/1999	2.68	7673.89	03/09/1973	2.68	31/05/1999	2019-20
5	Ghatsila	85.05	17/08/1974	9579.59	74	04/06/1976	1.032	9579.59	17/08/1974	1.032	04/06/1976	2019-20
6	Jamsholaghat	51.72	24/09/2011	3750	43.68	13/06/2011	0	3750	24/09/2011	0	13/06/2011	2019-20
7	Fekoghat	50.00	06/07/2007	650.4	41.10	19/06/2014	1.268	650.4	06/07/2007	1.268	19/06/2014	2019-20
8	Rajghat	14.42	07/09/2016	3432	6.3	20/04/2020	23.56	3432	07/09/2016	23.56	20/04/2020	2019-20
9	Gopiballavpur	68.4	27/07/2017	2091.75	62.53	18/05/2019	15	2091.75	27/07/2017	15	18/05/2019	2019-20

Source: Water Year Book (June 2019 to May 2020) Baitarani, Subernarekha & Burhabalang Basin.

III	**Basin : Brahamani & Baitarani**											**Unit : MCM**
1	Champua	378.95	23/09/2011	1705	370.72	07/05/2016	0.083	1705	23/09/2011	0.083	07/05/2016	2019-20
2	Anandapur	68.14	18/06/2008	6328	32.13	15-05-80	0.996	6328	18/06/2008	0.996	15/05/980	2019-20
3	Altuma	50.15	21/07/2009	892.68	45.27	27/06/2019	1.06	892.68	21/07/2009	1.06	27/06/2019	2019-20
4	Panposh	181.44	24/09/2011	10947	170.7	09/03/2018	8.285	10947	24/09/2011	8.285	09/03/2018	2019-20
5	Gomlai	147.27	20/08/2007	10795	138.28	05/05/2016	6.83	10795	20/08/2007	6.83	05/05/2016	2019-20
6	Jenapur	23.73	26/09/2011	10372.06	16.79	03/04/1993	20.99	10372.06	26/09/2011	20.99	03/04/1993	2019-20
7	Jaraikela	194.01	06/08/1997	12539	185.865	05/04/1977	1.71	12539	06/08/1997	1.71	05/04/1977	2019-20
8	Tilga	378.625	28/08/1987	2830	373.42	17/05/1993	0	2830	28/08/1987	0	17/05/1993	2019-20
9	Purunagarh	192.23	14/07/2019	17.31	191.66	23/04/2020	0	17.31	14/07/2019	0	23/04/2020	2019-20
10	Bolani	163.5	19/08/2019	4767	159.73	07/06/2019	9.343	4767	19/08/2019	9.343	07/06/2019	2019-20
11	Bonaigarh	138.715	20/08/2019	5603	132.85	06/11/2019	9.735	5603	20/08/2019	9.735	06/11/2019	2019-20

Source: Water Year Book (June 2019 to May 2020) Brahmani Basin

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
IV	**Godavari**											**Unit : MCM**
1	Somanpally (seasonal)	127.344	24/07/1989	3360	118.34	11/06/1967	0.068	3360	24/07/1989	0.068	11/06/1967	2019-20
2	Keolari	440.5	21/07/1994	5500	425.82	23/03/2019	0	5500	21/07/1994	0	23/03/2019	2019-20
3	Kumhari	304.335	18/08/2002	16747	290.08	28/05/2017	0.255	16747	18/08/2002	0.255	28/05/2017	2019-20
4	Nowrangpur	560.636	29/07/1969	2164	550.03	18/04/2016	1.249	2164	29/07/1969	0	18/04/2016	2019-20
5	Kosagumda	555.87	06/08/2010	1692	547.79	23/04/2016	0	1692	06/08/2010	0	25/03/2015	2019-20
6	Rajegaon	284.26	23/07/2014	9682	0	15/07/1986	0	9682	23/07/2014	0	15/07/1986	2019-20
7	Murthahandi	545.09	06/08/2010	1882	533.75	13/06/2016	0	1882	06/08/2010	0	13/06/2016	2019-20
8	Jagdalpur	544.551	15/08/1986	3109	533.44	26/03/1999	0.265	3109	15/08/1986	0	26/03/1999	2019-20
9	Kopergaon gauge ,Rainfal,W/L	495.6	03/08/2016	5362	485.5	21/01/2015	0	5362	03/08/2016	0	21/01/2015	2019-20
10	Ramakona	349.5	30/07/1991	3560	336.70	30/05/2013	0.067	3560	30/07/1991	0.067	30/05/2013	2019-20
11	Sonarpal	542.57	04/07/2006	1509	534.21	16/03/2002	0	1509	04/07/2006	0	16/03/2002	2019-20
12	Pachegaon (Terminal site on River Pravara)	481.45	12/10/1990	1234	475.5	25/01/2007	0	1234	12/10/1990	0	25/01/2007	2019-20
13	Satrapur	277.61	06/09/1994	14161	263.59	26/04/2019	0	14161	06/09/1994	0	26/04/2019	2019-20
14	Ambabal	542.45	05/07/2006	2243	534.54	23/05/2002	0	2243	05/07/2006	0	23/05/2002	2019-20
15	Kiwaibalenga	571.79	06/08/2010	1408	563.80	18/02/2012	0	1408	06/08/2010	0	18/02/2012	2019-20
16	Cherribeda	573.9	04/07/2006	2485	565.07	20/051997	0	2485	04/07/2006	0	20/051997	2019-20
17	Dhalegaon	399.855	13/08/2006	7652	386.575	25/01/2015	0	7652	13/08/2006	0	25/01/2015	2019-20
18	Ashti	155.1	13/07/1994	27874	138.16	14/06/1983	1.08	27874	13/07/1994	1.08	14/06/1983	2019-20
19	Chindnar	340.1	05/07/2006	13351	327.69	13/05/1976	9.758	13351	05/07/2006	9.758	13/05/1976	2019-20
20	G.r.bridge	378.37	14/08/2006	6222	364.5	13/06/2007	0	6222	14/08/2006	0	13/06/2007	2019-20
21	Hivra	246.31	07/09/1994	6862	0	21/04/2004	0	6862	07/09/1994	0	21/04/2004	2019-20
22	Tumnar	325.977	14/06/2004	3584	317.08	14/052019	0.071	3584	14/06/2004	0.071	14/052019	2019-20
23	Nandgaon	212.55	13/07/1994	3205	0	09/05/1989	0	3205	13/07/1994	0	09/05/1989	2019-20
24	Zari	385.71	27/07/2005	2471	373	17/01/2015	0	2471	27/07/2005	0	17/01/2015	2019-20

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Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
IV	**Godavari**											**Unit : MCM**
25	Pathagudem	103.5	05/08/2006	35392	86.13	15/05/1994	1.963	35392	05/08/2006	1.963	15/05/1994	2019-20
26	Perur	87.42	15/08/1986	62889	68.49	13/06/1966	14.2	62889	15/08/1986	14.2	13/06/1966	2019-20
27	Purna (Terminal Site on River Purna)	371.80	27/07/2005	10811	358.02	25/01/2010	0	10811	27/07/2005	0	25/01/2010	2019-20
28	Nanded	349.675	26/09/2016	3709	340.95	01/06/2017	0	3709	26/09/2016	0	01/06/2017	2019-20
29	P.G. Bridge	217.92	07/08/2006	13881	197.22	10/06/1965	0	13881	07/08/2006	0	10/06/1965	2019-20
30	Yelli	354.2	07/08/2006	12535	334.3	21/01/2015	0	12535	07/08/2006	0	21/01/2015	2019-20
31	Bhadrachalam	50.14	08/08/2010	51444	32.77	02/05/2010	0.346	51444	21/08/2006	40300	02/05/2010	2019-20
32	Bamni (balharsha)	176.32	15/08/1986	21400	158.01	17/05/1989	1.9	21400	15/08/1986	1.9	17/05/1989	2019-20
33	Saigaon	554.253	07/10/1983	3395	542.773	19/12/2008	0	3395	07/10/1983	0	19/12/2008	2019-20
34	Sakmur/sirpur	161.95	08/08/2006	14335	145.49	30/05/2005	0	14335	08/08/2006	0	30/05/2005	2019-20
35	Salebardi	233.52	15/09/2005	3017	0	15/03/1990	0	3017	15/09/2005	0	15/03/1990	2019-20
36	Sangam	58.25	21/09/2015	970.6	51.00	25/02/2015	0	970.6	21/092015	0	25/02/2015	2019-20
37	Degloor	363.85	24/08/2000	2732.23	352	10/01/2016	0	2732.23	24/08/2000	0	10/01/2016	2019-20
38	Wairagarh	215.905	07/08/2007	2732	210.32	04/04/1998	0	2732	07/08/2007	0	04/04/1998	2019-20
39	Betmogrra	362.24	02/10/2016	3814	247.5	25/01/2015	0	3814	02/10/2016	0	25/01/2015	2019-20
40	Potteru (seasonal)	131.99	04/08/2006	3331	121.48	02/06/1997	0.013	3331	04/08/2006	0.013	35583	2019-20
41	Rajoli	239.615	14/08/1986	1830	0	08/03/2004	0	1830	14/08/1986	0	08/03/2004	2019-20
42	Konta	49.91	17/08/1986	20187	30.70	15/05/1967	23.81	20187	17/08/1986	23.81	15/05/1967	2019-20
43	Bhatpalli	168.5	02/10/1988	3750	158.45	19/05/1996	0.75	3750	02/10/1988	0.75	19/05/1996	2019-20
44	Saradaput	239.53	04/08/2006	6480	224.67	25/05/1975	6.164	6480	04/08/2006	6.164	25/05/1975	2019-20
45	Tekra	112.40	09/09/1994	35750	96.00	26/06/2005	1.095	35750	09/09/1994	1.095	26/06/2005	2019-20
46	Gandlapet (Terminal Site on River Peddavagu)	317.9	30/08/1990	1656	-	-	-	1656	30/08/1990	-	-	2019-20
47	Mancherial	137.386	20/10/1995	31820	124.7866	01/04/2010	0	31820	20/10/1995	0	01/04/2010	2019-20

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Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
IV	**Godavari**											**Unit : MCM**
48	Kanergaon	473.22	24/07/2013	1398	465.12	11/11/2014	0	1398	24/07/2013	0	11/11/2014	2019-20
49	Mangrul	289.89	19/07/2000	1039	181.40	31/05/1996	0.075	1039	19/07/2000	0.075	31/05/1996	2019-20
50	Polavaram	28.02	16/08/1986	87250	12.21	01/06/1973	77.53	87250	16/08/1986	77.53	01/06/1973	2019-20
51	Pratapur	525.64	23/08/2018	177.1	-	-	-	177.1	23/08/2018	-	-	2019-20
52	Ankushapur	100.26	12/08/2018	288.1	-	-	-	288.1	12/08/2018	-	-	
53	Kunturla	861.32	20/072018	326.7	857.45	20/04/2016	1.613	326.7	20/072018	1.613	20/04/2016	
54	Garmillapalli	101.68	12/08/2018	193.9	-	-	-	193.9	12/08/20118	-	-	
55	Valamuru	6.06	20/08/2018	466.9	1.93	10/06/2018	0.392					
56	Allamvari	97.24	21/08/2018	634	92.69	16/04/2019	0.296					

Source : Water Year Book (June 2019 to May 2020) Godavari Basin.

V	**Krishna**											**Unit : MCM**
1	Shimoga	567.91	02/08/2014	2834	557.06	31/01/2007	0	2834	02/08/2014	0	31/01/2017	2019-20
2	Karad	563.922	24/08/1997	5954	549.842	18/04/2000	0	5954	24/08/1997	0	18/04/2000	2019-20
3	Honnali	546.4	16/07/1994	6950	87.38	29/03/1986	3.9	6950	16/07/1994	0	20/06/1970	2019-20
4	Haralahalli	518.109	18/11/1992	7357	0	17/04/2017	0	7357	18/11/1992	0	01/01/2017	2019-20
5	Huvinhedigi	357.84	02/10/2009	13909	341.968	13/05/1979	0.78	13909	02/10/2009	0.78	13/05/1979	2019-20
6	Samdoli (seasonal)	546.324	05/08/2005	3064	529.334	31/01/1969	0	3064	05/08/2005	0	31/07/1969	2019-20
7	Marol	517.451	09/08/2007	1540.21	0	06/05/1969	0	1540.21	09/08/2007	0	01/03/1975	2019-20
8	Arjunwad (seasonal)	540.995	27/08/1997	4780	524.635	25/01/1997	0	4780	27/08/1997	0	25/01/1997	2019-20
9	Kurundwad	539.75	06/08/2005	10092	520.505	12/01/1973	0	8819	13/08/2006	0	112/01/1973	2019-20
10	Byladahalli	537.7	17/11/1992	928.1	0	02/01/2018	0	928.1	17/11/1992	0	02/01/2018	2019-20
11	Holehonnur	561.985	03/08/2013	1242	89.268	06/01/2007	1.21	1242	03/08/2013	1.21	06/01/2007	2019-20
12	Terwad (seasonal)	540.39	06/08/2005	3340	522.145	25/01/1990	0	3340	06/08/2005	0	25/01/1990	2019-20
13	Hoovinahole	95.82	06/09/2008	75.85	0	26/01/2004	0	75.85	06/09/2008	0	01/06/2003	2019-20
14	Malkhed	400.65	24/09/2016	2611.2	392.15	01/06/1996	0.109	2611.2	24/09/2016	0.109	01/06/1996	2019-20
15	Sadalga (seasonal)	538.89	06/08/2005	2200	526.03	26/01/1972	0	1978	13/08/2006	0	26/01/1972	2019-20
16	Kellodu	650.57	01/07/2017	299	0	01/04/1992	0	300.8	13/11/2010	0	07/06/2016	2019-20

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Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
V	**Krishna**											**Unit : MCM**
17	Yadgir	361.873	07/09/1969	10255	350.048	21/04/1973	0	10255	07/09/1969	0	21/04/1973	2019-20
18	Gokak falls	546.40	23/09/2005	3245	538.41	22/04/1977	0	3245	23/09/2055	0	22/04/1977	2019-20
19	Kuppelur	541.84	08/08/2007	776.31	94.157	02/05/1993	0	776.31	08/08/2007	0	02/05/1993	2019-20
20	Cholachguda	536.61	02/10/2009	2752	523.12	30/10/2016	0	2752	02/10/2009	0	30/10/2006	2019-20
21	Narasingpur	462.383	10/08/2006	8862.99	448.213	19/04/1979	0	8862.99	10/08/2006	0	19/04/1979	2019-20
22	Takli	423.653	12/08/2006	7671.66	411.048	25/05/1968	0.6	7671.66	12/08/2006	0.6	25/05/1968	2019-20
23	T. Ramapuram	354.318	19/09/2007	1809	349.508	19/07/2014	0	1923	14/10/1971	0	19/07/2014	2019-20
24	Wadakbal	428.538	29/09/1989	2746	418.383	26/01/1992	0	2746	29/09/1989	0	24/04/1979	2019-20
25	Mantralayam	318.77	02/10/2009	18843.08	305.5	06/04/2018	0	18843.08	02/10/2009	0	01/06/2018	2019-20
26	Bawapuram	281.585	02/10/2009	19985.75	270.125	23/04/2013	0	19985.75	02/10/2009	0	14/05/2004	2019-20
27	Wadenapally	42.484	05/10/2009	31802.85	23.174	23/01/2016	0	31802.85	05/10/2009	0	23/01/2016	2019-20
28	Dameracherla	62.5	05/10/2009	4299.75	54.5	15/08/2009	0	4299.75	05/10/2009	0	15/08/2009	2019-20
29	Talikot	501.20	11/09/2015	182.5	50.10	31/03/1997	0	182.5	01/09/2015	0	31/03/1997	2019-20
30	Keesara	36.81	20/05/1969	7000	27.785	24/03/1973	0	7000	20/05/1969	0	24/03/1973	2019-20
31	Madhira	50.82	21/09/2005	2309.07	44.25	28/04/2012	0	2309.07	21/09/2005	0	28/04/2012	2019-20
32	Paleru bridge	78.447	24/07/1989	1564	71.147	08/03/2003	0	1564	24/07/1989	0	08/03/2003	2019-20
33	Phulgaon	543.95	05/08/2014	1101	82.37	31/01/1995	0	1101	05/08/2014	0	31/01/1995	2019-20
34	Halia	133.507	22/09/1991	2647	127.97	20/01/2004	0	2647	22/09/1991	0	20/01/2004	2019-20
35	Doddipadu	289.443	13/10/2017	1012	286.593	30/03/2019	0	1012	13/10/2017	0	30/03/2019	2019-20
36	Sarati	476.089	02/08/1976	2757.1	468.108	07/11/2009	0	2757.1	02/08/1976	0	01/06/2009	2019-20
37	Suddakallu	98.4	15/10/2017	38.17	-	-	-	38.17	15/10/2017	-	-	2019-20
38	Paragaon	93.57	06/08/2016	3267	87.87	14/04/2019	0	3267	06/08/2016	133024	14/04/2019	2019-20
39	Mudhol	538.10	20/08/2018	509.2	522.98	03/03/2002	0	509.2	20/08/2008	0	03/03/2002	2019-20
40	Veerlapalem	47.83	20/08/2018	38.99	-	09/06/2018	0	38.99	20/08/2018	0	09/06/2018	2019-20
41	Munugodu	27.63	20/08/2018	68.93	-	06/03/2019	0	13374	18/09/2019	0	06/03/2019	2019-20
42	Anantharam	-	09/02/2019	0	-	27/06/2018	0	0	09/02/2019	0	27/06/20018	2019-20
43	Vijayawada	18.947	16/10/1998	25082	8.592	02/04/1996	9.194	25082	16/10/1998	9.194	02/04/1996	2019-20

Source : Water Year Book (June 2019 to May 2020) Krishna Basin.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
VI	**Cauvery**											**Unit : MCM**
1	Kudlur	438.56	19/04/2001	50.56	0	25/06/2003	0	50.56	19/04/2001	0	25/06/2003	2019-20
2	Muthankera	712.74	22/06/1992	1584	707.13	04/04/1975	1.1	1584	22/06/1992	1.1	04/04/1975	2019-20
3	Napoklu	861.27	30/03/2019	0.543	861.27	30/03/2019	0.543	0.543	30/03/2019	0.543	30/03/2019	2019-20
4	Thoreshettahalli	622.83	23/11/2018	3.946	622.06	17/12/2018	0	3.946	23/11/2018	0	17/12/2018	2019-20
5	Hommaragalli	-	-	34000	663.8	01/09/2019	0	34000	-	0	01/09/2019	2019-20
6	Mukkodlu	884.77	02/11/2018	4.519	884.4	28/03/2019	0.254	4.519	02/11/2018	0.254	28/03/2019	2019-20
7	Kokkedoddy	370.45	24/11/2018	12.24	369.815	15/04/2019	0.578	12.24	24/11/2018	0.578	15/04/2019	2019-20
8	Chikkarasinakere	611.21	24/11/2018	11	610.51	05/05/2019	0.215	11	24/11/2018	0.215	05/058/2019	2019-20
9	Pudunagara	586.98	24/11/2018	0.487	587.87	01/11/2018	0	0.487	24/11/2018	0	01/11/2018	2019-20
10	Chikkamalur	654.130	09/11/2018	0.057	654.2	01/11/2018	0	0.057	09/11/2018	0	01/11/2018	2019-20
11	Thengumarahada	341.65	16/07/2009	510.1	338.23	18/04/1983	0	510.1	16/07/2009	0	18/04/1983	2019-20
12	Sevanur	172.38	13/10/2009	58.4	0	01/06/2000	0	58.4	13/10/2009	0	01/06/2000	2019-20
13	Thevur	173.2	27/10/2010	167.83	0	01/06/2000	0	167.83	27/10/2010	0	01/06/2000	2019-20
14	Urachikottai	165.83	06/07/1980	4664	157.8	01/06/1986	0	4664	06/07/1980	0	01/06/1986	2019-20
15	Nellithurai	308.25	23/07/1989	1348	301	30/01/1981	0.7	1348	23/07/1989	0.7	30/01/1981	2019-20
16	Sakleshpur	892.97	16/07/2009	717.9	0	01/05/2004	0	717.9	16/07/2009	0	01/05/2004	2019-20
17	Kodumudi	128.01	18/08/2018	6808	121.54	03/06/1986	2.9	6808	18/08/2018	2.9	03/06/1986	2019-20
18	Elunuthimangalam	132.05	24/10/1999	175.3	0	01/06/1999	0	175.3	24/10/1999	0	01/06/1999	2019-20
19	Kudige	818.92	28/07/1991	1717	810.82	29/03/2016	0.264	1717	28/07/1991	0.264	29/03/2016	2019-20
20	M.H. Halli	846.477	28/07/1991	2172	838.16	01/02/2019	0	2172	28/07/1991	0	01/02/2019	2019-20
21	Musiri	85.825	07/07/1980	4383	0	01/05/2004	0	4383	07/07/1980	0	01/05/2004	2019-20
22	Nallamaranpatty	134.85	19/11/1979	3487	0	21/06/1978	0	3487	19/11/1979	0	21/06/1978	2019-20
23	Chunchunkatte	759.02	18/08/2018	2722	751.74	01/06/2009	0	2722	18/08/2018	0	01/06/2009	2019-20
24	K.M. Vadi	772.19	04/07/1980	242.1	766.02	01/06/1987	0	242.1	04/07/1980	0	01/06/1987	2019-20
25	Akkihebbal	752.38	03/08/2013	2185	746.22	25/05/2013	0	2185	03/08/2013	0	25/05/2013	2019-20
26	T. Narasipur	641.815	19/08/1981	1203	634.29	26/01/2016	0	1203	19/08/1981	0	26/01/2016	2019-20
27	T. Bekuppe	607.28	10/09/2017	363.8	604.24	01/04/2013	0	363.8	10/09/2017	0	01/04/2013	2019-20

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Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
VI	**Cauvery**											**Unit : MCM**
28	T.k.halli	585.925	03/10/1984	1219	0	02/04/1987	0	1219	03/10/1984	0	02/04/1987	2019-20
29	Thimmanahalli	909.665	16/07/2009	393.1	0	07/03/2004	0	393.1	16/07/2009	0	07/03/2004	2019-20
30	Nallathur	5.665	28/11/2008	92.33	0	01/06/2006	0	92.33	28/11/2008	0	01/06/2006	2019-20
31	Kollegal	629.75	29/07/1991	6038	623.565	08/07/1987	22.26	6038	29/07/1991	22.26	08/07/1987	2019-20
32	Annavasal	5.985	24/11/1999	11.28	0	01/06/1999	0	11.28	24/11/1999	0	01/06/1999	2019-20
33	Hogenakkal	256.35	24/10/2005	251.4	0	17/05/1998	0	251.4	24/10/2005	0	17/05/1998	2019-20
34	Peralam	9.835	27/11/2008	8.207	0	01/06/1999	0	8.207	27/11/2008	0	01/06/1999	2019-20
35	Biligundulu	264.35	05/07/1980	4562	257.4	21/04/2017	0.56	4562	05/07/1980	0.56	21/04/2017	2019-20
36	Menangudi	7.94	10/11/1997	17.59	0	01/06/1997	0	17.59	10/11/1997	0	01/06/1997	2019-20
37	Thengudi	9.62	28/11/2008	89.73	0	01/06/1998	0	89.73	28/11/2008	0	01/06/1998	2019-20
38	Porakudi	7.2	28/11/2008	111.3	0	01/06/1999	0	111.3	28/11/2008	0	01/06/1999	2019-20
39	Gopurajapuram	3.24	08/11/2005	51.8	0	01/06/1999	0	51.8	08/11/2005	0	01/06/1999	2019-20
40	Gandhavayal	95.150	24/11/2013	171.82	92.58	15/07/2017	0	171.82	24/11/2013	0	15/07/2017	2019-20
41	Alandurai	442.85	03/11/2018	1947	442.44	08/02/2019	0	1947	03/11/2018	0	08/02/2019	2019-20
42	Odandhurai	-	-	-	-	-	-	-	-	-	-	2019-20
43	Bettadamne	899.28	05/11/2018	9.821	898.615	17/03/2019	0	9.821	05/11/2018	0	17/03/2019	2019-20
44	Belur	940.56	02/11/2018	0.463	940.46	05/03/2019	0	0.463	02/11/2018	0	05/03/2019	2019-20
45	Kukkalthurai	1496.42	04/11/2018	1.596	1495.58	22/02/2019	0	1.596	21/10/2019	0	22/02/2019	2019-20
46	Thoppur	325.81	24/11/2005	60.87	0	01/06/2000	0	60.87	24/11/2005	0	01/06/2000	2019-20
47	Jannapura	992.02	02/11/2018	0.003	991.69	26/03/2019	0	0.003	02/11/2018	0	26/03/2019	2019-20
48	Lakshmananpatti	0	01/02/2019	0	0	01/02/2019	0	0	01/02/2019	0	01/02/2019	2019-20
49	Thandalaiputhur	0	01/01/2019	0	0	01/01/2019	0	0	01/01/2019	0	01/01/2019	2019-20
50	Varanavasi	0	01/01/2019	0	0	01/01/2019	0	0	01/01/2019	0	01/01/2019	2019-20
51	Balasamudram	-	23/02/2019	0	-	23/02/2019	0	0	23/02/2019	0	23/02/2019	2019-20
52	Kottathara	289.46	23/04/2019	2.64	289.08	28/05/2019	0	2.64	23/04/2019	0	28/05/2019	2019-20
53	Savandapur	187.75	17/08/2018	1845	0	20/09/2003	0	1845	17/08/2018	0	20/09/2003	2019-20
54	Bendrahalli	635.2	07/11/2010	31.9	0	01/06/2013	0	31.9	07/11/2010	0	01/06/2013	2019-20

Source : Water Year Book (June 2019 to May 2020) Cauvery Basin.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
VII	**Pennar**											**Unit : MCM**
1	Chennur	123.375	24/08/2000	6718	0	20/06/1993	0	6718	24/08/2000	0	01/05/1992	2019-20
2	Nellore	51.215	18/11/1991	5789	0	11/03/1997	0	5789	18/11/1991	0	11/03/1997	2019-20
3	Nandipalli	102.43	19/10/1996	640.3	0	24/06/1990	0	640.3	19/10/1996	0	24/06/1990	2019-20
4	Tadipatri	230.34	04/11/1975	1867	0	01/06/1972	0	1867	04/11/1975	0	01/10/2002	2019-20
5	Alladupalli	142.085	24/06/2007	2752	0	13/07/1987	0	2752	24/06/2007	0	09/03/1987	2019-20
6	Singavaram	260.355	12/09/1988	878	0	01/06/1980	0	643	21/10/1996	0	05/06/1980	2019-20
7	Kamalapuram	138.161	17/11/1991	1066	0	01/06/1991	0	1066	17/11/1991	0	01/06/1991	2019-20
8	Nagalamedike	546.755	17/09/2002	154.1	0	01/09/1976	0	154.1	17/09/2002	0	01/09/1976	2019-20
9	Nandalur	137	17/11/2015	1229	0	01/06/2013	0	1229	17/11/2015	0	01/06/2013	2019-20
10	Dipuru	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
11	Kalasapdu	0	01/11/2018	0	0	02/11/2018	1	0	01/11/2018	1	02/11/2018	2019-20

Source: Water Year Book (June 2019 to May 2020) East Flowing Rivers Basin.

VIII	**East Flowing Rivers Between Mahanadi to Pennar**											**Unit : MCM**
1	Marella	101.42	21/05/2010	1054	0	01/06/2013	0	1054	21/05/2010	0	01/06/2013	2019-20
2	Purushottampur	18.64	25/10/2013	3750	11.43	30/05/2020	0.357	3750	25/10/2013	0.357	30/05/2020	2019-20
3	Gunupur	85.95	07/08/2007	2987	79.38	02/05/2009	1.54	2987.41	07/08/2007	1.54	02/05/2009	2019-20
4	Kashinagar	57.85	07/08/2007	7322	51	09/05/1982	2	7322	07/08/2007	0.32	17/05/2003	2019-20
5	Srikakulam	12.61	14/10/2014	4224	0	09/042020	0	4224	14/10/2014	0	09/042020	2019-20
6	Anakapalli	27.48	11/04/2012	3981	19.78	28/04/2002	0	3981	11/04/2012	0	28/04/2002	2019-20

Source: Water Year Book (June 2019 to May 2020) East Flowing Rivers Basin.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
IX	**East Flowing Rivers Between Pennar to Kanyakumari**											**Unit : MCM**
1	Avarankuppam	368.45	11/09/1981	290	0	01/06/1981	0	290	11/09/1981	0	23/06/2013	2019-20
2	Gummanur	495	11/09/1981	1155	0	01/06/1991	0	1155	09/05/1901	0	01/06/1991	2019-20
3	Singasadanapalli	844.465	19/04/2019	14.15	844.01	17/04/2019	4.708	14.15	19/04/2019	4.708	17/04/2019	2019-20
4	Naidupeta	44.34	26/11/1979	293.3	0	01/06/1979	0	293.3	26/11/1979	0	01/06/1979	2019-20
5	Sulurpet	19.235	15/11/1991	486.8	0	01/06/1989	0	486.8	15/11/1991	0	01/06/1989	2019-20
6	Arcot	160.665	03/09/1981	528.2	0	01/06/1980	0	528.2	03/09/1981	0	01/06/1980	2019-20
7	Magaral	62.28	16/12/1996	947	0	01/06/1972	0	947	16/12/1996	0	01/02/1975	2019-20
8	Chengalpet	28.438	16/12/1996	1996	0	01/06/1981	0	2657.03	03/12/2015	0	23/08/2012	2019-20
9	Vazhavachanur	137.575	01/12/20117	897.8	0	09/07/1983	0	897.8	01/12/20117	0	09/07/1983	2019-20
10	Ambasamudram	298.85	01/12/2007	83.94	0	01/06/1999	0	83.94	10/12/2007	0	01/06/1999	2019-20
11	Kumarapalayam	13.86	02/12/2015	785.47	0	01/06/2005	0	785.47	02/12/2015	0	01/06/2005	2019-20
12	Paramakudi	40.42	09/11/1977	751.7	0	01/06/1972	0	751.7	09/11/1977	0	01/06/1972	2019-20
13	Villupuram	45.7	13/11/1977	1530	0	01/06/1973	0	1530	13/11/1977	0	01/06/1973	2019-20
14	Irrukkankudi	51	14/12/1998	232.5	0	01/06/1990	0	232.5	14/12/1998	0	01/06/1990	2019-20
15	Kudalaiyathur	48.892	05/12/1993	2087	0	01/06/1990	0	2087	05/12/1993	0	01/06/1990	2019-20
16	A.p.puram	67.823	14/11/1992	423.2	0	01/06/1989	0	423.2	14/11/1992	0	01/06/1989	2019-20
17	Murappanadu	21.075	12/11/1979	2405	14.275	30/05/2017	0	2405	12/11/1979	0	30/05/2017	2019-20
18	Kallidaikurichi	70.86	24/12/2018	44.49	69.85	03/02/2019	3.682	44.49	24/12/2018	3.682	03/02/2019	2019-20
19	Harur	0	01/01/2019	0	0	01/01/2019	0	0	01/01/2019	0	01/01/2019	2019-20
20	Mayambadi	221.2	16/11/2018	37.33	220.055	12/02/2019	0	37.33	16/11/2018	0	12/02/2019	2019-20
21	Kalpadai	197.1	25/11/2018	4.778	0	01/11/2018	0	4.778	25/11/2018	0	01/11/2018	2019-20
23	V.kalathur	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
24	Venganur	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
25	Penneswara-madam	445.235	17/10/2018	9.976	444.74	28/03/2019	0.558	9.976	17/10/2018	0.558	28/03/2019	2019-20
26	Pallamala	97.475	23/11/2018	19.09	95.99	02/12/2018	0	19.09	23/11/2018	0	02/12/2018	2019-20
27	Verupakshapuram	55.87	20/11/2018	0	55.87	20/11/2018	0	0	20/11/2018	0	20/11/2018	2019-20

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Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
IX	**East Flowing Rivers Between Pennar to Kanyakumari**											**Unit : MCM**
28	Thiruvalam	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
29	Rayachoti	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
30	Puduvayal	94.45	06/12/2018	3.919	0	01/11/2018	0	3.919	06/12/2018	0	01/11/2018	2019-20
31	Pattukottai	45.7	17/11/2018	29.26	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
32	Thirunavalur	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
33	Maniyampattu	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
34	Ayalambedu	0	01/11/2018	0	0	01/11/2018	0	0	01/11/2018	0	01/11/2018	2019-20
35	Nariyampattu	0	01/11/2013	0	0	01/11/2013	0	0	01/11/2013	0	01/11/2013	2019-20

Source: Water Year Book (June 2019 to May 2020) East Flowing Rivers Basin.

X	**Narmada**											**Unit : MCM**
1	Bamni	446.93	15/09/2005	1455.9	0	25/01/2002	0	1455.9	15/09/2005	0	25/01/2002	2019-20
2	Mohgaon	467.3	08/08/2004	11600	446.905	30/03/1977	0.1	11600	08/08/2004	0.1	30/03/1977	2019-20
3	Garudeshwar	39.78	07/09/1994	60642	13.16	27/10/2004	0	60642	07/09/1994	0	04/11/2014	2019-20
4	Chhidgaon	300.75	23/08/2013	7527.57	287.16	07/06/1988	0.3	843.48	13/09/2019	0.3	07/06/1988	2019-20
5	Motinaroli	19.25	05/08/2019	1126	6.24	06/05/1992	0	1126	05/08/2019	0	06/05/1992	2019-20
6	Patan	356.8	06/07/2005	1930	0	01/06/1979	0	1930	06/07/2005	0	01/06/1979	2019-20
7	Chanwada	33.55	07/09/1994	172.82	0	05/07/1979	0	172.82	07/09/1994	0	05/07/1979	2019-20
8	Kogaon	227.728	01/07/1972	2835.8	0	20/05/1972	0	2835.8	01/07/1972	0	20/05/1972	2019-20
9	Dindori	669.64	23/08/1991	4710	0	17/06/1972	0	4710	23/08/1991	0	17/06/1972	2019-20
10	Manot	459.65	18/08/1984	5660	442.365	29/05/1980	0	5660	18/08/1984	0	29/05/1980	2019-20
11	Barmanghat	330.455	30/08/1973	20658.2	307.37	01/06/1980	4.5	20658.2	30/08/1973	1	17/03/2014	2019-20
12	Sandia	316.89	19/09/1999	24500	298.81	05/06/2019	28	24500	19/09/1999	28	05/06/2019	2019-20
13	Handia	274.15	24/08/2013	31879.9	0	31/03/2019	0	31879.9	24/08/2013	0	31/03/2019	2019-20
14	Hoshangabad	300.805	20/08/1974	28435.3	0	13/01/1972	0	28435.3	20/08/1974	0	13/01/1972	2019-20
15	Mandleshwar	157.23	06/09/1994	48200	139.03	14/04/2005	12	48200	06/09/1994	0	02/03/2018	2019-20
16	Gadarwara	332.47	18/09/1999	5850	0	21/02/1972	0	5850	18/09/1999	0	21/02/1972	2019-20
17	Belkhedi	359.95	21/07/1994	7600	0	18/02/2019	0	7600	21/07/1994	0	18/02/2019	2019-20
18	Narmada at Bijora	380.50	08/09/2011	9358	368.00	08/09/2002	0	9358	08/09/2011	0	08/09/2002	2019-20

Source: Water Year Book (June 2019 to May 2020) East Flowing Rivers Basin.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
XI	**Tapi**											**Unit : MCM**
1	Morane	266.5	05/08/2019	775.4	263.35	01/06/2018	0	775.4	05/08/2019	0	01/06/2018	2019-20
2	Gopalkheda	252.1	10/08/1979	1872	0	04/06/2012	0	201.39	21/08/2018	0	24/05/1977	2019-20
3	Yerli	233.54	07/08/2006	8703	0	04/06/2009	0	8703	07/08/2006	0	01/06/2009	2019-20
4	Dedtalai	279.245	01/08/1980	1613.1	271.545	01/06/1978	0	1613.1	01/08/1980	0	01/06/1978	2019-20
5	Burhanpur	239.5	29/08/1978	26683	214.5	12/06/1993	0	26683	29/08/1978	0	01/06/1993	2019-20
6	Gidhade	141.65	08/08/2006	20898	0	15/03/1993	0	17578	16/09/1998	0	15/03/1993	2019-20
7	Sarangkheda	126	08/08/2006	23044	0	24/03/1990	0	23044	08/08/2006	0	15/06/1974	2019-20
8	Ghala	9.485	12/09/2019	3318	2.71	01/06/2017	0	3318	12/09/2019	0	01/06/2017	2019-20
9	Lohara	240.75	23/09/2019	199.3	235.45	29/06/2019	0	199.3	23/09/2019	0	29/06/2019	2019-20

Source : Water Year Book (June 2019 to May 2020) Tapi Basin.

XII	**West Flowing Rivers From Tapi To Tadri**											**Unit : MCM**
1	Erinjipuzha	18.79	18/07/1999	1388	5.45	01/06/1986	0	1388	18/07/1999	0	01/06/1986	2019-20
2	Perumannu	14.89	09/08/2018	2929	5.865	13/05/1987	0	1251	17/08/2019	0	23/03/2014	2019-20
3	Kuttyadi	8.3	16/08/2018	1017	0.32	05/02/2009	0.799	957.8	18/07/2009	0	05/02/2009	2019-20
4	Kuniyil	12.53	18/08/1981	2141	0.08	01/02/2000	0	2141	18/08/1981	0	01/02/2000	2019-20
5	Karathodu	93.615	09/07/1987	215.6	0	01/03/1992	0	215.6	09/07/1987	0	01/03/1992	2019-20
6	Pulamanthole	90.145	09/08/1986	782.7	10.625	09/02/2013	0	782.7	09/08/1986	0	09/02/2013	2019-20
7	Kumbidi	11.27	17/08/2018	6072	0	17/03/1984	0	6072	18/08/1981	0	17/03/1984	2019-20
8	Pudur	64.93	08/11/2009	744.1	0	01/06/1996	0	744.1	08/11/2009	0	01/06/1996	2019-20
9	Mankara	51.5	09/08/2018	1841	47.2	29/04/2016	0	1841	09/08/2018	0	29/04/2016	2019-20
10	Arangaly	9.2	17/08/2018	4654	0.087	07/03/1992	2.803	4654	17/08/2018	2.803	07/03/1992	2019-20
11	Neeleswaram	12.12	17/08/2018	9218	0.12	08/12/2012	0	9218	17/08/2018	0	08/12/2012	2019-20
12	Kalampur	94.955	26/081/987	249.8	7.145	02/03/1990	0	249.8	26/081987	0	02/03/1990	2019-20
13	Anjanari	17.71	16/07/1999	948	0	10/06/2003	0	948	16/07/1999	0	10/06/2003	2019-20
14	Ramamangalam	9.8	17/08/2018	1738	0.48	23/12/2016	14.06	1738	17/08/2018	14.06	23/12/2016	2019-20
15	Badlapur	17.757	14/07/1994	3542	0	18/06/1983	0	3542	14/07/1994	0	18/06/1983	2019-20

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Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
XII	**West Flowing Rivers From Tapi To Tadri**											**Unit : MCM**
16	Ambarampalayam	224.78	08/11/2009	1286.98	218.79	05/05/2001	0	1286.98	08/11/2009	0	05/05/2001	2019-20
17	Kidangoor	8	17/08/2018	872.7	0.115	01/03/1999	0	872.7	17/08/2018	0	01/03/1999	2019-20
18	Belne bridge	18.38	29/07/2010	1334	0	13/03/2004	0	1334	29/07/2010	0	13/03/2004	2019-20
19	Vandiperiyar	793.62	27/07/2005	203.2	791.01	13/02/2003	0	203.2	27/07/2005	0	13/02/2003	2019-20
20	Kallooppara	9.58	16/08/2018	1286	0.49	23/03/2001	0	1286	16/08/2018	0	23/03/2001	2019-20
21	Malakkara	9.58	16/08/2018	2568	-0.24	06/04/1993	7.866	2568	16/08/2018	7.866	06/04/1993	2019-20
22	Pattazhy	13.702	15/11/1992	2367	1.06	25/01/2005	3.483	2367	15/11/1992	3.483	25/01/2005	2019-20
23	Thumpamon	13.735	07/11/1978	680	5.12	01/04/2001	0.111	680	07/11/1978	0.111	01/04/2001	2019-20
24	Ayilam	10.367	10/10/1992	974.8	0.23	26/01/1993	0.301	974.8	10/10/1992	0.301	26/01/1993	2019-20
25	Mangaon	10.255	24/07/1989	1340	4.38	01/06/2011	0	1340	24/07/1989	0	01/06/2011	2019-20
26	Kuzhithurai	8.83	08/12/2010	525.5	0.21	23/10/2016	0	525.5	08/12/2010	0	23/10/2016	2019-20
27	Nagothane	12.42	16/07/1999	1100	3.6	09/01/1999	0	1100	16/07/1999	0	09/01/1999	2019-20
28	Ashramam	6.72	01/12/2017	282.9	2.06	01/06/2000	0	282.9	01/12/2017	0	01/06/2000	2019-20
29	Gadat	13.01	29/06/2005	2894	1.5	07/06/1983	0	2894	29/06/2005	0	07/06/1983	2019-20
30	Pen	14.73	25/07/2005	732	0	25/01/2009	0	732	25/07/2005	0	25/01/2009	2019-20
31	Addoor	15.48	04/08/2004	930.3	-0.6	01/06/2013	0	930.3	04/08/2004	0	01/06/2013	2019-20
32	Ganjim	10.62	18/07/1988	3454	0	26/01/2009	0	3454	18/07/1988	0	26/01/2009	2019-20
33	Ozerkheda	90.81	04/08/2019	3573	80.41	04/02/1997	0	3573	04/08/2019	0	04/02/1997	2019-20
34	Bantwal	12.65	26/07/1974	9832	1.12	06/06/2003	0	9832	26/07/1974	0.05	06/05/1990	2019-20
35	Collem	71.55	01/08/1985	617.5	66.54	14/02/2019	0	617.5	01/08/1985	0	14/02/2019	2019-20
36	Haladi	21.666	09/08/1986	804.9	0.26	22/05/1988	0	804.9	09/08/1986	0	22/05/1988	2019-20
37	Nanipalsan	103.925	03/08/2004	3173	96.02	27/04/1995	0	3173	03/08/2004	0	26/01/1992	2019-20
38	Santeguli	18.09	13/07/2000	4959	10.11	29/05/2019	0	4959	13/07/2000	0	29/05/2019	2019-20
39	Yennehole	24.65	06/07/2009	1531	16.78	01/06/2017	0	1531	06/07/2009	0	01/06/2017	2019-20
40	Mahuwa	23.49	04/08/2004	8836	8.33	01/06/2019	0	8836	04/08/2004	0	01/06/2019	2019-20
41	Durvesh	15.22	17/09/1998	8000	0	14/06/1993	0	8000	17/09/1998	0	14/06/1993	2019-20
42	Muradpur	5.55	16/07/2018	1154	2.53	19/01/2019	0	1154	16/07/2018	0	19/01/2019	2019-20

Source: Water Year Book (June 2019 to May 2020) West Flowing Rivers Basin.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
XIII	**West Flowing Rivers From Tadri To Kanyakumari**											**Unit : MCM**
	No Sufficient data available											

Source: Water Year Book (June 2019 to May 2020) West Flowing Rivers Basin.

XIV	Mahi											Unit : MCM
1	Chakaliya	226.90	11/08/2006	5474	0	23/01/2020	0	226.90	11/08/2006	0	23/01/2020	2019-20
2	Dhariawad	209.35	11/08/2006	1979.94	0	01/04/1989	0	1979.94	11/08/2006	0	30/05/1990	2019-20
3	Mataji	307	04/10/1988	8387	0	13/05/2003	0	8252	28/07/2003	0	13/05/2003	2019-20
4	Paderdibadi	143.08	20/08/1984	9343	0	31/05/1979	0	9343	20/08/1984	0	31/05/1979	2019-20
5	Khanpur	26.82	12/08/2006	31062	8.25	08/06/2018	2.793	31061.91	12/08/2006	5.75	01/06/1987	2019-20
6	Sohagpura	402.08	14/09/2019	427.7	397	01/06/2018	0	427.7	14/09/2019	0	01/06/2018	2019-20
7	Rangeli	158.24	19/08/2006	5179.31	0	27/05/1980	0	5179.31	19/08/2006	0	01/06/1979	2019-20

Source: Water Year Book (June 2019 to May 2020) Mahi, Sabarmati & Others West Flowing Rivers Basin.

XV	Sabarmati											Unit : MCM
1	Kheroj	215.18	17/07/1993	653.4	0	19/03/1993	0	653.4	17/07/1993	0	19/03/1993	2019-20
2	Derol Bridge	94.73	20/08/1994	3050	0	26/01/2000	0	3050	20/08/1994	0	01/06/2000	2019-20
3	Vautha	20.66	10/07/2017	4958	0	10/10/2001	0	4958	10/07/2017	0	01/07/1991	2019-20
4	Jotasan	291.55	20/08/2006	1340	0	01/06/1996	0	1340	20/08/2006	0	01/06/1996	2019-20
5	Ratanpur	44.75	01/08/1997	1978.24	0	05/03/1992	0	1978.24	01/08/1997	0	01/06/2000	2019-20
6	Kheda	28.2	25/08/1990	1626	0	25/01/1990	0	1626	25/08/1990	0	25/01/1990	2019-20

Source: Water Year Book (June 2019 to May 2020) Mahi, Sabarmati & Others West Flowing Rivers Basin.

Table 6: Site wise Maximum & Minimum Observed Water level and Discharge in River Basins till 2019-20

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed discharge		Minimum Observed discharge		Refrence Period
		Water level (m)	Date	Discharge (Cumecs)	Water level (m)	Date	Discharge (Cumecs)	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	
XVI	**West Flowing Rivers Of Kutch, Saurashtra including Luni**											**Unit : MCM**
1	Una	17.292	31/08/2017	39.95	0	26/07/2014	0	16.5	13/08/2018	0.53	15/11/2019	2019-20
2	Karoti	92.90	01/08/2019	63.62	92.30	17/08/2019	5.681	63.62	01/08/2019	5.681	17/08/2019	2019-20
3	Chhasara	92.74	09/09/2019	168.9	90.63	31/07/2019	0	168.9	09/09/2019	0	31/07/2019	2019-20
4	Savni	93.23	07/10/2019	43.71	92.46	20/10/2019	0	43.71	07/10/2019	0	20/10/2019	2019-20
5	Jamraval	99.11	03/10/2019	92.07	95.50	16/10/2019	0	92.07	03/10/2019	0	16/10/2019	2019-20
6	Chitrasani	187.91	25/07/2017	507.7	0	25/01/1991	0	507.7	25/07/20117	0	25/01/1991	2019-20
7	Abu road	258.40	08/09/1992	1164	0	25/01/1990	0	53.42	26/08/1989	0	19/06/2015	2019-20
8	Sarotry	190.99	24/07/2017	1541	0	03/01/1990	0	1541	24/07/2017	0	03/01/1990	2019-20
9	Kamalpur	37.57	16/07/2000	20.04	0	26/01/1972	0	20.04	16/07/200	0	26/01/1972	2019-20
10	Pingalwada	19.05	09/09/1994	1056	4.84	08/05/1990	0	1056	09/09/1994	0	08/05/1990	2019-20
11	Balotra	107.15	06/07/1990	1875	0	25/01/1991	0	1875	06/07/1990	0	25/01/1991	2019-20
12	Gandhav	38.80	19/07/1979	4300	0	16/02/1976	0	4300	19/07/1979	0	16/02/1976	2019-20
13	Sapawada	43	27/06/1997	325	0	01/06/1991	0	290.83	28/07/2017	0	01/06/1993	2019-20
14	Lowara	66.93	09/11/1982	880	0	20/01/1973	0	2069.76	08/08/2007	0	01/03/1970	2019-20

Source: Water Year Book (June 2019 to May 2020) Mahi, Sabarmati & Others West Flowing Rivers Basin.

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
I	**Basin : Mahanadi**												**Unit: M. C. M.**
1	Andhiarkhore	06/1990 To 05/2020 (Last 30 years data)	657.00	489.72	465.77	383.20	305.26	279.20	238.97	214.42	183.29	108.00	86.67
2	Bamnidhi		7283.22	5040.59	4513.65	4327.36	3421.30	3126.87	2435.82	2173.46	1951.96	1801.76	1285.35
3	Baronda		2879.26	2067.01	1915.34	1825.35	1359.74	1282.49	1179.36	934.35	623.44	593.60	398.38
4	Basantpur		32006.65	26573.56	24936.49	24170.34	20803.20	19300.44	18153.40	14601.72	13440.80	13043.88	7676.76
5	Ghatora		1368.42	1229.39	1149.15	1097.37	1059.09	904.57	687.62	588.02	538.17	499.59	361.43
6	Jondhra		16451.68	12783.19	11230.46	10316.40	9212.91	7523.18	6597.65	5753.10	4741.98	4030.48	2912.02
7	Kantamal		21285.79	17427.15	16037.80	14737.32	12557.69	10276.04	9587.29	8499.23	7650.73	6810.37	4025.11
8	Kesinga		14336.61	10689.85	10311.34	9927.58	7771.13	6826.58	6330.42	5756.25	5013.93	4687.01	2729.26
9	Kotni		4064.19	2662.73	2547.58	2345.72	2049.27	1837.88	1596.19	1401.05	1002.88	855.13	450.15
10	Kurubhata		3643.76	2973.71	2908.69	2771.33	2605.54	2100.03	1882.70	1746.25	1708.39	1641.11	1264.49
11	Manendragarh		521.37	421.15	413.95	405.70	311.09	298.84	258.56	245.86	241.03	236.48	153.19
12	Pathardih		1732.68	1328.17	1309.37	1259.65	1127.50	1033.77	839.75	797.60	767.46	571.76	451.41
13	Rajim		6214.28	4103.10	3884.95	3727.19	3326.01	2764.42	2232.55	1794.46	1668.45	1519.25	746.45
14	Rampur		2186.22	1796.81	1554.48	1406.03	1263.15	1005.41	951.79	759.74	682.30	635.04	432.34
15	Salebhata		4186.00	2903.67	2438.53	2283.11	1978.02	1627.64	1290.40	1061.13	1034.40	924.56	565.58
16	Seorinarayan		27485.72	21287.81	21072.17	19953.44	17083.78	15388.52	14426.86	10556.85	10363.91	9997.32	6271.97
17	Simga		9403.14	7438.60	6553.75	5800.04	4720.43	4630.70	3865.94	2933.78	2769.25	2578.48	2014.76
18	Sundergarh		4320.59	4212.22	3925.40	3717.18	3119.04	2743.16	2635.38	2274.26	2248.89	2197.43	1961.46
19	Tikarpara		70318.41	61943.94	53910.76	52686.19	48147.24	45677.54	41684.66	38445.64	35355.97	34357.90	25471.88

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
II	Basin : Subernrekha											Unit: M. C. M.	
1	Adityapur	06/1990 To 05/2020 (Last 30 years data)	4859.19	4391.50	3809.23	3748.89	3211.01	2934.87	2231.32	2064.50	1786.90	1596.62	1351.16
2	Anandpur		7919.86	6341.81	6021.10	5473.28	5252.64	4693.00	4274.11	3446.26	2855.09	2731.75	2143.49
3	Champua		1672.46	1302.26	1213.84	1170.13	1086.28	1011.21	929.98	777.50	770.40	757.35	477.58
4	Ghatsila		11954.64	10114.75	9604.48	9012.93	7537.98	6682.15	5441.11	4975.32	4837.26	4183.88	3147.57
5	Govindpur		5264.15	4611.66	4416.14	4253.12	3589.68	3179.64	3110.10	2265.04	2203.32	2151.61	1885.86
6	Jamshedpur		11582.69	10080.93	9227.97	9183.77	8310.82	7132.77	5339.41	4628.24	4596.82	4551.66	3123.16
7	Muri		1147.93	941.78	865.39	812.44	727.43	517.18	479.40	388.80	383.90	364.14	256.86

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

III	Basin : Brahmani & Baitarani											Unit: M. C. M.	
1	Altuma	06/1990 To 05/2020 (Last 30 years data)	892.71	831.50	755.66	727.14	681.04	645.28	501.08	396.55	364.16	299.38	274.52
2	Gomlai		16006.48	14501.59	13353.59	13291.14	12050.94	10512.64	10155.29	8269.89	8087.01	7735.20	6308.53
3	Jaraikela		6866.75	5748.32	5355.32	4850.70	4346.73	3776.89	3125.24	2704.35	2400.04	2204.33	1445.41
4	Jenapur		22754.54	21668.61	21009.17	19875.16	16545.78	15811.35	14807.89	14029.71	11840.01	10939.55	10345.33
5	Panposh		13998.65	13213.96	12827.70	12229.11	11439.46	9856.18	9109.05	7764.79	7597.54	7006.15	6311.01
6	Tilga		2776.37	2590.31	2363.98	2235.84	1912.51	1864.06	1751.38	1587.58	1566.35	1503.30	1072.68

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
IV Basin : Godavari												**Unit: M. C. M.**	
1	Ambabal At Narangi	06/1990 To 05/2020 (Last 30 years data)	1349.45	1146.20	1113.18	985.54	800.74	748.28	643.09	584.10	549.35	524.89	458.95
2	Betmogra At Maner		434.20	350.72	247.60	236.24	217.36	157.93	74.56	32.91	27.16	14.07	1.70
3	Bhadrachalam At Godavari		128947.13	104680.18	92317.66	79685.29	74055.96	64053.82	49576.21	47836.14	45011.26	40833.18	29273.56
4	Cherribeda At Bardha		1353.12	1103.87	973.46	961.99	842.06	620.79	523.93	383.18	371.67	316.69	241.54
5	Chindnar At Indravathi		14410.52	11763.85	11126.62	10606.14	9252.22	8605.45	7660.76	6984.11	6531.06	5986.91	4590.45
6	Degloor At Lendi		671.68	453.70	391.00	340.17	246.68	176.96	108.51	75.39	63.68	48.97	22.18
7	Dhalegaon At Godavari		3595.20	2182.28	1757.46	990.99	718.87	366.66	224.96	144.36	106.09	11.77	0.00
8	G.R.Bridge At Godavari		4503.41	2404.94	1598.26	1092.12	966.10	735.53	509.96	351.33	228.35	186.22	94.85
9	Gandlapet At Peddavagu		365.96	188.51	117.41	81.30	55.09	29.30	14.59	3.07	2.88	1.42	0.00
10	Jagdalpur At Indravathi		4705.53	3743.18	3562.52	3214.82	2914.46	2550.83	2386.17	2206.84	2120.27	1900.92	1337.42
11	Kiwaibalenga At Bawardhi		1295.56	1104.50	806.36	682.42	601.31	474.15	308.35	2.91	2.00	1.10	0.51
12	Konta At Sabari		23023.66	20635.28	19521.14	19039.44	17106.21	15387.02	14413.14	13900.63	13251.31	13043.40	9764.89
13	Kopergaon		Sufficient data not available										
14	Kosagumda At Bhaskal		1314.48	1218.99	1205.10	1130.61	1049.22	896.75	750.39	717.38	698.06	661.61	376.54
15	Mancherial At Godavari		14734.39	9702.57	8421.74	7428.96	5695.44	3624.81	2602.45	2258.74	1939.01	1207.37	519.63
16	Murthahandi At Journala		2114.30	1878.81	1810.65	1742.37	1564.28	1384.34	1332.20	1207.99	1116.34	1010.74	905.84
17	Nanded		Sufficient data not available										
18	Nowrangpur At Indravathi		3983.49	3064.93	2381.31	2016.36	1780.93	1509.17	1259.79	851.70	794.32	776.11	689.91

Cont….

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
IV	Basin : Godavari												Unit: M. C. M.
19	Pachegaon At Pravara		1244.14	915.67	768.44	552.57	366.76	287.22	215.54	125.76	105.28	55.89	18.54
20	Pathagudem At Indravathi	06/1990 To 05/2020 (Last 30 years data)	39842.76	34021.50	31252.09	26640.75	24372.91	21548.43	18652.23	17311.21	16314.56	15167.60	11499.33
21	Perur At Godavari		110906.14	93190.85	83899.55	78335.73	65503.66	64387.62	57063.45	44309.20	42492.76	41321.30	33564.46
22	Polavaram At Godavari		146479.06	115009.16	98580.62	93200.06	86116.38	80753.13	72801.85	58421.54	57707.75	53395.98	47620.16
23	Potteru (Seasonal) At Potteru Vagu		3033.78	2509.12	2449.73	2385.59	2103.63	1934.94	1854.11	1746.78	1427.42	1363.46	1138.74
24	Purna At Purna		4063.16	1802.94	1604.08	1363.32	987.20	471.23	348.77	284.11	244.38	230.42	176.84
25	Saigaon At Ari		2374.11	1429.59	926.42	759.63	440.31	277.94	168.15	44.52	26.82	22.12	9.70
26	Sangam At Murredu		436.94	365.27	346.06	315.83	279.15	262.25	254.58	203.03	172.46	151.42	105.88
27	Saradaput At Sabari		7889.19	6894.70	6376.47	6119.24	5588.43	5382.76	4715.76	4189.32	4112.17	3837.64	3207.00
28	Somanpally (Seasonal) At Manner		2077.94	1917.21	1666.47	1263.97	1073.58	785.62	718.71	490.53	311.08	282.10	223.65
29	Sonarpal At Markandi		1070.70	998.10	876.70	802.76	769.50	659.71	628.99	573.18	515.83	406.97	353.11
30	Tumnar At Dantewara		2013.65	1794.97	1716.62	1592.22	1346.67	1264.89	1126.20	901.19	868.60	792.91	571.14
31	Yelli At Godavari		10710.04	4813.42	4655.06	3702.68	2910.94	2522.09	1657.81	1300.44	1225.25	886.17	149.37
32	Zari At Dudhna		856.95	619.21	514.51	460.54	334.70	221.69	149.33	123.84	97.04	50.48	35.88

Source : SE, Godavari Circle, Central Water Commission, Hyderabad, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills Nagpur

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
IV Basin : Krishna													**Unit: M. C. M.**
1	Arjunwad	06/1990 To 05/2020 (Last 30 years data)	15323.20	10368.43	9983.52	8368.04	7596.89	6725.95	5690.03	4913.57	4287.41	3962.57	2880.99
2	Bawapuram		10166.86	7877.84	7372.19	6237.25	5658.75	5381.28	4631.03	3470.29	1799.23	1685.04	870.78
3	Dameracherla		1839.20	1533.74	1485.24	1082.62	994.45	890.28	748.02	659.33	528.49	492.74	138.06
4	Doddipadu		Sufficient data not available										
5	Halia		500.04	400.73	255.51	208.13	166.84	127.69	87.29	67.09	59.92	32.25	19.42
6	Huvinhedigi		26772.73	21990.71	20553.29	18563.89	14153.25	12338.09	11008.05	9982.52	8121.12	7981.30	4738.31
7	Karad		9832.89	6906.42	6615.61	5227.67	3848.27	3668.94	2949.26	2477.87	2370.11	2311.51	1574.99
8	Keesara		3546.31	2997.52	2588.39	2388.43	2020.14	1605.28	1031.18	948.08	882.43	786.38	542.71
9	Kurundwad		21407.51	15376.08	14693.70	12476.38	11720.46	10709.72	9309.57	8583.35	8327.71	6481.46	5401.88
10	Madhira		926.53	716.77	670.26	624.60	489.21	429.55	304.64	252.08	191.81	189.89	104.33
11	Malkhed		2235.41	1105.32	1084.05	1043.99	919.97	645.45	516.76	358.16	246.67	187.42	143.09
12	Mantralayam		11616.11	8396.13	7965.73	7659.28	6820.54	6229.72	5663.09	4184.98	2520.62	2065.10	1261.31
13	Narasingpur		10253.89	7003.24	4938.52	4527.41	3215.90	2021.42	1887.52	1221.34	856.56	409.89	313.49
14	Paleru Bridge		680.10	549.72	528.01	463.03	414.21	361.78	206.76	128.43	78.88	39.46	21.25
15	Phulgaon (Seasonal)		2704.77	1985.69	1473.28	1388.57	1192.00	1073.99	961.06	880.46	720.55	618.13	458.69
16	Sadalga (Seasonal)		4354.23	3223.97	2983.26	2806.97	2481.92	2237.72	2032.36	1862.35	1733.76	1663.46	1007.59
17	Samdoli (Seasonal)		5558.29	3788.47	3519.14	3324.51	3014.84	2710.31	2369.71	2013.95	1909.95	1573.91	1402.28
18	Sarati		2850.02	1797.70	1669.92	1353.41	1187.21	975.35	706.46	570.15	235.34	144.55	16.25
19	T Ramapuram		1319.28	1068.18	994.33	885.29	788.09	638.67	511.34	432.09	389.92	360.27	240.39
20	Takli		9261.98	7980.28	5857.18	4692.65	3121.75	2075.97	1848.34	1010.97	701.31	347.85	11.72
21	Terwad (Seasonal)		7954.12	5757.52	5547.48	5312.71	4599.22	4129.62	3725.06	3187.36	3160.84	3146.15	2548.00
22	Vijayawada		33589.83	26645.08	21817.57	19374.19	14235.88	10058.55	7236.79	2622.00	1645.87	1100.81	336.84
23	Wadakbal		1748.28	774.67	613.03	555.28	424.46	224.23	189.97	116.96	95.22	45.45	17.72
24	Wadenapally		38038.18	35558.51	28907.22	25400.74	19318.99	15797.46	11142.42	7311.47	4242.81	3742.88	2023.26
25	Warunji		6368.09	4560.64	4348.72	3474.50	3063.27	2514.43	2308.17	2002.68	1810.99	1705.08	1652.12
26	Yadgir		14125.72	10233.80	8589.50	7924.54	6108.96	4532.20	3899.57	2757.65	2536.67	2252.33	1043.89

Source : SE, Godavari Circle, Central Water Commission, Hyderabad, Krishna Basin

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
VI Basin : Cauvery													**Unit: M. C. M.**
1	Akkihebbal At Hemavathi	1/2002 to 5/2020	1980.89	1849.71	1763.94	1497.77	1323.68	1144.10	722.28	446.61	412.14	292.84	255.33
2	Annavasal At Nattar	6/1999 to 5/2020	38.60	29.97	27.00	25.01	23.00	18.43	14.84	10.58	6.80	3.33	0.96
3	Bendrahalli At Suvarnavathi	8/2005 to 5/2020	117.57	66.89	56.52	50.80	46.35	38.97	29.35	25.19	20.84	9.95	4.65
4	Biligundulu At Cauvery	6/1990 to 5/2020	10799.44	9523.22	8270.79	7816.26	7331.65	6665.95	6119.73	5462.71	5022.76	4382.36	2871.04
5	Chunchunkatte At Cauvery	6/2008 to 5/2020	4016.57	2702.78	2576.91	2382.64	2302.64	2063.92	1780.33	1359.20	1337.52	1309.19	1145.37
6	Elunuthimangalam At Noyyal	8/1998 to 5/2020	239.46	192.66	180.24	167.87	135.56	103.53	36.58	27.61	23.85	13.55	9.04
7	Gandhavayal At Gandhayar	6/2013 to 5/2020	Sufficient data not available										
8	Gopurajapuram At Puravidaiyanar	6/1999 to 5/2020	87.39	75.47	68.91	63.67	53.97	46.98	41.53	23.89	22.07	17.46	4.24
9	Hogenakkal At Chinnar	10/1996 to 5/2020	148.56	54.00	43.67	41.16	30.21	22.13	6.51	3.81	2.02	1.19	0.00
10	K.M.Vadi At Lakhshmanthirtha	6/1990 to 5/2020	688.90	533.54	491.98	465.84	348.54	314.83	286.86	219.78	206.35	169.84	84.06
11	Kodumudi At Cauvery		11301.51	9777.28	9413.29	9228.67	8508.17	7231.51	6623.00	5593.71	5151.61	4602.65	2831.56
12	Kollegal At Cauvery		9896.84	8045.61	7609.85	7074.50	6445.31	5660.03	5080.94	4656.73	4457.52	3907.65	2523.96
13	Kudige At Cauvery		4140.52	3415.88	3211.19	3090.28	2719.90	2571.86	2436.09	2228.42	2109.30	2077.81	1802.53
14	Kudlur At Palar	3/1999 to 5/2020	89.56	46.07	40.67	35.50	29.72	22.54	14.80	8.05	7.55	6.74	2.65
15	M.H.Halli At Hemavathi	6/1990 to 5/2020	2232.75	1440.53	1123.63	1007.50	946.62	830.98	718.57	594.63	572.31	545.43	442.29
16	Menangudi At Noolar	6/2004 to 5/2020	90.57	66.19	58.02	54.97	53.28	45.45	34.03	26.04	21.12	13.06	3.48
17	Urachikottai At Cauvery	6/1990 to 5/2020	10200.70	8637.80	8375.20	7897.66	6848.89	6490.20	5825.65	5072.51	4694.83	4148.91	2830.50

Cont….

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
VI Basin : Cauvery													**Unit: M. C. M.**
18	Musiri At Cauvery	6/1990 to 5/2020 (Last 30 years data)	12068.15	9724.48	9458.57	8868.14	7709.51	6770.71	5889.17	4865.22	4570.13	3931.69	2075.73
19	Muthankera At Kabini		3461.17	3121.59	3036.88	2855.80	2552.95	2449.35	2248.70	2170.10	1837.15	1782.30	1484.86
20	Nallamaranapatty At Amaravathi		713.41	439.89	334.29	319.08	248.96	162.69	88.15	41.51	32.46	31.79	14.90
21	Nallathur At Nandalar		130.56	97.46	94.64	89.33	84.68	81.86	77.21	37.81	34.95	28.89	18.41
22	Nellithurai At Bhavani		2130.44	1774.63	1710.22	1646.22	1275.26	1149.28	1023.88	872.01	746.99	637.48	147.67
23	Peralam At Vanjiyar		26.11	21.56	20.69	16.85	12.13	10.77	9.18	8.42	5.90	3.21	2.38
24	Porakudi At Arasalar		152.69	134.97	121.65	110.92	99.32	76.85	48.57	36.75	33.82	24.88	16.34
25	Sakleshpur At Hemavathi	4/2002 to 5/2020	1893.74	1469.92	1440.75	1328.72	1249.70	1199.14	885.71	778.37	719.03	633.82	459.10
26	Savandapur At Bhavani	6/1990 to 5/2020	954.00	763.29	730.09	653.49	632.14	581.07	550.45	481.59	445.06	369.77	270.85
27	Sevanur At Chittar	9/1999 to 5/2020	18.37	10.73	9.73	8.79	7.56	6.94	6.52	5.33	2.55	0.21	0.03
28	T. Bekuppe At Arkavathi	9/2003 to 5/2020	437.18	337.67	310.52	307.92	285.70	250.37	224.43	216.89	197.22	149.96	63.73
29	T.K.Halli At Shimsa	6/1990 to 5/2020	1103.35	1003.37	800.79	735.24	664.23	611.69	472.07	369.05	329.91	276.52	215.08
30	T.Narasipur At Kabini		4246.90	3465.18	3095.28	2928.68	2677.98	2417.14	2282.11	2152.89	2083.30	1726.39	1494.50
31	Thengudi At Thirumalairajanar	6/1999 to 5/2020	212.20	171.94	168.90	161.18	151.97	118.37	102.43	63.36	48.22	36.98	26.24
32	Thengumarahada At Moyar	6/1990 to 5/2020	519.19	490.46	417.56	345.42	337.40	310.72	278.71	259.96	241.22	232.27	151.99
33	Thevur At Sarabenga	9/1999 to 5/2020	27.37	18.14	16.82	15.64	12.21	9.95	7.87	5.31	1.22	0.00	0.00
34	Thimmanahalli At Yagachi	6/2000 to 5/2020	408.90	369.66	315.74	207.84	198.22	153.17	118.83	86.31	71.56	36.05	7.71
35	Thoppur At Thoppaiyar	10/1999 to 5/2020	14.61	3.55	2.62	1.81	0.34	0.11	0.00	0.00	0.00	0.00	0.00

Source : SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
VII Basin : Pennar												**Unit: M. C. M.**	
1	Alladupalli At Kunderu	06/1990 To 05/2020 (Last 30 years data)	3504.18	3085.45	2897.14	2854.34	2329.11	1576.45	1260.19	1055.13	861.33	746.56	314.79
2	Chennur At Pennar		4763.69	3546.59	3413.82	3313.51	2920.74	2301.23	1613.36	1363.85	1024.17	878.73	566.46
3	Kamalapuram At Papagni		330.34	143.04	101.07	83.55	42.14	22.26	14.18	8.75	6.06	0.71	0.00
4	Nagalamedike At Pennar		19.66	5.59	4.46	2.48	0.97	0.00	0.00	0.00	0.00	0.00	0.00
5	Nandipalli At Sagileru		261.72	209.45	174.76	138.03	79.83	44.60	25.48	17.96	13.60	4.44	1.04
6	Nellore At Pennar		3663.84	1650.86	1266.36	1132.76	577.97	245.02	72.95	39.35	32.50	22.69	1.20
7	Singavaram At Chitravathi		190.31	33.47	29.74	24.13	10.60	1.51	0.04	0.00	0.00	0.00	0.00
8	Tadipattri At Pennar		327.22	90.14	87.38	69.40	43.47	35.99	4.71	1.33	0.79	0.08	0.00

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

VIII Basin : East Flowing Rivers Between Mahanadi To Pennar												**Unit: M. C. M.**	
1	Anankapali	06/1990 To 05/2020 (Last 30 years data)	1392.01	992.20	920.41	824.77	622.99	562.62	344.04	283.73	251.15	179.66	82.96
2	Gunupur		3136.82	2967.77	2739.44	2619.83	2380.98	2064.63	1906.65	1163.34	1113.45	1047.16	833.50
3	Kashinagar		5278.69	4018.00	3908.65	3481.93	3070.28	2768.17	2267.79	1810.99	1557.94	1437.73	1291.22
4	Purushottampur		3337.64	2810.87	2739.53	2686.57	2538.82	2416.25	1753.26	1558.72	1511.42	1429.72	1022.48
5	Srikakulam		4069.63	3534.71	3230.44	3091.24	2595.02	2364.88	1918.46	1741.38	1726.30	1453.98	1230.90

Source : Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
IX Basin : East Flowing Rivers Between Pennar To Kanyakumari												Unit: M. C. M.	
1	A.P.Puram At Chittar	06/1990 To 05/2020 (Last 30 years data)	71.68	43.08	32.83	24.54	9.26	6.74	3.12	1.96	0.60	0.32	0.03
2	Ambasamudram At Vaigai		140.36	92.78	90.52	86.85	63.21	51.37	41.52	18.94	17.47	13.61	3.89
3	Arcot At Palar		209.59	148.38	65.62	54.17	8.11	2.01	0.00	0.00	0.00	0.00	0.00
4	Avarankuppam At Palar		202.23	96.05	54.29	26.48	15.11	9.15	4.99	1.27	1.13	0.42	0.00
5	Chengalpet At Palar		1303.52	417.70	194.31	174.11	135.73	79.68	58.42	22.95	14.84	8.39	4.93
6	Gummanur At Ponnaiyar		527.79	333.20	312.09	308.67	275.03	239.74	213.57	177.90	130.70	82.46	52.49
7	Irrukkankudi At Vaippar		104.61	44.49	37.91	26.34	17.81	13.27	6.74	0.17	0.00	0.00	0.00
8	Kudalaiyathur At Vellar		875.29	513.97	486.25	434.67	242.46	189.53	59.24	19.94	4.75	3.24	0.23
9	Kumarapalayam At Varahanadi		350.03	117.96	80.46	73.31	20.49	13.14	6.21	0.41	0.00	0.00	0.00
10	Magaral At Cheyyar		489.68	245.40	59.82	52.43	26.64	5.52	0.09	0.00	0.00	0.00	0.00
11	Murappandu At Tambraparani		1013.47	854.99	705.28	646.45	542.32	438.23	399.96	367.22	333.74	284.81	217.99
12	Naidupeta At Swarnamukhi		913.75	506.55	426.05	315.80	203.73	106.12	70.56	45.69	33.98	24.88	2.99
13	Nandalur At Cheyyeru		Sufficient data not available										
14	Paramakudi At Vaigai		431.19	179.36	97.82	64.74	28.92	21.11	15.42	9.98	1.53	0.08	0.00
15	Sulurpet At Kalingi		542.96	305.82	286.08	225.23	138.97	90.73	60.77	28.94	16.51	12.61	5.56
16	Theni At Suruliyar		886.03	761.61	732.96	680.18	642.25	606.80	579.20	510.44	491.51	410.00	188.20
17	Vazhavachanur At Ponnaiyar		1021.76	413.25	350.34	290.71	226.19	182.59	109.31	49.86	35.99	26.21	10.16
18	Villupuram At Ponnaiyar		1002.73	531.40	343.87	214.50	187.08	111.27	37.28	2.74	0.00	0.00	0.00

Source : SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
X	Basin : Narmada												Unit: M. C. M.
1	Orsang At Chandawada	06/1990 to 05/2019	2310.40	1903.55	1542.04	1388.23	1095.16	957.49	810.90	666.34	600.52	511.75	399.35
2	Narmad At Garudeswar		48401.41	33042.51	30106.28	26446.46	24412.00	22858.35	20974.26	14987.28	11483.23	9326.68	5922.57
3	Goi At Pati	06/1999 to 05/2017	625.55	447.31	438.26	408.45	296.85	263.65	236.66	195.58	190.27	148.76	50.41
4	Uri At Dhulsar		167.62	161.37	155.52	138.78	121.80	101.28	74.54	40.69	33.95	32.09	6.39
5	Narmada At Mandleswar	06/1990 To 05/2020 (Last 30 years data)	48454.71	44271.78	34959.29	34073.66	33414.96	27959.70	24749.25	23407.82	22544.76	20795.85	16165.35
6	Kundi At Kogaon		1853.46	1508.97	1484.37	1361.41	1012.05	895.78	718.55	633.67	616.04	572.74	216.94
7	Narmada At Handia		43913.72	29047.21	27449.93	26566.01	25224.68	21108.80	18973.94	17738.44	16615.17	14878.28	12660.54
8	Ganjal At Chhidgaon		2214.41	1648.68	1553.18	1530.20	1136.16	904.59	798.76	638.41	535.46	494.66	372.08
9	Narmada At Hoshangabad		32877.53	26156.02	22675.64	21435.78	20739.33	18272.27	17053.71	13541.83	12640.26	12461.31	10995.14
10	Narmada At Sandia		24845.10	22422.08	20475.73	16494.10	14780.30	13858.82	12776.46	11040.27	10388.04	9787.92	8930.25
11	Shakkar At Gadarwara		2787.32	2156.76	2071.10	1699.79	1457.14	1284.91	1061.88	900.40	820.99	786.92	694.82
12	Narmada At Barmanghat		21166.43	17853.91	16291.80	13334.82	11994.45	10610.39	9408.83	8744.28	8377.80	7636.25	6120.24
13	Sher At Belkheri		1334.84	1187.91	855.27	814.13	730.52	645.03	579.90	511.80	458.80	441.85	329.69
14	Hiran At Patan		3045.60	2908.16	2001.55	1838.25	1745.65	1574.93	1452.87	1054.58	864.56	790.98	608.86
15	Banjar At Bamni	11/1999 to 06/2020	1399.13	940.93	894.04	877.81	724.90	697.54	567.65	527.35	492.26	476.65	270.20
16	Burhner At Mohgaon	06/1990 To 05/2020 (Last 30 years data)	3700.99	3205.47	2905.17	2591.05	2450.74	2167.20	2081.18	1910.12	1630.76	1510.88	1323.24
17	Narmada At Manot		4335.92	3877.61	3717.83	3528.62	2944.28	2610.76	2206.37	2149.26	2049.92	1969.91	1460.69
18	Narmada At Dindori		1712.94	1434.70	1408.93	1386.63	1251.06	1188.35	1114.91	942.51	900.32	793.00	644.69

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP) 2014-15 Narmada Basin.

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
XI Basin : Tapi													**Unit: M. C. M.**
1	Dedtalai	06/1990 To 05/2020 (Last 30 years data)	Site upgrded on 02/06/2014										
2	Ghala		Gauging Site										
3	Gidhade		19437.05	9756.34	8061.17	6769.83	5062.79	4562.40	3820.36	3420.41	3192.03	2866.93	1362.16
4	Lakhpuri		Gauging Site										
5	Morane		Gauging Site										
6	Motinaroli		1214.32	729.85	636.24	506.11	389.02	307.23	287.49	231.24	213.16	200.39	107.90
8	Pingalwada		1136.38	756.45	698.64	656.37	525.88	416.89	331.42	272.24	241.22	218.07	133.20
7	Purna At Gopalkheda		2179.22	1383.45	1359.27	1265.88	983.42	868.36	758.65	483.39	307.46	299.71	139.89
9	Purna At Yerli		3542.67	2222.31	1916.22	1865.61	1795.77	1720.36	1489.36	769.12	639.76	564.59	215.76
10	Sarangkheda		17641.12	10731.20	8298.23	7520.01	6362.18	5361.68	3733.09	3182.18	3070.56	2740.02	1886.30
11	Savkheda		Gauging Site										
12	Tapi At Burhanpur		8746.92	7871.00	7628.14	6166.63	5069.70	4397.78	4076.08	3200.88	2027.81	1922.40	1765.62

Source: Executive Engineer Tapi Division Surat.

XII Basin : West Flowing Rivers From Tapi To Tadri													**Unit: M. C. M.**
1	Ambica At Gadat	06/1990 To 05/2020 (Last 30 years data)	2742.62	2082.58	1978.82	1641.26	1414.92	1299.33	1191.54	977.98	703.65	662.71	489.52
2	Durvesh		5559.12	4027.59	3829.45	3778.64	3709.87	3552.60	2868.97	2309.85	2075.63	1950.23	1244.63
3	Nanipalson		1978.14	1454.36	1417.37	1241.84	1089.82	1066.05	958.44	831.37	758.36	698.27	552.20
4	Ozerkheda		1713.23	1464.22	1460.84	1381.40	1322.40	1111.67	1013.95	917.14	842.01	756.62	616.03
5	Purna At Mahuwa		1697.21	1298.60	925.66	914.21	867.78	810.78	703.38	552.72	524.99	516.97	299.07

Source : SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
XIII Basin : West Flowing Rivers From Tadri To Kanyakumari												Unit: M. C. M.	
1	Arangaly	6/1990 to 5/2020	2757.76	2548.19	2113.34	2027.46	1912.26	1674.69	1629.99	1448.69	1415.61	1364.97	1138.34
2	Ashramam		185.63	167.15	163.15	155.16	147.33	107.67	88.14	77.04	64.04	51.31	16.51
3	Ayilam		960.75	853.87	818.67	779.48	659.03	542.53	526.78	494.16	479.50	440.79	349.13
4	Erinjipuzha		3090.93	2797.40	2784.83	2589.89	2429.87	2301.06	2066.22	1868.75	1834.68	1777.17	1697.05
5	Kalampur		1530.17	1403.04	1331.77	1271.93	1228.03	1105.06	1041.05	946.70	928.82	906.11	799.14
6	Kallooppara		2270.33	2144.44	2078.35	2010.04	1944.20	1793.80	1635.95	1486.39	1439.13	1328.53	1167.81
7	Karathodu		1989.87	1792.04	1678.00	1555.21	1423.64	1260.67	1077.42	993.12	946.11	865.60	637.93
8	Kidangoor		2254.88	2169.61	2040.13	1965.02	1777.37	1750.13	1694.62	1456.63	1354.84	1309.46	1162.64
9	Kumbidi		6740.55	6034.14	5807.90	5564.75	5019.60	4423.86	3870.23	3635.73	3021.41	2836.26	2285.00
10	Kuniyil		6151.01	5727.64	5218.10	5047.72	4616.65	4132.74	3859.16	3472.97	3243.96	3136.38	2168.87
11	Kuttyadi	3/2000 to 5/2020	1783.28	1502.45	1405.52	1385.33	1293.21	1067.49	985.55	918.57	884.66	820.21	714.13
12	Kuzhithurai	11/2000 to 5/2020	374.48	246.24	219.40	181.54	146.92	110.11	78.18	50.26	30.02	8.50	0.32
13	Malakkara	6/1990 to 5/2020	5066.15	4546.79	4358.98	4251.47	4053.98	3696.95	3513.96	3331.11	3195.24	2840.81	1995.20
14	Mankara		1618.06	1066.09	1033.06	949.37	816.15	640.88	486.69	436.80	422.19	342.64	254.42
15	Neeleswaram		9910.35	8881.38	8297.04	7875.75	6970.73	6655.94	6299.94	6086.82	5733.61	5602.10	4714.46
16	Pattazhy		2430.79	1914.22	1754.47	1723.47	1524.76	1399.45	1200.47	1080.83	1027.85	988.95	785.31
17	Perumannu		5343.28	4742.59	4701.35	4551.62	4034.76	3646.19	3440.04	3139.46	3015.34	2920.51	2631.61
18	Pudur		561.20	419.53	379.08	346.25	315.18	282.56	209.33	178.82	161.75	143.63	107.01
19	Pulamanthole		2454.42	2229.25	2181.06	2159.33	2032.44	1810.20	1613.12	1454.37	1302.40	1256.73	909.18
20	Ramamangalam		6202.21	5904.78	5784.43	5591.35	5432.58	4962.51	4720.17	4142.73	4021.50	3917.25	3576.30
21	Thumpamon		1613.79	1439.23	1392.21	1314.96	1264.84	1155.92	1077.74	935.49	847.81	809.11	646.23
22	Vandiperiyar	6/2000 to 5/2020	327.89	251.59	195.90	183.53	156.42	141.58	129.27	119.10	109.62	102.66	67.88
23	Adakasthala	6/2019 to 5/2020	Sufficient data not available										
24	Addoor	7/2003 to 5/2020	2682.80	2629.60	2569.86	2524.20	2437.32	2266.71	2065.47	1935.89	1838.19	1724.15	1570.24
25	Avershe	6/2002 to 5/2020	1445.17	1388.06	1368.03	1347.86	1265.23	1185.72	1106.92	1083.67	1066.86	1019.99	877.67
26	Bantwal	6/1990 to 5/2020	13596.49	12471.46	12338.57	12129.04	11941.95	10975.64	10289.31	9373.96	9126.41	8636.17	7427.76
27	Haladi		2493.40	2360.82	2324.04	2277.79	2130.15	2073.00	1894.66	1714.06	1640.06	1580.64	1467.62
28	Pulikukku	6/2019 to 5/2020	Sufficient data not available										
29	Sanoor												
30	Santeguli	6/1990 to 5/2020	6025.41	5088.96	4803.43	4527.14	3719.22	3580.41	3329.61	3042.82	2732.83	2653.58	1841.89
31	Yennehole		1799.85	1740.71	1706.71	1656.59	1572.49	1497.40	1407.50	1332.63	1301.95	1258.02	1235.22

Source : SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore

Table 7 : Annual dependable flow of water by site and river basin for the last 30 Years (1990-91 to 2019-20)

Sl. No.	Site Name	Period	Dependable flow										
			10%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
XIV Basin : Mahi													**Unit: M. C. M.**
1	Anas At Chakaliya	06/1990 To 05/2020 (Last 30 years data)	15.02	6.91	6.29	5.76	4.32	3.63	2.75	1.98	1.60	1.42	0.52
2	Jakham At Dhariawad		3.33	1.80	1.38	1.26	1.09	0.54	0.42	0.21	0.16	0.13	0.10
3	Machhundri At Una		Sufficient data not available										
4	Mahi At Khanpur		41.91	31.15	26.31	24.64	17.50	12.78	9.82	3.43	3.13	2.90	1.99
5	Mahi At Mataji		12.38	9.87	8.58	7.95	5.60	4.40	3.72	2.74	2.06	1.42	0.81
6	Mahi At Paderdibadi		18.25	13.98	11.51	10.67	7.46	5.33	4.27	2.47	1.86	1.37	1.13
7	Som At Rangeli		7.66	4.32	3.55	3.15	2.39	2.08	1.39	0.81	0.64	0.55	0.36
XV Basin : Sabarmati													**Unit: M. C. M.**
1	Sabarmati At Derol Bridge	06/1990 To 05/2020 (Last 30 years data)	6.04	2.50	2.23	1.77	0.95	0.57	0.18	0.11	0.09	0.05	0.03
5	Watrak At Gadvel (Ratanpur)		2.69	1.82	1.44	1.19	0.97	0.52	0.41	0.20	0.17	0.16	0.13
2	Sabarmati At Kheroj		3.83	2.91	2.46	1.96	1.57	0.85	0.65	0.48	0.44	0.39	0.16
3	Sabarmati At Voutha		19.11	13.62	12.11	9.94	7.97	6.82	5.60	4.05	3.05	1.65	0.37
4	Wakal At Kotra (Jotasan)		1.94	1.15	0.92	0.82	0.64	0.42	0.36	0.22	0.21	0.18	0.11
6	Watrak At Kheda		4.52	2.50	1.42	1.26	1.02	0.84	0.50	0.35	0.20	0.11	0.06

Source: SE, Mahi Division, CWC, Gandhi Nagar (Mahi and Sabarmati Basin)

XVI Basin : West Flowing Rivers of Kutch, Saurashtra Including Luni													**Unit: M. C. M.**
1	Balaram At Chitrasani	06/1990 To 05/2020 (Last 30 years data)	0.44	0.37	0.18	0.14	0.11	0.07	0.04	0.02	0.02	0.02	0.00
2	Banas At Abu Road		1.57	0.88	0.57	0.29	0.22	0.20	0.13	0.07	0.05	0.03	0.02
3	Banas At Kamalpur		3.11	1.98	0.87	0.77	0.38	0.28	0.15	0.07	0.04	0.02	0.00
4	Banas At Sarotry		3.16	1.77	1.21	0.89	0.63	0.41	0.26	0.18	0.09	0.06	0.02
5	Bhadar At Ganod		3.31	2.73	2.27	1.43	0.92	0.50	0.30	0.23	0.15	0.13	0.00
6	Luni At Balotra		2.24	0.98	0.72	0.46	0.20	0.01	0.00	0.00	0.00	0.00	0.00
7	Luni At Gandhav		3.05	1.65	0.86	0.81	0.07	0.04	0.01	0.00	0.00	0.00	0.00
8	Machhu At Gungan		2.43	1.96	1.17	0.76	0.17	0.08	0.05	0.03	0.03	0.02	0.00
9	Sapawada		0.79	0.52	0.39	0.35	0.27	0.11	0.09	0.04	0.01	0.01	0.00
10	Shetrunji At Lowara		3.82	2.06	1.70	1.53	0.75	0.64	0.52	0.43	0.40	0.24	0.13

Source: SE, Mahi Division, CWC, Gandhi Nagar (Mahi and Sabarmati Basin)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

I Basin : Mahanadi — **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ANDHIARKHORE	2.326	21.836	16.382	5.585	0.035	0.000	0.000	0.000	2.105	0.000	0.000	0.000
2	BAMNIDHI	2.448	21.397	43.062	68.981	23.491	6.478	5.018	4.161	2.269	2.719	1.041	1.966
3	BARONDA	7.769	39.841	248.118	104.184	14.277	0.721	0.000	0.000	0.000	0.000	0.000	0.000
4	BASANTPUR	1.289	21.855	89.206	84.400	31.619	7.080	2.447	1.669	1.557	1.473	0.314	0.793
5	GHATORA	0.000	45.800	227.605	202.009	68.798	4.270	2.568	2.725	1.063	1.631	0.082	0.236
6	JONDHRA	0.005	12.916	54.099	64.759	25.402	4.699	1.354	1.428	1.124	0.772	0.060	0.000
7	KANTAMAL	13.369	110.069	327.342	174.572	55.779	24.111	18.944	8.826	8.726	10.158	7.650	12.614
8	KESINGA	18.385	95.586	260.426	148.637	60.988	27.557	17.592	10.511	12.104	11.107	11.480	20.383
9	KOTNI	0.000	46.569	111.932	82.994	35.874	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	KURUBHATA	2.639	70.230	111.128	141.675	47.057	13.352	8.496	8.243	3.770	6.808	1.155	1.981
11	MANENDRAGARH	2.020	37.312	94.468	116.094	19.485	3.371	0.000	0.000	0.000	0.000	0.000	0.000
12	PATHARDIH	0.000	19.438	116.911	61.015	7.846	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	RAJIM	3.958	58.696	292.598	112.563	4.535	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	RAMPUR	0.000	61.433	213.117	65.008	0.748	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	SALEBHATA	0.000	51.226	192.972	117.144	34.368	4.349	2.026	1.215	2.252	2.235	0.584	1.642
16	SEORINARAYAN	0.639	18.356	88.320	79.616	26.616	3.533	1.115	0.983	0.791	0.813	0.029	0.055
17	SIMGA	0.006	24.657	45.053	31.039	4.772	2.307	0.000	0.000	0.000	0.000	0.000	0.000
18	SUNDERGARH	8.581	61.856	109.216	133.795	55.767	11.346	6.533	5.567	2.765	7.333	1.197	1.891
19	TIKARAPARA	7.446	48.968	144.231	118.191	59.220	10.540	6.404	4.864	5.603	4.680	5.294	10.388

Source: Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

II Basin : Subernarekha — **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ADITYAPUR	5.767	48.265	144.028	137.531	17.457	8.949	8.515	4.567	2.246	8.025	4.897	9.452
2	GHATSILA	1.933	27.859	130.570	143.599	13.166	6.548	5.283	4.834	4.328	2.794	3.933	3.945
3	GOVINDPUR	20.398	151.008	215.735	252.764	117.354	67.896	60.556	43.635	5.157	5.527	4.777	27.323
4	JAMSHEDPUR	6.214	52.095	153.468	171.311	34.751	11.998	11.860	11.516	8.953	12.283	10.996	3.073
5	MURI	14.349	45.620	104.751	133.183	21.778	4.120	4.226	2.978	2.413	10.474	1.768	2.252

Source: Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

III Basin : Brahmani & Baitarani — **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ALTUMA	14.340	92.676	173.506	268.648	65.970	21.703	6.188	6.764	10.634	12.063	9.076	5.822
2	GOMLAI	7.301	63.354	160.457	130.986	76.201	14.279	9.419	6.215	3.078	7.570	2.608	1.147
3	JARAIKELA	4.680	26.292	66.800	50.324	39.620	11.326	6.964	6.288	3.144	5.592	2.185	0.759
5	PANPOSH	5.318	77.029	185.553	144.355	80.046	23.661	14.041	13.971	5.144	11.033	3.895	1.385
6	TILGA	13.525	83.768	143.117	153.520	72.563	16.943	10.455	9.259	4.840	10.415	3.543	1.145
7	ANANDPUR	3.164	30.441	183.393	199.023	99.248	26.730	10.395	6.919	5.698	5.481	4.500	2.287
8	CHAMPUA	7.409	39.223	154.766	183.064	78.273	25.589	15.403	10.680	8.511	9.739	5.332	3.399

Source: Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

IV Basin : Godavari **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	AMBABAL AT NARANGI	0.9	108.6	137.2	159.2	66.3	8.2	0.0	0.0	0.0	0.0	0.0	0.0
2	BETMOGRA AT MANER	0.0	0.0	2.2	9.3	165.9	5.4	0.8	0.0	0.0	0.0	0.0	0.0
3	BHADRACHALAM AT GODAVARI	0.0	24.5	158.8	126.6	42.8	15.5	1.9	0.8	0.4	0.1	0.0	0.7
4	CHERRIBEDA AT BARDHA	17.5	319.6	459.9	401.0	192.2	40.5	12.0	9.1	5.2	1.4	2.8	2.7
5	CHINDNAR AT INDRAVATHI	8.3	151.2	318.7	250.8	71.5	20.1	5.1	3.6	2.2	1.1	1.0	2.1
6	DEGLOOR AT LENDI	0.0	0.0	1.4	12.5	29.9	19.5	0.0	0.0	0.0	0.0	0.0	0.0
7	DHALEGAON AT GODAVARI	0.0	0.0	2.2	17.4	31.9	12.0	0.0	0.0	0.0	0.0	0.0	0.0
8	G.R.BRIDGE AT GODAVARI	0.0	0.0	1.8	14.4	20.2	8.9	0.0	0.0	0.0	0.0	0.0	0.0
9	GANDLAPET AT PEDDAVAGU	0.0	0.0	5.0	14.3	5.7	1.2	0.0	0.0	0.0	0.0	0.0	0.0
10	JAGDALPUR AT INDRAVATHI	7.9	94.0	190.9	161.7	25.9	11.9	5.1	3.8	3.4	2.1	1.6	1.8
11	KIWAIBALENGA AT BAWARDHI	16.8	302.5	309.9	411.0	203.3	42.1	3.5	4.5	0.6	0.0	0.0	1.3
12	KONTA AT SABARI	40.6	142.7	432.8	265.3	93.8	59.4	33.9	34.2	26.0	32.7	28.0	34.1
13	KOPERGAON	0.0	76.1	333.9	150.4	51.5	19.2	0.0	0.0	0.0	0.0	0.0	0.0
14	KOSAGUMDA AT BHASKAL	24.8	174.3	270.4	184.8	50.3	23.4	4.4	2.5	1.5	2.0	2.1	2.1
15	LOHARA	Data Not available											
16	MANCHERIAL AT GODAVARI	0.1	0.1	4.7	3.1	16.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0
17	NOWRANGPUR AT INDRAVATHI	5.0	77.1	198.0	181.0	20.1	13.2	8.7	5.6	3.3	2.5	3.0	3.4
18	PACHEGAON AT PRAVARA	0.0	0.0	59.4	48.5	37.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0
19	PATHAGUDEM AT	3.0	133.7	390.1	313.0	75.2	27.1	7.6	5.6	2.6	1.6	0.9	1.6
20	PERUR AT GODAVARI	0.4	27.3	137.9	127.3	45.7	14.4	1.1	0.6	0.3	0.0	0.0	0.8
21	POLAVARAM AT GODAVARI	2.5	25.5	157.0	119.4	44.5	18.0	3.4	2.4	1.9	2.0	1.6	2.0
22	POTTERU (SEASONAL) AT	310.5	404.3	798.0	429.3	232.0	115.2	Discharge not observed					
23	PURNA AT PURNA	0.0	0.0	1.2	7.1	12.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0
24	SAIGAON AT MANJERA/GODAVARI	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
25	SANGAM AT MURREDU	0.0	4.2	61.2	53.7	31.0	13.4	5.7	0.9	0.0	0.0	0.0	0.0
26	SARADAPUT AT SABARI	75.4	388.6	891.7	665.5	198.2	99.5	60.6	40.0	33.9	32.9	47.3	64.7
27	SOMANPALLY (SEASONAL) AT MANER	0.0	1.9	28.9	23.5	30.8	9.7	1.3	0.0	0.0	0.0	0.0	0.0
28	SONARPAL AT MARKANDI	0.0	149.3	207.1	226.5	51.7	16.7	3.7	5.1	3.8	3.5	4.9	4.4
29	TUMNAR AT DANTEWARA	13.1	234.8	555.7	331.1	84.9	35.9	13.2	9.0	4.4	5.3	3.4	4.9
30	YELLI AT GODAVARI	0.0	0.0	1.5	22.4	29.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
31	ZARI AT DUDHNA	0.9	0.0	0.0	1.6	20.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Source : SE, Godavari Circle, Central Water Commission, Hyderabad, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills Nagpur

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

V **Basin : Krishna** **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ARJUNWAD (SEASONAL)	0.000	156.683	538.069	232.280	142.625	41.260	SEASONAL SITE					
2	BAWAPURAM	0.000	0.000	180.838	204.619	204.354	17.300	11.218	0.884	0.546	0.329	0.000	0.000
3	DAMERACHERLA	0.075	0.119	0.939	13.993	32.853	7.859	2.206	4.983	6.578	5.845	0.995	0.307
4	DODDIPADU.	0.000	0.000	0.223	2.149	2.410	0.917	0.498	0.759	0.826	0.040	0.000	0.000
5	HALIA	0.055	0.088	1.540	8.012	6.731	2.424	1.204	1.545	1.566	1.054	0.654	0.437
6	KURUNDWAD	0.000	306.065	798.395	378.423	187.338	43.749	0.000	0.000	0.000	0.000	0.000	0.000
7	MADHIRA	0.000	0.000	2.033	9.614	4.821	1.179	1.174	0.852	0.770	0.813	0.000	0.000
8	MALKHED	0.027	0.057	2.324	8.524	12.109	6.882	0.438	0.338	0.055	0.000	0.000	0.000
10	NARASINGPUR	0.000	3.051	250.891	164.840	124.668	62.382	0.000	0.000	0.000	0.000	0.000	0.000
11	PALERU BRIDGE	0.300	0.100	1.280	4.256	4.298	2.103	1.007	0.788	1.071	1.455	0.000	0.000
12	PHULGAON (SEASONAL)	0.000	47.017	64.435	45.017	11.150	0.000	SEASONAL SITE					
13	SADALGA (SEASONAL)	0.000	76.471	162.835	68.966	34.552	4.626	SEASONAL SITE					
14	SAMDOLI (SEASONAL)	0.000	88.314	216.422	102.177	41.637	3.890	SEASONAL SITE					
15	SARATI	0.000	4.899	102.264	43.197	52.153	24.802	0.000	0.000	0.000	0.000	0.000	0.000
16	T RAMAPURAM	1.608	0.000	0.000	33.935	33.203	9.821	7.405	2.201	0.991	0.162	0.000	0.000
17	TAKLI	0.000	0.000	244.154	156.891	125.067	57.212	0.000	0.000	0.000	0.000	0.000	0.000
18	TERWAD (SEASONAL)	1.645	143.526	410.154	131.874	41.001	5.347	SEASONAL SITE					
19	VIJAYAWADA	0.000	0.000	611.015	438.095	492.510	64.708	0.000	0.000	0.000	0.000	0.000	0.000
20	WADAKBAL	0.000	0.000	0.334	3.402	11.064	2.452	0.0000	0.4208	0.0000	0.0000	0.0000	0.0000
21	WADENAPALLY	0.291	0.372	700.550	504.367	636.133	119.478	14.949	15.502	15.028	14.111	14.377	3.131
22	WARUNJI	0.000	94.881	309.312	126.762	25.725	14.327	0.000	0.000	0.000	0.000	0.000	0.000
23	YADGIR	0.000	0.000	327.903	192.784	207.794	99.006	0.000	0.000	0.000	0.000	0.000	0.000
24	ANANTHARAM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	DAREDU	0.000	0.000	47.272	55.567	50.045	34.802	31.803	11.924	0.000	0.000	0.000	0.000
26	MELAGANUR	2.794	0.201	164.048	173.913	185.393	25.511	13.710	10.385	5.786	3.629	0.000	0.000
28	MUNUGODU	0.052	0.046	2.157	8.031	5.492	2.242	2.597	1.686	0.723	0.20	0.000	0.060
29	NANDRE	0.000	0.719	319.656	3.900	24.559	5.922	0.925	0.031	0.227	0.000	0.000	0.000
30	PARAGAON	0.000	101.354	189.476	135.443	50.315	11.663	0.000	0.000	0.000	0.000	0.000	0.000
31	TARGAON	0.803	17.484	117.127	38.921	41.241	11.656	2.351	0.000	0.000	0.000	0.000	0.000
32	VALIGONDA	0.000	0.794	3.542	8.908	16.279	5.073	0.050	0.100	0.112	0.049	0.383	0.202
33	VEERALAPALEM	0.412	0.124	0.544	4.108	3.164	1.423	0.563	1.089	1.250	1.443	0.808	0.209
34	SUDDAKALLU	0.000	0.000	0.000	0.243	0.739	0.000	0.000	0.009	0.000	0.000	0.000	0.000

Source :SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

VI Basin : Cauvery **Unit: Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	AKKIHEBBAL	2.932	60.656	150.364	50.729	38.234	15.756	17.473	4.054	1.430	1.265	0.902	1.282
2	BENDRAHALLI	0.000	0.014	1.022	12.877	28.593	5.652	3.412	0.504	0.105	0.000	0.000	0.022
3	BILIGUNDULU	6.192	49.442	102.609	42.509	29.261	15.045	8.336	2.715	1.232	1.381	1.566	2.765
4	CHUNCHUNKATTE	88.619	302.906	554.008	154.349	63.004	29.239	27.682	2.718	0.218	0.000	0.000	0.336
5	ELUNUTHIMANGALAM	0.429	0.090	3.303	1.540	6.758	7.249	6.450	2.338	1.039	0.728	0.331	0.322
6	GANDHAVAYAL	12.111	8.262	12.178	59.737	268.158	150.296	146.880	35.222	9.347	3.016	0.000	0.000
7	HOGENAKKAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	K.M.VADI	30.193	87.661	191.786	79.269	46.006	8.513	6.401	3.356	0.000	0.000	0.000	0.000
9	KODUMUDI	0.294	12.582	53.007	30.269	22.099	10.387	10.835	7.806	0.830	0.845	1.682	0.613
10	KOLLEGAL	12.766	98.269	204.988	69.989	46.025	24.697	12.040	3.972	2.295	1.754	2.140	3.493
11	KUDIGE	229.284	542.449	833.219	246.226	89.852	35.444	16.538	8.786	7.677	8.739	7.988	10.033
12	KUDLUR	0.391	0.107	0.060	6.265	19.679	8.468	3.143	0.873	0.025	0.000	0.293	0.015
13	M.H.HALLI	5.911	95.301	384.217	55.817	24.836	15.005	10.707	8.389	5.301	4.246	6.570	4.843
14	MUSIRI	0.208	9.175	39.740	19.318	14.626	7.334	8.341	6.298	0.760	0.417	1.074	0.634
15	MUTHANKERA	312.931	757.548	1323.822	328.938	192.711	90.726	47.075	21.613	7.305	7.994	8.826	12.755
16	NALLAMARANAPATTY	0.171	0.889	9.568	0.645	1.306	2.031	1.125	0.081	0.000	0.000	0.000	0.000
17	NELLITHURAI	61.789	76.638	316.233	10.848	40.819	0.000	0.000	0.000	0.000	16.172	0.000	0.000
18	SAKLESHPUR	267.775	622.849	1021.368	387.884	182.806	91.150	65.916	33.082	14.480	3.353	3.099	8.419
19	SAVANDAPUR	2.160	4.888	47.187	14.231	22.931	23.881	11.809	7.953	6.258	6.826	4.918	4.494
20	SEVANUR	0.000	0.000	0.237	7.592	11.331	7.354	6.472	2.761	0.062	0.000	0.297	0.000
21	T. BEKUPPE	6.628	4.344	9.316	13.921	23.839	9.571	4.773	3.176	2.390	1.857	3.378	7.100
22	T.K.HALLI	0.000	0.172	2.555	14.402	16.826	6.320	4.132	0.189	0.000	0.000	0.000	1.263
23	T.NARASIPUR	23.425	180.927	281.234	84.683	58.087	30.862	18.100	5.883	4.608	6.060	7.724	10.449
24	THENGUMARAHADA	14.845	28.361	110.360	43.347	57.328	28.456	23.621	13.625	9.187	9.511	4.558	10.934
25	THEVUR	0.000	0.000	0.055	1.259	4.239	3.705	3.357	1.054	0.000	0.000	0.000	0.000
26	THIMMANAHALLI	3.984	6.229	147.433	37.516	65.210	14.592	7.342	3.161	1.934	1.069	1.007	1.932
27	THOPPUR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	URACHIKOTTAI	0.053	14.525	60.623	38.570	27.530	10.581	14.743	11.448	0.000	0.629	1.861	0.495
29	ALANDURAI	0.000	28.952	188.842	99.581	126.660	64.177	39.222	16.180	4.131	0.926	0.000	0.000
30	BALASAMUDRAM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	KOTTATHARA	16.237	105.347	346.892	228.167	212.570	259.691	142.998	80.959	45.363	13.891	10.590	18.208
32	KUKKALTHURAI	2.164	1.963	13.335	5.947	83.417	51.016	36.594	12.598	5.149	2.819	2.252	6.646
33	LAKSHMANANPATTY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	ODANDHURAI	1.968	0.982	30.289	28.974	307.826	226.546	195.729	32.914	11.844	5.629	0.000	1.578
35	THANDALAIPUTHUR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	VARANAVASI	0.000	0.000	4.948	12.424	4.047	4.022	8.667	0.000	0.000	0.000	0.000	0.000
37	BELUR	0.536	1.416	165.633	49.110	104.905	6.714	0.631	0.508	0.407	0.399	0.423	0.362
38	BETTADAMANE	66.422	666.107	1881.358	810.670	393.593	117.819	68.104	35.564	18.009	4.178	4.191	11.669
39	CHIKKAMALUR	0.000	0.000	0.000	0.019	0.580	0.180	0.062	0.000	0.000	0.000	0.000	0.000
40	CHIKKARASINAKERE	15.577	1.670	54.361	377.959	296.874	70.630	43.975	13.732	15.599	13.405	16.054	35.593
41	HOMMARAGALLI	21.499	63.756	544.476	304.296	77.990	69.077	44.957	8.922	8.857	30.143	32.687	35.972
42	JANNAPURA	7.524	13.989	291.686	148.882	156.935	38.115	20.311	11.646	8.004	8.735	9.229	10.831
43	KOKKEDODDY	0.413	0.678	3.790	5.692	17.774	5.543	1.821	0.498	0.408	0.426	0.363	0.691
44	MUKKODLU	21.909	495.728	1448.005	899.872	194.293	115.593	77.542	50.179	28.398	18.825	19.255	30.288
45	NAPOKLU	35.806	553.362	1395.860	821.305	261.482	83.371	41.488	22.887	12.376	6.525	6.422	7.813
46	PUDUNAGARA	0.000	0.000	0.000	0.000	2.789	4.756	2.083	0.440	0.289	0.000	0.000	0.000
47	THORESHETTIHALLI	0.000	0.000	0.000	1.199	3.925	2.972	1.076	0.000	0.000	0.000	0.000	0.000

Source : SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

VII Basin : Pennar — **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ALLADUPALLI	1.000	3.060	92.851	225.225	79.052	29.784	26.866	12.772	3.106	1.778	0.831	1.012
2	CHENNUR	0.112	0.544	24.266	60.298	32.077	13.250	8.601	2.162	0.904	0.310	0.000	0.023
3	KAMALAPURAM	0.000	0.000	0.000	0.673	0.458	0.090	0.000	0.000	0.000	0.000	0.000	0.000
4	NAGALAMEDIKE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	NANDIPALLI	0.000	0.000	0.000	1.074	0.000	0.355	0.000	0.000	0.000	0.000	0.000	0.000
6	NELLORE	0.000	0.000	0.000	0.000	3.254	2.579	0.000	0.000	0.000	0.000	0.000	0.000
7	SINGAVARAM	0.000	0.000	0.000	2.473	1.102	2.147	0.735	0.000	0.000	0.000	0.000	0.000
8	TADIPATTRI	0.000	0.000	0.000	0.180	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Source : SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

VIII Basin : East Flowing Rivers from Mahanadi to Pennar — **Unit: Millimeter**

Sl. No.	Site Name	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Anankapali	0.000	0.000	0.000	47.734	196.435	31.477	7.550	2.161	1.542	0.000	0.000	0.000
2	Gunupur	2.529	25.696	106.900	85.227	85.130	28.042	13.715	8.464	5.902	4.363	2.739	3.460
3	Kashinagar	3.411	30.858	99.672	83.933	91.792	23.449	16.246	10.570	5.988	4.412	2.604	2.780
4	Purushottampur	1.464	21.856	69.035	105.825	143.363	24.942	6.569	5.504	2.128	1.868	3.204	2.078
5	Srikakulam	2.402	9.106	47.990	53.655	65.884	6.286	11.330	5.899	3.072	3.141	1.639	0.996

Source: Mahanadi & Eastern Rivers Organisation, CWC, Bhubaneswar

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

IX Basin : East Flowing Rivers from Pennar to Kanyakumari — **Unit: Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	A.P.PURAM	0.000	0.000	0.000	0.000	0.309	0.104	4.255	0.000	0.000	0.000	0.000	0.000
2	AMBASAMUDRAM	0.000	0.000	0.000	0.000	15.008	28.381	19.095	0.758	0.000	0.000	0.000	0.000
3	ARCOT	0.000	0.000	0.000	0.179	0.000	0.011	0.220	0.024	0.000	0.000	0.000	0.000
4	AVARANKUPPAM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	CHENGALPET	0.000	0.000	0.030	0.020	0.120	0.500	1.683	0.132	0.025	0.000	0.000	0.000
6	GUMMANUR	8.399	4.672	6.656	11.452	14.142	8.328	6.899	3.754	2.071	0.721	1.103	3.693
7	IRRUKKANKUDI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	KUDALAIYATHUR	0.000	0.000	0.000	0.000	0.000	0.306	4.989	0.000	0.000	0.000	0.000	0.000
9	KUMARAPALAYAM	0.000	0.000	0.000	0.000	0.000	0.000	4.019	0.000	0.000	0.000	0.000	0.000
10	MAGARAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	MURAPPANDU	2.447	1.420	19.137	10.964	7.597	9.039	42.055	8.397	7.398	4.385	1.139	2.602
12	NAIDUPETA	0.000	0.000	0.000	0.000	0.000	1.623	11.028	0.000	0.970	0.000	0.000	0.000
13	Nandalur	NA											
14	PARAMAKUDI	0.000	0.000	0.000	1.248	0.000	2.410	0.130	0.000	0.000	0.000	0.000	0.000
15	SULURPET	0.000	0.000	0.000	0.000	0.479	0.859	1.771	0.047	0.000	0.000	0.000	0.000
16	THENI	24.171	55.337	112.896	90.279	136.235	103.588	72.803	30.076	4.969	0.395	2.574	0.942
17	VAZHAVACHANUR	0.000	0.000	0.213	0.093	0.057	0.093	0.183	0.000	2.093	0.433	0.000	0.000
18	VILLUPURAM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Source : SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

X Basin : Narmada **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	NARMADA AT DINDORI	3.05	37.42	173.17	215.28	70.35	7.2	14.45	15.44	0	0	0	0
2	NARMADA AT MANOT	2.93	137.59	493.94	524.21	155.34	59.96	20.01	14.08	0	0	0	0
3	BURHNER AT MOHGAON	3.02	144.33	509.88	496.81	124.71	30.27	13.33	9.9	0	0	0	0
4	BANJAR AT BAMNI	0	12.09	189.68	345.33	94.84	13.18	5.59	12.8	0	0	0	0
5	HIRAN AT PATAN	0	26.54	233.44	268.49	91.68	22.94	11.21	7.25	0	0	0	0
6	SHER AT BELKHEDI	0	37.52	206.11	215.9	30.64	10.73	0	0	0	0	0	0
7	NARMADA AT BARMANGHAT	43.9	238.58	2045.48	3164.33	671.39	192.1	89.7	101	0	0	0	0
8	SHAKKAR AT GADARWADA	0	62.88	294.1	319.1	29.87	0	0	0	0	0	0	0
9	NARMADA AT SANDIA	44.32	0	2305.36	3917.05	1164.41	521.6	163.17	144.6	0	0	0	0
10	NARMADA AT HOSHANGABAD	57.6	381.8	3187.99	5979.73	1516.75	485.08	255.14	217	0	0	0	0
11	GANJAL AT CHHIDGAON	0	148.9	359.43	344.94	58.49	182.48	0.87	1.15	1.1	0	0	0
12	NARMADA AT HANDIA	74.22	547	6021.08	6905.87	1626.33	569.03	383.18	162.12	194.72	170.77	0	0
13	KUNDI AT KOGAON	14.25	36.87	234.3	282.69	63.84	0	0	0	0	0	0	0
14	NARMADA AT MANDLESHWAR	223.57	650.39	3801.68	9197.57	1742.4	481.35	319.35	378.65	0	0	0	0
15	URI AT DHULSAR	Discharge was not observed for the required period											
16	GOI AT PATI	Discharge was not observed for the required period											
17	NARMADA AT GARUDESHAWA	NA											
18	ORSANG AT CHANDWADA	NA											
19	NARMADA AT BIJORA	3530.000	5944.000	42923.000	72299.000	9879.000	6491.000	8024.000	4729.000	3478.000	4107.000	6248.000	5814.000
20	RAJPIPLA	NA											

Source : SE(C),Govt. of India, CWC, Office of the Chief Eng., (Narmada Basin) Oraganistion, Bhopal (MP).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

XI Basin : Tapi **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	BHARUCH	Gauge Site											
2	BHUSAWAL	Gauge Site											
3	BURHANPUR	0.000	47.834	251.451	185.374	46.728	16.959	2.795	0.696	0.276	0.035	0.000	0.000
4	CHIKHALDARA	Rainfall Site											
5	DEDTALAI	0.000	160.385	486.082	358.446	47.400	3.403	0.000	0.000	0.000	0.000	0.000	0.000
6	DURVESH	46.870	1002.937	827.566	569.445	44.778	1.881	0.000	0.000	0.000	0.000	0.000	0.000
7	GADAT	0.000	517.753	703.786	354.747	36.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	GHALA	0.000	2.277	29.036	41.707	18.205	13.481	0.000	0.000	0.000	0.000	0.000	0.000
9	GIDHADE	0.000	21.160	73.815	95.545	16.831	18.829	0.000	0.000	0.000	0.000	0.000	0.000
10	GIRNA DAM	Gauge Site											
11	GOPALKHEDA	3.616	6.272	21.872	23.131	5.107	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	HARSHUL	Rainfall Site											
13	MAHUWA	0.000	155.940	337.647	130.634	12.013	1.732	0.000	0.000	0.000	0.000	0.000	0.000
14	MORANE	Site upgrded discharge observations started only from 2018-19											
15	MOTINAROLI	5.002	108.491	313.735	109.862	27.492	11.921	19.180	10.677	7.995	10.811	4.388	14.437
16	NANIPALSAN	0.996	846.100	817.303	310.889	72.425	26.219	0.000	0.000	0.000	0.000	0.000	0.000
17	OZERKHEDA	12.035	1178.906	922.278	258.491	46.887	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	PINGALWADA	9.265	31.121	190.528	37.192	13.439	8.250	10.731	12.574	11.490	9.639	3.718	3.430
19	SARANGKHEDA	0.000	13.634	60.014	40.106	33.572	29.823	0.000	0.000	0.000	0.000	0.000	0.000
20	YERLI	1.817	8.393	26.278	25.242	7.684	3.828	0.338	0.000	0.000	0.000	0.000	0.000

Source : EE, Tapi Division, CWC.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

XII Basin : West Flowing Rivers from Tapi to Tadri — **Unit : Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	SANTEGULI	191.544	985.703	1176.459	439.103	197.609	74.654	34.207	19.911	11.681	5.238	1.766	2.505

Source : SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

XIII Basin : West Flowing Rivers From Tadri to Kanyakumari — **Unit: Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ARANGALY	155.906	416.574	1249.929	195.598	176.792	74.149	15.672	1.124	0.000	0.000	0.000	11.049
2	ASHRAMAM	34.108	26.397	193.681	72.393	190.654	141.299	15.916	0.000	0.000	2.356	0.000	18.326
3	AYILAM	111.141	111.352	316.775	79.813	177.872	111.445	22.962	0.000	0.000	0.000	0.000	0.000
4	ERINJIPUZHA	232.940	774.430	1042.793	438.896	174.081	90.347	39.934	14.918	3.311	0.590	0.000	6.408
5	KALAMPUR	285.836	928.128	1427.300	305.694	311.815	184.737	41.543	1.260	0.000	0.000	0.000	0.000
6	KALLOOPPARA	357.005	620.972	941.759	230.962	423.403	142.261	0.000	0.000	0.000	0.000	0.000	0.000
7	KARATHODU	269.063	617.444	1099.248	273.458	294.550	122.142	9.869	0.000	0.000	0.000	0.000	0.000
8	KIDANGOOR	449.722	769.429	960.492	269.128	485.316	245.828	47.206	7.947	0.000	0.000	0.000	0.000
9	KUMBIDI	110.865	254.698	491.660	111.213	106.339	40.693	4.552	0.000	0.000	0.000	0.000	0.000
10	KUNIYIL	337.522	691.671	1336.008	248.651	232.178	98.238	23.741	0.000	0.000	0.000	0.000	0.000
11	KUTTYADI	695.148	1621.077	2462.274	704.639	539.178	236.898	97.375	71.636	79.085	30.536	19.075	34.380
12	KUZHITHURAI	30.558	16.036	139.009	30.907	70.388	48.882	19.784	7.977	2.118	0.000	0.000	0.000
13	MALAKKARA	287.781	429.958	611.533	207.923	308.705	133.560	33.981	0.000	0.000	0.000	0.000	33.846
14	MANKARA	29.702	99.645	243.589	51.967	51.558	23.254	7.818	4.411	3.220	0.689	1.591	0.609
15	NEELESWARAM	181.661	406.822	957.739	207.376	174.236	109.274	36.482	13.254	19.546	18.279	29.608	48.953
16	PATTAZHY	159.930	251.506	496.196	202.396	323.986	179.587	81.654	23.755	34.527	35.401	27.843	75.540
17	PERUMANNU	470.593	1353.648	2328.300	642.836	226.420	81.244	44.894	18.793	6.749	2.994	1.014	1.760
18	PUDUR	21.141	79.133	208.339	31.846	48.418	19.798	6.398	4.043	3.556	2.374	1.555	1.667
19	PULAMANTHOLE	280.500	564.152	1544.659	299.974	273.666	100.058	23.052	6.105	2.637	2.836	7.322	2.399
20	RAMAMANGALAM	416.828	780.290	1200.950	384.943	445.082	259.018	80.976	78.997	90.253	98.733	109.953	178.202
21	THUMPAMON	164.316	245.427	988.696	156.753	291.164	122.024	20.575	0.000	0.000	0.000	3.960	29.187
22	VANDIPERIYAR	45.076	57.452	212.168	20.392	20.532	9.720	3.740	0.283	0.000	0.000	0.000	0.000
23	ADAKASTHALA	Sufficient data not available											
24	ADDOOR	390.086	890.096	1320.676	468.224	311.295	67.560	0.000	0.000	0.000	0.000	0.000	0.000
25	AVERSHE	432.646	1724.714	2027.001	822.191	396.853	163.151	53.809	21.910	5.352	0.000	0.000	0.000
26	BANTWAL	322.697	875.180	1439.327	557.083	286.165	87.469	0.000	0.000	0.000	0.000	0.000	0.000
27	HALADI	324.492	852.173	1025.549	499.983	251.237	168.965	170.598	160.591	157.935	166.707	98.656	181.876
28	PULIKUKKU	Sufficient data not available											
29	SANOOR												
30	YENNEHOLE	616.665	1550.354	1942.152	629.689	489.274	166.049	51.494	20.851	4.513	1.189	0.181	14.218

Source : SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

XIV Basin : Mahi **Unit: Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ANAS AT CHAKALIYA	2.312	39.637	302.390	139.698	48.045	4.282	-	-	-	-	-	-
3	JAKHAM AT DHARIAWAD	7.924	13.539	196.249	355.931	117.164	4.612	3.347	3.947	3.351	2.173	0.016	-
4	MAHI AT KHANPUR	0.622	1.407	95.467	182.313	62.939	6.236	2.313	1.993	1.708	1.400	0.502	1.504
5	MAHI AT MATAJI	2.486	142.238	341.595	338.233	83.935	7.284	0.436	2.961	1.806	1.326	0.004	0.000
6	MAHI AT PADERDIBADI	2.190	8.019	85.265	135.703	61.290	9.997	3.865	4.256	2.828	2.566	0.379	0.206
7	SOM AT RANGELI	0.850	1.807	52.976	100.290	80.611	8.492	4.628	4.345	4.168	2.465	0.000	0.000

Source: SE, Mahi Division, CWC, Gandhi Nagar.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

XV Basin : Sabarmati **Unit: Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	SABARMATI AT DEROL BRIDGE			0.604		5.529	1.419	-	-	-	-	-	-
2	SABARMATI AT KHEROJ		3.915	53.301	83.966	36.260	9.748	3.578	1.099	0.059	-	-	-
3	SABARMATI AT VOUTHA	2.743	2.770	30.166	36.225	28.401	8.855	5.516	4.236	3.328	3.008	2.319	2.202
4	WAKAL AT KOTRA(JOTASAN)	0.998	0.725	64.916	61.906	36.787	11.424	3.287	1.035	0.301	-	0.000	-
5	WATRAK AT GADVEL (RATANPUR)			21.344	66.348	42.903	12.377	1.280	0.331	0.000	0.000	0.000	0.000
6	WATRAK AT KHEDA	0.008	0.055	6.456	13.079	9.710	3.978	0.029	-	-	-	-	-

Source: SE, Mahi Division, CWC, Gandhi Nagar.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2019-20

XVI Basin : WFR of Kutch, Saurashtra Including Luni **Unit: Millimeter**

Sl.No.	Site Name	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	BALARAM AT CHITRASANI	-	-	0.970	36.904	40.269	2.752	0.000	3.008	0.843	-	-	-
2	BANAS AT ABU ROAD	-	0.025	22.627	18.473	7.594	2.089	-	-	-	-	-	-
3	BANAS AT KAMALPUR	-	-	1.610	1.055	1.721	-	-	-	-	-	-	-
4	BANAS AT SAROTRY	-	0.165	30.770	31.854	18.065	1.925	0.594	0.329	-	-	-	-
5	BHADAR AT GANOD	-	-	-	84.772	62.103	3.483	-	-	-	-	-	-
6	LUNI AT BALOTRA	-	-	5.576	-	-	-	-	-	-	-	-	-
7	LUNI AT GANDHAV	-	-	0.596	-	-	0.008	0.002	-	-	-	-	-
8	MACHHU AT GUNGAN	-	-	104.227	207.435	41.793	13.193	1.275	-	-	-	-	-
9	RUPEN AT SAPAWADA	-	-	10.275	15.966	5.534	2.018	1.177	1.362	0.679	0.647	-	-
10	SHETRUNJI AT LOWARA	0.171	0.799	9.268	18.367	6.070	1.042	0.374	0.193	0.000	0.000	-	-
11	MACHHUNDRI AT UNA	-	-	9.182	187.989	109.910	19.209	4.249	0.317	0.000		-	-

Source: SE, Mahi Division, CWC, Gandhi Nagar.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

I	Basin: Mahanadi												Unit: Million Metric Tonnes
SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Baronda			Rajim			Seorinarayan			Basantpur		
1	2010-2011	0.665	0.000	0.665	0.857	0.000	0.857	0.000	0.000	0.000	4.085	0.000	4.085
2	2011-2012	0.001	0.000	0.001	0.002	0.000	0.002	0.000	0.000	0.000	4.394	0.015	4.409
3	2012-2013	0.060	0.000	0.060	0.120	0.000	0.120	0.000	0.001	0.001	3.719	0.007	3.726
4	2013-2014	0.212	0.000	0.212	0.307	0.000	0.307	6.165	0.000	6.165	4.785	0.008	4.793
5	2014-2015	0.089	0.000	0.089	0.307	0.000	0.307	15.491	0.000	15.491	7.246	0.002	7.248
6	2015-2016	0.029	0.000	0.029	0.040	0.000	0.040	0.531	0.000	0.531	1.342	0.001	1.343
7	2016-2017	0.181	0.000	0.181	0.186	0.000	0.186	0.973	0.000	0.973	1.238	0.000	1.239
8	2017-2018	0.043	0.000	0.043	0.067	0.000	0.067	0.223	0.000	0.223	0.813	0.000	0.813
9	2018-2019	0.497	0.000	0.497	0.502	0.000	0.502	1.540	0.001	1.541	4.781	0.003	4.784
10	2019-2020	0.070	0.000	0.070	0.179	0.000	0.179	2.540	0.001	2.540	1.613	0.000	1.614
		Simga			Andhiarkhore			Ghatora			Jondhra		
1	2010-2011	0.536	0.000	0.536	0.0741	0.0000	0.0741	0.113	0.000	0.113	4.726	0.000	4.726
2	2011-2012	0.003	0.000	0.003	0.1480	0.0000	0.1480	0.392	0.000	0.392	4.353	0.000	4.353
3	2012-2013	0.992	0.000	0.992	0.0347	0.0000	0.0347	0.191	0.000	0.191	1.274	0.000	1.274
4	2013-2014	1.783	0.000	1.783	0.1686	0.0000	0.1686	0.164	0.000	0.164	4.531	0.000	4.531
5	2014-2015	1.587	0.000	1.587	0.2182	0.0000	0.2182	0.274	0.000	0.274	10.842	0.000	10.842
6	2015-2016	0.287	0.000	0.287	0.0151	0.0000	0.0152	0.056	0.000	0.056	1.064	0.000	1.064
7	2016-2017	0.848	0.000	0.848	0.0624	0.0000	0.0624	0.098	0.000	0.098	4.660	0.000	4.660
8	2017-2018	0.084	0.000	0.084	0.0608	0.0000	0.0608	0.063	0.000	0.063	1.169	0.000	1.169
9	2018-2019	0.436	0.000	0.436	0.0748	0.0000	0.0748	0.078	0.000	0.078	1.590	0.000	1.590
10	2019-2020	0.229	0.000	0.229	0.1514	0.0003	0.1516	0.292	0.000	0.292	1.611	0.000	1.611

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

I Basin: Mahanadi **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Rampur			Manendragarh			Bamnidhi			Kurubhata		
1	2010-2011	0.031	0.000	0.031	0.055	0.000	0.055	0.134	0.000	0.134	0.198	0.000	0.198
2	2011-2012	0.043	0.000	0.043	0.029	0.000	0.029	0.943	0.000	0.944	3.254	0.000	3.254
3	2012-2013	0.112	0.000	0.112	0.018	0.000	0.018	0.320	0.001	0.321	0.464	0.000	0.464
4	2013-2014	0.108	0.000	0.108	0.009	0.000	0.009	0.114	0.001	0.115	0.854	0.002	0.856
5	2014-2015	0.119	0.000	0.119	0.005	0.000	0.005	0.187	0.001	0.188	1.782	0.000	1.782
6	2015-2016	0.051	0.000	0.051	0.002	0.000	0.002	0.045	0.000	0.045	1.717	0.000	1.717
7	2016-2017	0.094	0.000	0.094	0.036	0.000	0.036	0.110	0.001	0.111	0.750	0.001	0.751
8	2017-2018	0.048	0.000	0.048	0.003	0.000	0.003	0.075	0.000	0.076	2.434	0.001	2.435
9	2018-2019	0.384	0.000	0.384	0.010	0.000	0.010	0.068	0.001	0.069	1.140	0.002	1.142
10	2019-2020	0.130	0.000	0.130	0.058	0.000	0.058	0.132	0.000	0.133	1.773	0.003	1.776
	Site Name	Sundargarh			Salebhata			Kesinga			Kantamal		
1	2010-2011	1.078	0.000	1.078	0.103	0.000	0.103	1.741	0.018	1.759	1.616	0.007	1.623
2	2011-2012	2.763	0.001	2.764	0.276	0.000	0.276	0.814	0.002	0.816	5.578	0.000	5.578
3	2012-2013	1.370	0.000	1.370	0.366	0.000	0.366	1.089	0.013	1.102	9.594	0.016	9.610
4	2013-2014	0.893	0.003	0.896	0.128	0.000	0.128	1.786	0.079	1.865	22.634	0.007	22.642
5	2014-2015	1.450	0.000	1.450	0.399	0.000	0.399	18.344	0.008	18.352	9.013	0.022	9.035
6	2015-2016	1.696	0.001	1.697	0.044	0.000	0.044	4.550	0.004	4.553	1.099	0.009	1.108
7	2016-2017	0.829	0.000	0.829	0.043	0.000	0.043	2.362	0.005	2.367	2.118	0.003	2.121
8	2017-2018	1.045	0.000	1.045	0.032	0.000	0.032	3.647	0.004	3.652	2.271	0.001	2.271
9	2018-2019	1.879	0.000	1.879	0.306	0.000	0.306	2.489	0.006	2.495	5.040	0.026	5.066
10	2019-2020	0.289	0.001	0.290	0.296	0.000	0.296	4.095	0.013	4.108	3.753	0.018	3.771
	Site Name	Tikarapara			Kotni								
1	2010-2011	5.711	0.060	5.772	0.000	0.000	0.000						
2	2011-2012	5.818	0.052	5.870	0.000	0.000	0.000						
3	2012-2013	7.469	0.012	7.481	0.000	0.000	0.000						
4	2013-2014	7.526	0.049	7.576	0.000	0.000	0.000						
5	2014-2015	5.707	0.022	5.729	2.580	0.000	2.580						
6	2015-2016	2.957	0.015	2.972	0.313	0.000	0.313						
7	2016-2017	2.848	0.016	2.863	0.477	0.000	0.477						
8	2017-2018	8.756	0.013	8.769	0.274	0.000	0.274						
9	2018-2019	7.055	0.026	7.081	0.678	0.000	0.678						
10	2019-2020	6.676	0.038	6.713	0.431	0.431	0.431						

Source:Suspended Sediment Year Book (2010 to 2020) Mahanadi Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

II Basin : Subernarekha & Burhabalang **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Baitarani at Champua			Baitarani at Anandpur			Kharkai at Adityapur			Subranrekha at Jamshedpur		
1	2010-2011	0.120	0.005	0.125	0.192	0.005	0.197	0.013	0.001	0.013	0.050	0.005	0.063
2	2011-2012	0.821	0.005	0.826	2.514	0.018	2.532	0.044	0.000	0.014	3.000	0.024	3.020
3	2012-2013	0.203	0.000	0.203	0.310	0.001	0.311	0.034	0.001	0.035	0.796	0.023	0.819
4	2013-2014	0.444	0.001	0.445	1.579	0.004	1.584	0.809	0.013	0.823	2.376	0.016	2.392
5	2014-2015	0.480	0.000	0.481	1.636	0.003	1.639	0.773	0.007	0.780	1.243	0.008	1.250
6	2015-2016	0.230	0.001	0.231	11.628	0.001	11.629	0.369	0.007	0.376	1.087	0.003	1.090
7	2016-2017	0.350	0.007	0.357	12.002	0.000	12.006	1.198	0.013	1.211	1.480	0.005	1.486
8	2017-2018	0.338	0.047	0.385	1.721	0.001	1.728	1.198	0.018	1.216	0.996	0.005	1.035
9	2018-2019	0.398	0.003	0.402	8.512	0.001	8.518	0.527	0.020	0.547	0.284	0.013	0.297
10	2019-2020	0.217	0.007	0.218	0.382	0.002	0.384	0.562	0.029	0.591	0.842	0.040	0.881
	Site Name	Subranrekha at Ghatsila			Brahmani at Jenapur			Brahmani at Altuma			Burhabalang at Govindpur		
1	2010-2011	0.048	0.017	0.065				0.000	0.000	0.000	0.426	0.000	0.426
2	2011-2012	2.506	0.003	2.509				0.000	0.000	0.000	0.016	0.002	0.018
3	2012-2013	0.852	0.042	0.894				0.000	0.000	0.000	0.253	0.001	0.254
4	2013-2014	2.326	0.027	2.353	<-------Data not available ------>			0.000	0.000	0.000	0.884	0.018	0.902
5	2014-2015	0.531	0.005	0.537				0.000	0.000	0.000	0.393	0.008	0.402
6	2015-2016	0.178	0.005	0.183				0.000	0.000	0.000	0.014	0.003	0.017
7	2016-2017	0.210	0.017	0.227				0.000	0.000	0.000	0.044	0.001	0.045
8	2017-2018	0.360	0.024	0.384				0.015	0.000	0.015	0.000	0.000	0.000
9	2018-2019	0.108	0.002	0.110				0.000	0.015	0.015	0.000	0.000	0.000
10	2019-2020	0.000	0.000	0.000				0.535	0.001	0.535	0.135	0.020	0.155

Source: Suspended Sediment Year Book (2010 to 2020) Subernarekha,Burhabalang & Baitarni.

III	Basin: Brahmani & Baitarani												Unit: Million Metric Tonnes
SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Sankh at Tilga			Brahmani at Jenapur			Brahamani at Panposh			Brahmani at Gomlai		
1	2010-2011	0.721	0.001	0.722	0.301	0.040	0.341	2.130	0.010	2.140	1.302	0.004	1.306
2	2011-2012	0.721	0.001	0.722	2.330	0.270	2.600	18.823	0.014	18.837	10.747	0.006	10.753
3	2012-2013	1.314	0.001	1.314	1.868	0.169	2.037	7.530	0.016	7.546	2.185	0.006	2.191
4	2013-2014	0.786	0.009	0.795	2.638	0.197	2.835	9.598	0.037	9.635	2.400	0.003	2.402
5	2014-2015	0.983	0.001	0.984	2.643	0.101	2.744	7.117	0.007	7.124	0.824	0.001	0.825
6	2015-2016	0.516	0.004	0.520	1.317	0.043	1.360	5.684	0.008	5.691	2.180	0.002	2.181
7	2016-2017	0.519	0.000	0.519	0.975	0.000	0.975	3.336	0.141	3.477	4.057	0.000	4.057
8	2017-2018	0.968	0.001	0.969	2.747	0.181	2.928	4.625	0.003	4.628	10.008	0.004	10.012
9	2018-2019	0.864	0.001	0.865	1.249	0.018	1.267	8.891	0.011	8.902	6.345	0.011	6.356
10	2019-2020	0.538	0.023	0.551	1.121	0.073	1.194	2.689	0.078	2.767	4.100	0.036	4.136

Source: Suspended Sediment Year Book (2010 to 2020) Brahmani Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

IV	Basin: Godavari												Unit: Million Metric Tonnes
SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Godavari at Polavaram			Sabari at Konta			Godavari at Perur			Indravati at Pathagudem		
1	2010-2011	76.467	0.135	76.602	24.421	0.423	24.844	74.426	0.205	74.631	15.620	0.008	15.628
2	2011-2012	18.025	0.110	18.135	2.149	0.174	2.323	59.054	0.008	59.062	7.144	0.000	7.144
3	2012-2013	37.552	0.096	37.648	4.135	0.126	4.261	59.332	0.059	59.391	12.298	0.000	12.298
4	2013-2014	86.219	0.055	86.274	7.705	0.417	8.122	266.352	0.252	266.604	16.971	0.000	16.971
5	2014-2015	32.118	0.023	32.141	7.183	0.414	7.597	40.661	0.021	40.682	11.035	0.002	11.037
6	2015-2016	28.123	0.033	28.156	0.000	0.000	0.000	7.733	0.003	7.736	6.162	0.000	6.162
7	2016-2017	47.261	0.072	47.333	0.000	0.000	0.000	41.970	0.106	42.076	7.445	0.012	7.457
8	2017-2018	18.466	0.027	18.493	0.000	0.000	0.000	5.371	0.014	5.386	4.976	0.012	4.988
9	2018-2019	61.743	0.119	61.862	0.000	0.000	0.000	17.754	0.038	17.792	7.800	0.003	7.803
10	2019-2020	66.224	0.113	66.336	0.000	0.000	0.000	22.123	0.016	22.139	21.870	0.035	21.905
	Site Name	Indravati at Jagadalpur			Pranhita at Tekra			Paddavagu at Bhatpalli			Wardha at Bamni		
1	2010-2011	1.425	0.000	1.425	20.410	0.045	20.455	0.287	0.010	0.297	7.885	0.074	7.959
2	2011-2012	0.605	0.000	0.605	31.397	0.002	31.399	0.060	0.066	0.126	3.473	0.034	3.507
3	2012-2013	1.703	0.000	1.703	34.260	0.007	34.267	0.116	0.012	0.128	4.583	0.068	4.651
4	2013-2014	2.903	0.000	2.903	76.578	0.031	76.609	0.298	0.009	0.307	13.398	0.054	13.453
5	2014-2015	1.696	0.000	1.696	6.599	0.007	6.606	0.079	0.003	0.082	2.575	0.009	2.584
6	2015-2016	5.683	0.000	5.683	10.931	0.002	10.933	0.091	0.002	0.093	3.628	0.002	3.631
7	2016-2017	1.321	0.000	1.321	4.058	0.007	4.065	0.129	0.007	0.136	4.201	0.020	4.221
8	2017-2018	0.924	0.000	0.924	0.923	0.003	0.926	0.014	0.005	0.019	0.360	0.007	0.367
9	2018-2019	0.967	0.000	0.967	1.912	0.009	1.921	0.058	0.001	0.059	7.664	0.011	7.675
10	2019-2020	3.134	0.003	3.137	0.001	0.000	0.001	0.101	0.002	0.103	8.598	0.023	8.621

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

IV Basin: Godavari — **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Penganga at PG Bridge			Wardha at Nandgaon			Wardha at Hivra			Wainganga at Ashti		
1	2010-2011	11.127	0.001	11.128	0.922	0.012	0.934	0.088	0.000	0.088	3.372	0.016	3.388
2	2011-2012	2.893	0.001	2.894	0.491	0.003	0.494	1.452	0.000	1.452	5.346	0.010	5.356
3	2012-2013	3.290	0.002	3.292	0.090	0.001	0.091	0.435	0.001	0.436	8.994	0.010	9.004
4	2013-2014	5.969	0.005	5.974	0.334	0.001	0.335	0.555	0.000	0.555	18.203	0.020	18.223
5	2014-2015	0.931	0.000	0.931	0.067	0.001	0.068	0.221	0.000	0.221	3.414	0.016	3.430
6	2015-2016	1.742	0.000	1.742	0.057	0.000	0.057	0.020	0.000	0.020	3.695	0.004	3.699
7	2016-2017	4.282	0.000	4.286	0.083	0.000	0.083	0.051	0.001	0.052	5.035	0.025	5.060
8	2017-2018	0.052	0.000	0.052	0.040	0.001	0.040	0.001	0.000	0.001	2.000	0.005	2.005
9	2018-2019	3.776	0.000	3.779	5.581	0.000	5.581	0.068	0.000	0.068	5.514	0.004	5.518
10	2019-2020	1.166	0.000	1.170	2.8.4	0.000	2.8.4	0.284	0.001	0.285	38.260	0.018	38.278
	Site Name	Kanhan at Satrapur			Bagh at Rajegaon			Wainganga at Kumhari			Godavari at Mancherial		
1	2010-2011	1.526	0.003	1.529	0.000	0.000	0.000	0.000	0.000	0.000	1.584	0.005	1.589
2	2011-2012	1.389	0.021	1.410	0.000	0.000	0.000	0.000	0.000	0.000	0.301	0.001	0.302
3	2012-2013	5.918	0.001	5.919	0.000	0.000	0.000	0.000	0.000	0.000	0.213	0.002	0.215
4	2013-2014	10.210	0.019	10.229	0.000	0.000	0.000	0.000	0.000	0.000	0.969	0.006	0.975
5	2014-2015	0.645	0.001	0.646	0.162	0.000	0.163	0.064	0.004	0.068	0.090	0.001	0.091
6	2015-2016	0.705	0.001	0.705	0.804	0.000	0.804	0.142	0.001	0.143	0.062	0.003	0.065
7	2016-2017	1.077	0.000	1.077	1.439	0.001	1.440	2.710	0.001	2.711	2.115	0.017	2.132
8	2017-2018	0.302	0.000	0.302	0.389	0.000	0.389	0.101	0.001	0.102	0.009	0.002	0.011
9	2018-2019	0.173	0.001	0.174	0.726	0.000	0.726	1.030	0.001	1.031	0.803	0.000	0.803
10	2019-2020	1.043	0.002	1.045	1.422	0.002	1.424	4.284	0.003	4.287	0.357	0.000	0.357
	Site Name	Manijira at Saigaon			Godavari at Dhalegaon			Wardha at Sakmur			Purna at Purna		
1	2010-2011	1.399	0.005	1.404	0.400	0.000	0.400	0.000	0.000	0.000			
2	2011-2012	0.219	0.000	0.219	0.034	0.000	0.034	0.000	0.000	0.000			
3	2012-2013	0.859	0.000	0.859	0.000	0.000	0.000	0.000	0.000	0.000			
4	2013-2014	0.049	0.000	0.049	0.000	0.000	0.000	0.000	0.000	0.000			
5	2014-2015	0.003	0.000	0.003	0.000	0.000	0.000	1.131	0.001	1.132	<----Data not available ---->		
6	2015-2016	0.000	0.000	0.000	0.000	0.000	0.000	2.616	0.000	2.616			
7	2016-2017	0.000	0.000	0.000	0.258	0.000	0.258	0.505	0.001	0.506			
8	2017-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.095	0.001	0.096			
9	2018-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.356	0.001	0.357			
10	2019-2020	0.000	0.000	0.000	0.000	0.000	0.000	0.286	0.016	0.302	0.140	0.000	0.140

Source: Suspended Sediment Year Book (2010 to 2020) Godavari Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

V **Basin: Krishna** **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Vijayawada			Keesara			Wadenapalli			Bawapuram		
1	2010-2011	0.000	0.000	0.000	0.000	0.000	0.000	0.511	0.012	0.523	0.012	0.000	0.012
2	2011-2012	0.000	0.000	0.000	0.000	0.000	0.000	0.836	0.039	0.875	0.014	0.000	0.014
3	2012-2013	0.000	0.000	0.000	0.000	0.000	0.000	0.031	0.019	0.050	0.139	0.000	0.139
4	2013-2014	0.000	0.000	0.000	0.000	0.002	0.002	0.550	0.054	0.605	1.392	0.000	1.392
5	2014-2015	0.057	0.000	0.057	0.066	0.010	0.076	0.022	0.004	0.026	0.731	0.001	0.732
6	2015-2016	0.005	0.000	0.005	0.123	0.000	0.123	0.009	0.005	0.015	0.084	0.000	0.084
7	2016-2017	0.027	0.000	0.027	0.132	0.002	0.134	0.035	0.001	0.036	0.028	0.000	0.028
8	2017-2018	0.000	0.000	0.000	0.101	0.003	0.104	0.010	0.010	0.020	0.158	0.001	0.159
9	2018-2019	0.003	0.000	0.003	0.178	0.015	0.193	0.005	0.005	0.010	1.237	0.000	1.237
10	2019-2020	0.583	0.000	0.583	0.138	0.007	0.145	0.040	0.295	0.335	1.144	0.005	1.149
	Site Name	Mantralayam			Marol			Haralahalli			Byladahalli		
1	2010-2011	0.000	0.000	0.000	0.417	0.007	0.424	0.721	0.018	0.739	0.015	0.001	0.016
2	2011-2012	0.000	0.000	0.000	0.417	0.004	0.421	0.555	0.014	0.569	0.004	0.001	0.005
3	2012-2013	0.000	0.000	0.000	0.131	0.000	0.131	0.181	0.001	0.182	0.004	0.000	0.004
4	2013-2014	0.046	0.006	0.052	0.304	0.000	0.304	0.762	0.009	0.770	0.007	0.000	0.007
5	2014-2015	1.064	0.040	1.104	0.173	0.000	0.173	1.572	0.002	1.575	0.007	0.000	0.007
6	2015-2016	0.565	0.009	0.574	0.022	0.000	0.022	0.150	0.000	0.150	0.003	0.000	0.003
7	2016-2017	0.099	0.000	0.099	0.012	0.000	0.012	0.215	0.000	0.215	0.000	0.000	0.000
8	2017-2018	0.384	0.006	0.390	0.004	0.000	0.004	0.123	0.003	0.126	0.002	0.000	0.002
9	2018-2019	0.489	0.001	0.490	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002
10	2019-2020	1.682	0.001	1.683	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.007

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

V **Basin: Krishna** **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	**Honnali**			**Shimoga**			**Yadgir**			**Malkhed**		
1	2010-2011	0.266	0.003	0.269	0.181	0.001	0.182	1.651	0.010	1.661	0.535	0.005	0.540
2	2011-2012	0.387	0.008	0.395	0.161	0.001	0.162	1.103	0.004	1.107	0.105	0.002	0.107
3	2012-2013	0.192	0.001	0.193	0.353	0.001	0.354	0.126	0.004	0.130	0.071	0.001	0.072
4	2013-2014	0.258	0.002	0.260	0.524	0.000	0.524	1.132	0.006	1.138	0.117	0.008	0.125
5	2014-2015	0.058	0.005	0.063	1.755	0.001	1.756	0.263	0.000	0.263	0.098	0.002	0.101
6	2015-2016	0.059	0.005	0.064	0.027	0.000	0.027	0.006	0.000	0.006	0.005	0.003	0.008
7	2016-2017	0.033	0.004	0.037	0.046	0.000	0.046	0.736	0.000	0.736	0.154	0.003	0.157
8	2017-2018	0.028	0.007	0.035	0.060	0.000	0.060	0.725	0.000	0.725	0.045	0.000	0.045
9	2018-2019	0.000	0.006	0.006	0.000	0.000	0.000	0.083	0.000	0.083	0.000	0.000	0.000
10	2019-2020	0.001	0.003	0.004	0.000	0.000	0.000	0.635	0.000	0.635	0.003	0.000	0.003
	Site Name	**Sarati**			**Huvinhedigi**			**Takali**			**Cholachagudda**		
1	2010-2011	0.000	0.000	0.000	0.000	0.000	0.000	0.108	0.000	0.108	0.939	0.000	0.939
2	2011-2012	0.000	0.000	0.000	0.000	0.000	0.000	0.331	0.000	0.331	0.178	0.000	0.178
3	2012-2013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.076	0.000	0.076
4	2013-2014	0.032	0.000	0.032	1.744	0.013	1.757	0.248	0.000	0.248	0.613	0.000	0.613
5	2014-2015	0.009	0.000	0.009	1.193	0.021	1.214	0.067	0.000	0.067	0.052	0.000	0.052
6	2015-2016	0.000	0.000	0.000	0.065	0.006	0.071	0.000	0.000	0.000	0.041	0.000	0.041
7	2016-2017	0.024	0.000	0.024	0.862	0.002	0.864	0.027	0.000	0.027	0.293	0.000	0.293
8	2017-2018	0.057	0.000	0.057	0.447	0.002	0.449	0.157	0.000	0.157	2.057	0.000	2.057
9	2018-2019	0.022	0.000	0.022	0.429	0.001	0.430	0.008	0.000	0.008	0.128	0.000	0.128
10	2019-2020	0.207	0.000	0.207	1.094	0.008	1.102	0.233	0.000	0.233	0.115	0.012	0.127
	Site Name	**Kurundwad**			**Karad**			**Warunji**			**Madhira**		
1	2010-2011	1.711	0.000	1.711	0.358	0.000	0.358	0.000	0.000	0.000	0.000	0.000	0.000
2	2011-2012	1.987	0.000	1.987	0.731	0.000	0.731	0.000	0.000	0.000	0.000	0.000	0.000
3	2012-2013	0.865	0.000	0.865	0.210	0.000	0.210	0.000	0.000	0.000	0.000	0.000	0.000
4	2013-2014	2.907	0.000	2.907	0.556	0.000	0.556	0.333	0.000	0.333	0.000	0.000	0.000
5	2014-2015	1.309	0.000	1.309	0.259	0.000	0.259	0.122	0.000	0.122	0.001	0.000	0.001
6	2015-2016	0.240	0.000	0.240	0.051	0.001	0.052	0.025	0.001	0.026	0.001	0.000	0.001
7	2016-2017	2.456	0.000	2.456	0.216	0.000	0.216	0.342	0.000	0.342	0.000	0.000	0.000
8	2017-2018	0.829	0.000	0.829	0.107	0.000	0.107	0.195	0.000	0.195	0.000	0.000	0.000
9	2018-2019	0.949	0.000	0.949	0.176	0.000	0.176	0.323	0.000	0.323	0.049	0.000	0.014
10	2019-2020	1.556	0.000	1.556	1.118	0.000	1.118	0.403	0.000	0.403	0.025	0.000	0.025

	Site Name	Paleru Bridge			Dameracherla			Kuppelur					
1	2010-2011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
2	2011-2012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
3	2012-2013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
4	2013-2014	0.000	0.001	0.001	0.046	0.004	0.050	0.000	0.000	0.000			
5	2014-2015	0.010	0.002	0.012	0.016	0.005	0.021	0.120	0.000	0.120			
6	2015-2016	0.001	0.000	0.001	0.002	0.000	0.002	0.007	0.000	0.007			
7	2016-2017	0.002	0.000	0.002	0.051	0.000	0.051	0.002	0.000	0.002			
8	2017-2018	0.001	0.001	0.002	0.002	0.003	0.005	0.000	0.000	0.000			
9	2018-2019	0.010	0.000	0.010	0.016	0.001	0.017	0.033	0.000	0.033			
10	2019-2020	0.002	0.001	0.003	0.019	0.002	0.021	0.047	0.000	0.047			

Source: Suspended Sediment Year Book (2010 to 2020) Krishna Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

VI Basin : Cauvery **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Thengudi			Musiri			Nallamaranpatty			Elunuthimangalam		
1	2010-2011	0.002	0.001	0.003	0.132	0.048	0.180	0.000	0.000	0.000	0.000	0.000	0.000
2	2011-2012	0.001	0.000	0.001	0.105	0.034	0.139	0.005	0.004	0.009	0.000	0.000	0.000
3	2012-2013	0.001	0.000	0.001	0.043	0.008	0.051	0.000	0.000	0.000	0.000	0.000	0.000
4	2013-2014	0.000	0.000	0.000	0.163	0.014	0.177	0.000	0.000	0.000	0.000	0.000	0.001
5	2014-2015	0.001	0.000	0.001	0.070	0.024	0.095	0.018	0.000	0.019	0.002	0.005	0.006
6	2015-2016	0.001	0.001	0.002	0.061	0.029	0.089	0.000	0.023	0.024	0.009	0.006	0.014
7	2016-2017	0.000	0.000	0.000	0.020	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000
8	2017-2018	0.000	0.000	0.000	0.234	0.008	0.242	0.002	0.000	0.002	0.002	0.000	0.002
9	2018-2019	0.001	0.000	0.001	0.227	0.011	0.238	0.012	0.000	0.012	0.002	0.000	0.002
10	2019-2020	0.001	0.000	0.001	0.027	0.005	0.032	0.000	0.000	0.000	0.001	0.001	0.002

	Site Name	Kodumudi			Savandapur			Thengumarahada			Nellithurai		
1	2010-2011	0.012	0.005	0.015	0.028	0.002	0.030	0.026	0.004	0.030	0.041	0.012	0.052
2	2011-2012	0.019	0.059	0.078	0.007	0.002	0.009	0.015	0.005	0.020	0.040	0.008	0.048
3	2012-2013	0.064	0.017	0.081	0.001	0.003	0.004	0.002	0.001	0.003	0.019	0.002	0.021
4	2013-2014	0.149	0.020	0.169	0.005	0.001	0.006	0.007	0.000	0.007	0.034	0.004	0.038
5	2014-2015	0.098	0.035	0.133	0.037	0.001	0.039	0.000	0.000	0.000	0.022	0.005	0.026
6	2015-2016	0.024	0.007	0.031	0.002	0.001	0.004	0.000	0.000	0.000	0.023	0.004	0.027
7	2016-2017	0.020	0.000	0.020	0.001	0.000	0.001	0.000	0.014	0.014	0.006	0.000	0.006
8	2017-2018	0.034	0.080	0.042	0.002	0.001	0.003	0.005	0.001	0.006	0.000	0.000	0.000
9	2018-2019	0.365	0.015	0.381	0.020	0.001	0.021	0.007	0.000	0.007	0.000	0.000	0.000
10	2019-2020	0.125	0.024	0.149	0.027	0.004	0.031	0.002	0.000	0.002	0.000	0.000	0.000
	Site Name	**Urachikottai**			**Kudlur**			**Biligundulu**			**T.Bekuppe**		
1	2010-2011	0.004	0.002	0.006	0.000	0.000	0.000	0.080	0.024	0.104	0.000	0.000	0.000
2	2011-2012	0.008	0.009	0.017	0.000	0.000	0.000	0.124	0.013	0.137	0.000	0.000	0.000
3	2012-2013	0.005	0.001	0.006	0.000	0.000	0.000	0.034	0.010	0.044	0.000	0.000	0.000
4	2013-2014	0.063	0.013	0.076	0.001	0.000	0.001	0.108	0.007	0.115	0.000	0.000	0.000
5	2014-2015	0.045	0.021	0.065	0.006	0.001	0.006	0.056	0.009	0.065	0.007	0.003	0.011
6	2015-2016	0.046	0.012	0.058	0.002	0.000	0.002	0.046	0.007	0.053	0.008	0.003	0.012
7	2016-2017	0.018	0.000	0.018	0.000	0.000	0.000	0.021	0.001	0.023	0.005	0.006	0.011
8	2017-2018	0.012	0.007	0.019	0.012	0.001	0.013	0.033	0.005	0.038	0.049	0.004	0.053
9	2018-2019	0.102	0.016	0.118	0.005	0.000	0.005	0.108	0.002	0.110	0.010	0.002	0.012
10	2019-2020	0.050	0.012	0.062	0.004	0.000	0.004	0.155	0.008	0.163	0.003	0.001	0.004

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

VI Basin : Cauvery — **Unit : Millian Metric Tones**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(9)	(10)	(11)
	Site Name	T.K. Halli			Kollegal			T.Narsinpur			Kudige		
1	2010-2011	0.022	0.003	0.025	0.032	0.007	0.039	0.033	0.008	0.041	0.056	0.002	0.058
2	2011-2012	0.016	0.003	0.018	0.046	0.004	0.050	0.259	0.004	0.263	0.062	0.001	0.063
3	2012-2013	0.003	0.001	0.004	0.012	0.002	0.014	0.042	0.002	0.044	0.053	0.001	0.054
4	2013-2014	0.008	0.001	0.009	0.119	0.001	0.120	0.013	0.001	0.014	0.046	0.001	0.047
5	2014-2015	0.006	0.001	0.007	0.062	0.003	0.064	0.095	0.001	0.096	0.049	0.001	0.049
6	2015-2016	0.008	0.000	0.008	0.008	0.001	0.009	0.033	0.002	0.034	0.038	0.001	0.039
7	2016-2017	0.000	0.000	0.000	0.006	0.000	0.006	0.012	0.000	0.012	0.026	0.001	0.027
8	2017-2018	0.003	0.000	0.003	0.007	0.001	0.008	0.039	0.009	0.048	0.092	0.001	0.093
9	2018-2019	0.054	0.000	0.054	0.071	0.001	0.072	0.069	0.012	0.081	0.079	0.001	0.080
10	2019-2020	0.004	0.001	0.005	0.028	0.003	0.031	0.025	0.004	0.029	0.014	0.000	0.014
	Site Name	Muthankera			Akkihebbal			M.H.Halli			Sakleshpur		
1	2010-2011	0.105	0.008	0.113	0.000	0.000	0.000	0.005	0.003	0.008	0.000	0.000	0.000
2	2011-2012	0.151	0.002	0.153	0.000	0.000	0.000	0.008	0.002	0.010	0.000	0.000	0.000
3	2012-2013	0.069	0.001	0.070	0.000	0.000	0.000	0.006	0.003	0.008	0.000	0.000	0.000
4	2013-2014	0.129	0.004	0.133	0.000	0.001	0.001	0.016	0.001	0.017	0.003	0.001	0.003
5	2014-2015	0.169	0.007	0.175	0.050	0.003	0.053	0.009	0.002	0.011	0.088	0.001	0.089
6	2015-2016	0.056	0.001	0.057	0.019	0.001	0.020	0.005	0.001	0.006	0.018	0.000	0.018
7	2016-2017	0.015	0.000	0.015	0.018	0.001	0.019	0.008	0.001	0.009	0.019	0.000	0.019
8	2017-2018	0.038	0.001	0.039	0.001	0.001	0.002	0.004	0.002	0.006	0.023	0.000	0.023
9	2018-2019	0.211	0.001	0.212	0.414	0.002	0.416	0.006	0.000	0.006	0.091	0.000	0.091
10	2019-2020	0.019	0.001	0.020	0.048	0.010	0.058	0.004	0.001	0.004	0.045	0.000	0.045

Source: Suspended Sediment and Bedmaterial Data Book (2010-2020) Cauvery Basin.

VII Basin: Pennar — **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
	Site Name	Sagileru at Nandipalli			Pennar at Chennur			Kunderu at Alladupalli					
1	2010-2011	N.A.	N.A.	N.A.	0.933	0.066	0.999	0.365	0.184	0.549			
2	2011-2012	N.A.	N.A.	N.A.	0.474	0.012	0.486	0.365	0.059	0.424			
3	2012-2013	N.A.	N.A.	N.A.	0.165	0.002	0.167	0.135	0.013	0.148			
4	2013-2014	0.054	0.000	0.054	0.825	0.024	0.849	0.491	0.042	0.533			
5	2014-2015	0.000	0.000	0.000	0.522	0.007	0.529	0.322	0.025	0.347			
6	2015-2016	0.125	0.000	0.125	0.114	0.001	0.115	0.027	0.002	0.029			
7	2016-2017	0.001	0.000	0.001	0.669	0.057	0.726	0.220	0.042	0.262			
8	2017-2018	0.001	0.000	0.001	1.168	0.034	1.197	0.255	0.028	0.282			
9	2018-2019	0.000	0.000	0.000	0.552	0.001	0.554	0.220	0.002	0.232			
10	2019-2020	0.001	0.000	0.001	2.247	0.049	0.245	0.175	0.159	1.913			

Source: Sediment Year Book (2010-2020) East Flowing Rivers.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

VIII Basin : East Flowing Rivers Mahanadi to Pennar — **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Vamsadhara at Kashinagar			Rushikulya at Purushattampur			Nagavali at Srikakulam			Gundlakamma at Marella		
1	2010-2011	2.026	0.023	2.5	1.281	0.055	1.336	0.503	0.002	0.505	0.072	0.015	0.087
2	2011-2012	1.243	0.014	1.257	0.815	0.000	0.815	0.640	0.002	0.642	0.008	0.003	0.011
3	2012-2013	9.956	0.007	0.963	0.615	0.000	0.615	1.413	0.003	1.416	0.032	0.000	0.032
4	2013-2014	1.767	0.060	1.827	2.288	0.001	2.289	1.688	0.029	1.718	0.100	0.008	0.108
5	2014-2015	3.289	0.001	3.290	0.584	0.000	0.584	3.380	0.017	3.397	0.018	0.004	0.022
6	2015-2016	0.427	0.004	0.431	0.651	0.000	0.651	0.517	0.002	0.518	0.001	0.000	0.001
7	2016-2017	0.520	0.002	0.522	0.258	0.000	0.258	5.067	0.000	5.067	0.015	0.000	0.014
8	2017-2018	1.400	0.007	1.4	0.382	0.001	0.383	5.304	0.000	5.305	0.014	0.001	0.016
9	2018-2019	1.980	0.003	1.983	0.876	0.000	0.876	4.017	0.000	4.020	0.064	0.001	0.015
10	2019-2020	2.115	0.008	2.123	0.366	0.001	0.367	0.901	0.000	0.901	0.053	0.002	0.008

Source: Sediment Year Book (2010-2020) East Flowing Rivers.

IX Basin : East Flowing Rivers from Pennar to Kanyakumari — **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Tambraparani at Murappanadu			Swarnamukhi at Naidupeta			Kalingi at Sulurpet			Ponniyar at Vazhavachanur		
1	2010-2011	0.002	0.003	0.005	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.009	0.006	0.015
2	2011-2012	0.006	0.002	0.008	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.002	0.004	0.006
3	2012-2013	0.001	0.001	0.002	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.003	0.003	0.006
4	2013-2014	0.002	0.002	0.005	0.001	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.001
5	2014-2015	0.004	0.004	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
6	2015-2016	0.004	0.014	0.018	0.145	0.078	0.223	0.004	0.001	0.006	0.002	0.005	0.007
7	2016-2017	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	2017-2018	0.004	0.006	0.009	0.004	0.001	0.004	0.002	0.000	0.002	0.019	0.016	0.034
9	2018-2019	0.006	0.004	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
10	2019-2020	0.007	0.013	0.206	0.000	0.000	0.004	0.002	0.001	0.003	0.000	0.001	0.001
	Site Name	Ponniar at Gummanur			Vaigai at Paramakudi			Suriliyar at Theni			Vaigai at Ambasamundram		
1	2010-2011	0.004	0.003	0.007	0.000	0.000	0.000	0.033	0.013	0.046	0.010	0.016	0.026
2	2011-2012	0.007	0.002	0.009	0.000	0.000	0.000	0.039	0.009	0.048	0.088	0.016	0.104
3	2012-2013	0.004	0.002	0.006	0.000	0.000	0.000	0.013	0.001	0.014	0.001	0.000	0.001
4	2013-2014	0.011	0.001	0.012	0.000	0.000	0.000	0.021	0.005	0.026	0.000	0.000	0.000
5	2014-2015	0.014	0.004	0.018	0.001	0.000	0.001	0.042	0.016	0.059	0.003	0.001	0.003
6	2015-2016	0.023	0.006	0.028	0.000	0.001	0.001	0.044	0.028	0.072	0.007	0.008	0.015
7	2016-2017	0.009	0.004	0.013	0.000	0.000	0.000	0.003	0.003	0.006	0.000	0.000	0.000
8	2017-2018	0.048	0.008	0.056	0.000	0.000	0.000	0.012	0.020	0.032	0.000	0.008	0.008
9	2018-2019	0.014	0.003	0.017	0.001	0.000	0.001	0.054	0.005	0.059	0.001	0.000	0.001
10	2019-2020	0.008	0.002	0.01	0.001	0.000	0.001	0.038	0.010	0.048	0.037	0.003	0.004

Source: Sediment Year Book (2010-2020) East Flowing Rivers.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

X Basin : Narmada **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Orsang at Chandwada			Narmada at Garudeshwar			Mohgaon			Narmada at Mandleshwar		
1	2010-2011	0.676	0.000	0.676	0.311	0.000	0.311	2.986	0.000	2.986	2.825	0.386	3.211
2	2011-2012	0.258	0.000	0.258	0.084	0.000	0.084	2.680	0.005	2.685	5.269	0.273	5.545
3	2012-2013	0.011	0.000	0.011	0.028	0.000	0.028	1.719	0.001	1.720	3.054	0.257	3.311
4	2013-2014	0.309	0.000	0.309	2.768	0.000	2.768	2.061	0.002	2.063	6.693	0.328	7.020
5	2014-2015	0.009	0.000	0.009	0.104	0.000	0.104	1.777	0.008	1.785	0.739	0.247	0.985
6	2015-2016	0.001	0.000	0.001	0.058	0.000	0.058	1.097	0.002	1.099	1.482	0.155	1.636
7	2016-2017	0.002	0.000	0.002	0.341	0.000	0.341	2.319	0.001	2.320	2.295	0.148	2.423
8	2017-2018	0.001	0.000	0.001	0.001	0.000	0.001	1.460	0.001	1.461	0.122	0.007	0.129
9	2018-2019	0.000	0.000	0.000	0.001	0.000	0.001	1.689	0.001	1.690	0.655	0.154	0.809
10	2019-2020	0.004	0.000	0.004	3.460	0.000	3.460	4.523	0.015	4.538	4.367	0.157	4.524
	Site Name	Narmada at Handia			Narmada at Hoshangabad			Narmada at Sandia			Narmada at Manot		
1	2010-2011	8.459	0.184	8.643	2.678	0.084	2.762	4.006	0.422	4.506	0.876	0.002	0.878
2	2011-2012	20.530	0.047	20.577	0.614	0.200	0.616	28.905	0.000	28.905	2.759	0.003	2.762
3	2012-2013	25.036	0.033	25.069	32.740	0.123	32.863	15.153	0.153	15.306	1.085	0.001	1.086
4	2013-2014	57.331	0.117	57.447	338.237	0.074	338.310	15.097	0.133	15.220	1.629	0.004	1.633
5	2014-2015	3.432	0.107	3.539	13.948	0.092	14.040	3.321	0.071	3.392	0.990	0.001	0.992
6	2015-2016	3.936	1.085	5.020	5.171	0.037	5.208	0.566	0.058	0.624	0.617	0.000	0.617
7	2016-2017	20.464	0.053	20.157	9.468	0.076	9.543	5.052	0.058	5.110	1.026	0.001	1.027
8	2017-2018	1.948	0.283	2.231	0.132	0.012	0.144	0.390	0.000	0.390	0.311	0.001	0.312
9	2018-2019	6.461	0.673	7.133	0.197	0.174	0.215	2.360	0.116	2.476	0.713	0.002	0.715
10	2019-2020	77.443	0.788	78.232	0.842	0.058	0.900	6.272	0.207	6.479	3.304	0.011	3.315
	Site Name	Shakkar at Gadarwara			Narmada at Barmanghat			Banjar at Bamni					
1	2010-2011	0.663	0.000	0.663	1.663	0.160	1.823	0.186	0.000	0.186			
2	2011-2012	0.612	0.000	0.612	11.068	0.122	1.119	0.220	0.001	0.221			
3	2012-2013	1.229	0.000	1.229	1.576	0.035	1.611	0.085	0.001	0.086			
4	2013-2014	3.563	0.000	3.563	338.237	0.074	33.831	0.209	0.001	0.210			
5	2014-2015	0.437	0.000	0.437	13.948	0.092	1.404	0.132	0.003	0.135			
6	2015-2016	0.633	0.000	0.633	5.171	0.037	0.521	0.074	0.001	0.075			
7	2016-2017	1.224	0.000	1.224	8.002	0.039	8.041	0.117	0.001	0.118			
8	2017-2018	0.237	0.000	0.237	0.609	0.026	0.635	0.041	0.000	0.041			
9	2018-2019	0.555	0.000	0.555	0.410	0.023	0.433	0.094	0.000	0.094			
10	2019-2020	1.674	0.000	1.674	8.241	0.034	8.275	1.194	0.001	1.195			

Source: Sediment Data Book (2010 to 2020) Narmada Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2018-2019

XI Basin : Tapi — **Unit: Million Metric Tonnes**

Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Tapi at Burhanpur			Tapi at Gopalkheda			Purna at Yerli			Tapi at Sarankheda		
1	2010-2011	2.947	0.000	2.947	5.757	0.000	5.757	5.777	0.000	5.777	10.276	0.000	10.276
2	2011-2012	4.789	0.000	4.789	2.016	0.000	2.016	1.281	0.000	1.281	5.232	0.000	5.232
3	2012-2013	1.084	0.000	1.084	9.114	0.000	9.114	3.900	0.000	3.900	32.525	0.000	32.525
4	2013-2014	14.063	0.000	14.063	7.070	0.000	7.070	7.584	0.000	7.584	21.797	0.000	21.797
5	2014-2015	8.969	0.000	8.969	4.985	0.000	4.986	4.979	0.041	5.020	9.093	0.000	9.093
6	2015-2016	0.761	0.000	0.761	2.570	0.000	2.570	6.623	0.000	6.623	6.943	0.000	6.943
7	2016-2017	2.321	0.000	2.321	1.458	0.000	1.458	2.971	0.000	2.971	12.584	0.000	12.584
8	2017-2018	0.525	0.000	0.525	0.038	0.000	0.038	0.093	0.000	0.093	0.374	0.000	0.374
9	2018-2019	0.288	0.000	0.288	0.075	0.000	0.075	0.448	0.000	0.448	1.140	0.000	1.140
10	2019-2020	4.336	0.000	4.336	0.650	0.000	0.650	2.164	0.000	2.164	16.485	0.000	16.485

Source: Sediment Data Book (2010 to 2020) Tapi & Other West Flowing Rivers.

XII Basin : West Flowing Rivers Tapi to Tadri — **Unit: Million Metric Tonnes**

Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Daman Ganga at Ozerkheda			Daman Ganga at Nanipalsan			Ambika at Gadat			Vaitarna at Durvesh		
1	2010-2011	0.209	0.000	0.209	0.094	0.000	0.094	0.150	0.000	0.150	1.589	0.001	1.589
2	2011-2012	2.729	0.000	2.729	0.902	0.000	0.902	0.427	0.000	0.427	2.257	0.001	2.257
3	2012-2013	0.000	0.000	0.000	0.000	0.000	0.000	0.106	0.000	0.106	0.801	0.000	0.801
4	2013-2014	0.000	0.000	0.000	0.000	0.000	0.000	0.297	0.000	0.297	1.354	0.000	1.354
5	2014-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.056	0.000	0.056	1.322	0.000	1.322
6	2015-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.046	0.335	0.000	0.335
7	2016-2017	0.000	0.000	0.000	0.000	0.000	0.000	1.309	0.000	1.309	1.976	0.000	1.976
8	2017-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.048	0.000	0.048	1.996	0.000	1.996
9	2018-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.072	0.000	0.072	1.100	0.000	1.100
10	2019-2020	0.000	0.000	0.000	0.000	0.000	0.000	1.221	0.000	1.221	3.479	0.000	3.479

Source: Sediment Year Book (2010 to 2020) West Flowing Rivers.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

XIII Basin : West Flowing Rivers Tadri to Kanyakumari — **Unit: Million Metric Tonnes**

Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Nethravathi at Bantwal			Payaswani at Erinijipuzha			Valapatanam at Perumannu			Kuttiyadi at Kuttitadi		
1	2010-2011	0.000	0.000	0.000	0.167	0.002	0.169	0.104	0.002	0.106	N.A.	N.A.	N.A.
2	2011-2012	0.000	0.001	0.001	0.145	0.001	0.146	0.131	0.001	0.132	N.A.	N.A.	N.A.
3	2012-2013	0.477	0.000	0.477	0.086	0.001	0.087	0.095	0.001	0.096	N.A.	N.A.	N.A.
4	2013-2014	0.824	0.001	0.825	0.140	0.002	0.142	0.251	0.001	0.252	0.016	0.000	0.016
5	2014-2015	0.728	0.001	0.729	0.269	0.001	0.270	0.181	0.002	0.183	0.142	0.000	0.143
6	2015-2016	0.225	0.002	0.227	0.110	0.001	0.111	0.077	0.001	0.078	Sediment Obsevation not Done	0.000	0.000
7	2016-2017	0.164	0.000	0.164	0.049	0.000	0.049	0.051	0.010	0.061	0.003	0.000	0.003
8	2017-2018	0.138	0.000	0.138	0.060	0.005	0.065	0.103	0.000	0.104	0.001	0.000	0.001
9	2018-2019	0.470	0.000	0.470	0.372	0.000	0.372	0.391	0.000	0.391	0.002	0.000	0.002
10	2019-2020	0.302	0.000	0.302	0.180	0.000	0.180	0.666	0.001	0.667	0.001	0.000	0.001
	Site Name	Chaliyar at Kuniyil			Kadalundi at Karathodu			Bharathapuzha at Kumbidi			Pulanthode at Pulamanthole		
1	2010-2011	0.172	0.001	0.173	0.053	0.000	0.053	0.142	0.007	0.149	0.112	0.003	0.115
2	2011-2012	0.255	0.001	0.256	0.060	0.000	0.060	0.401	0.004	0.405	0.104	0.001	0.105
3	2012-2013	0.118	0.000	0.118	0.019	0.000	0.019	0.104	0.001	0.105	0.019	0.001	0.020
4	2013-2014	0.824	0.002	0.826	0.052	0.000	0.052	0.287	0.002	0.289	0.051	0.000	0.051
5	2014-2015	0.298	0.000	0.298	0.113	0.001	0.114	0.637	0.008	0.645	0.016	0.000	0.016
6	2015-2016	0.129	0.000	0.129	0.030	0.000	0.030	0.204	0.006	0.210	0.011	0.001	0.011
7	2016-2017	0.047	0.000	0.047	0.017	0.000	0.017	0.101	0.000	0.101	0.012	0.000	0.012
8	2017-2018	0.149	0.000	0.149	0.761	0.000	0.761	0.217	0.005	0.222	0.030	0.080	0.111
9	2018-2019	0.835	0.000	0.835	0.074	0.000	0.074	1.146	0.000	1.146	0.392	0.000	0.392
10	2019-2020	0.776	0.001	0.777	0.000	0.000	0.000	0.232	0.000	0.232	1.730	0.000	1.730
	Site Name	Bharathapuzha at Mankara			Bharathapuzha at Pudur			Aliyar at Ambarampalayam			Chalakudi at Arangaly		
1	2010-2011	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.005	0.003	0.007	0.056	0.002	0.058
2	2011-2012	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.008	0.003	0.011	0.059	0.000	0.059
3	2012-2013	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.002	0.002	0.003	0.014	0.000	0.014
4	2013-2014	0.012	0.002	0.014	0.001	0.000	0.001	0.003	0.002	0.005	0.086	0.000	0.086
5	2014-2015	0.064	0.093	0.157	0.009	0.001	0.010	0.006	0.004	0.010	0.015	0.000	0.015
6	2015-2016	0.018	0.015	0.033	0.006	0.001	0.006	0.003	0.006	0.008	0.007	0.000	0.007
7	2016-2017	0.004	0.000	0.005	0.002	0.000	0.002	0.002	0.001	0.003	0.003	0.000	0.003
8	2017-2018	0.010	0.001	0.012	0.021	0.002	0.022	0.001	0.001	0.003	0.021	0.001	0.022
9	2018-2019	0.040	0.001	0.040	0.830	0.003	0.833	0.011	0.004	0.015	0.314	0.000	0.314
10	2019-2020	0.069	0.002	0.071	0.026	0.001	0.027	0.002	0.002	0.004	0.107	0.002	0.109

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

XIII Basin : West Flowing Rivers Tadri to Kanyakumari — **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Periyar at Neeleswaram			Muvattupuzha at Ramamangalam			Kaliyar at Kalampur			Meenachil at Kidangoor		
1	2010-2011	0.056	0.003	0.059	0.103	0.013	0.116	0.027	0.000	0.027	0.015	0.001	0.017
2	2011-2012	0.049	0.005	0.054	0.078	0.013	0.091	0.006	0.000	0.006	0.015	0.001	0.015
3	2012-2013	0.003	0.001	0.004	0.069	0.002	0.071	0.003	0.000	0.003	0.008	0.000	0.008
4	2013-2014	0.288	0.002	0.290	0.125	0.012	0.137	0.010	0.000	0.010	0.019	0.001	0.020
5	2014-2015	0.142	0.005	0.147	0.102	0.011	0.113	0.007	0.000	0.008	0.018	0.002	0.020
6	2015-2016	0.069	0.004	0.073	0.038	0.009	0.047	0.003	0.000	0.003	0.012	0.001	0.013
7	2016-2017	0.360	0.001	0.037	0.016	0.002	0.018	0.002	0.000	0.002	0.004	0.001	0.005
8	2017-2018	0.128	0.010	0.938	0.005	0.010	0.072	0.002	0.000	0.002	0.019	0.002	0.021
9	2018-2019	2.096	0.006	2.102	0.010	0.007	0.057	0.008	0.000	0.008	0.010	0.000	0.010
10	2019-2020	0.296	0.003	0.299	0.060	0.007	0.014	0.000	0.000	0.000	0.021	0.000	0.021
	Site Name	Manimala at Kallooppara			Pumba at Malakkara			Achankovil at Thumpamon			Kallada at Pattazhy		
1	2010-2011	0.043	0.001	0.044	0.050	0.001	0.051	0.085	0.003	0.088	0.087	0.015	0.102
2	2011-2012	0.038	0.001	0.039	0.037	0.001	0.004	0.020	0.001	0.021	0.032	0.008	0.040
3	2012-2013	0.008	0.000	0.008	0.013	0.000	0.013	0.009	0.000	0.009	0.007	0.001	0.008
4	2013-2014	0.045	0.001	0.046	0.077	0.000	0.078	0.025	0.001	0.026	0.028	0.005	0.032
5	2014-2015	0.059	0.002	0.061	0.023	0.029	0.052	0.017	0.001	0.018	0.029	0.005	0.034
6	2015-2016	0.027	0.004	0.031	0.008	0.001	0.009	0.007	0.001	0.008	0.010	0.004	0.014
7	2016-2017	0.004	0.000	0.004	0.005	0.000	0.005	0.005	0.000	0.005	0.012	0.001	0.012
8	2017-2018	0.016	0.002	0.018	0.027	0.001	0.028	0.022	0.011	0.033	0.017	0.172	0.189
9	2018-2019	0.137	0.000	0.137	0.035	0.000	0.035	0.386	0.000	0.386	0.157	0.001	0.158
10	2019-2020	0.040	0.000	0.040	0.201	0.003	0.204	0.032	0.000	0.032	0.040	0.005	0.044
	Site Name	Vamanapuram at Ayilam			Savitri at Mangaon								
1	2010-2011	0.061	0.002	0.063	0.000	0.000	0.000						
2	2011-2012	0.009	0.004	0.014	0.000	0.000	0.000						
3	2012-2013	0.001	0.000	0.001	0.000	0.000	0.000						
4	2013-2014	0.032	0.003	0.035	0.000	0.000	0.000						
5	2014-2015	0.034	0.003	0.036	0.000	0.000	0.000						
6	2015-2016	0.014	0.002	0.016	0.051	0.000	0.051						
7	2016-2017	0.012	0.000	0.012	0.038	0.000	0.038						
8	2017-2018	0.009	0.003	0.012	0.017	0.000	0.017						
9	2018-2019	0.018	0.000	0.018	0.028	0.000	0.028						
10	2019-2020	0.007	0.000	0.007	0.058	0.000	0.058						

Source: Sediment Year Book (2010 to 2020) West Flowing Rivers.

Table 9 : Time series of Sediment load by site in River Basin during 2019-2020

XIV Basin : Mahi — **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(9)	(10)	(11)
	Site Name	Mahi at Mataji			Mahi at Paderdibadi			Mahi at Khanpur			Mahi at Rageli		
1	2010-2011	0.082	0.000	0.082	0.003	0.000	0.003	0.111	0.000	0.111			
2	2011-2012	0.231	0.000	0.231	0.046	0.000	0.046	0.905	0.000	0.905			
3	2012-2013	0.202	0.000	0.202	0.142	0.000	0.142	1.088	0.000	1.088	<-----Data not available -------->		
4	2013-2014	0.111	0.000	0.111	0.072	0.000	0.072	1.073	0.000	1.073			
5	2014-2015	0.035	0.000	0.035	0.005	0.000	0.005	0.239	0.000	0.239			
6	2015-2016	0.262	0.000	0.262	0.078	0.001	0.079	0.125	0.000	0.125			
7	2016-2017	0.951	0.000	0.951	1.181	0.000	1.181	1.251	0.000	1.251			
8	2017-2018	0.083	0.000	0.083	0.040	0.000	0.040	0.070	0.000	0.070			
9	2018-2019	0.022	0.000	0.022	0.011	0.000	0.011	0.025	0.000	0.025			
10	2019-2020	0.282	0.000	0.282	0.013	0.000	0.013	0.040	0.000	0.040			

Source: Sediment Data Book (2010 to 2020) Mahi Flowing River Basins.

XV Basin: Sabarmati **Unit: Million Metric Tonnes**

SNo	Year	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)
	Site Name	Sabarmati at Derol Bridge		
1	2010-2011	0.001	0.000	0.001
2	2011-2012	0.016	0.000	0.016
3	2012-2013	0.001	0.000	0.001
4	2013-2014	0.001	0.000	0.001
5	2014-2015	0.001	0.000	0.001
6	2015-2016	0.011	0.000	0.011
7	2016-2017	0.004	0.000	0.004
8	2017-2018	0.022	0.000	0.022
9	2018-2019	0.000	0.000	0.000
10	2019-2020	0.000	0.000	0.000

Source: Sediment Data Book (2010 to 2020) Sabarmati Flowing River Basins.

XVI Basin: WFR of Kutch, Saurashtra Including Luni									Unit: Million Metric Tonnes				
SNo	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
	Site Name	Shetrunji at Lowara			Banas at Kamalpur			Bhadar at Ganod					
1	2010-2011	0.359	0.000	0.359	0.174	0.000	0.174	0.070	0.000	0.070			
2	2011-2012	1.199	0.000	1.199	0.043	0.000	0.043	0.007	0.000	0.007			
3	2012-2013	0.049	0.000	0.049	0.001	0.000	0.001	0.000	0.000	0.000			
4	2013-2014	1.191	0.000	1.191	0.029	0.000	0.029	0.010	0.000	0.010			
5	2014-2015	0.057	0.000	0.057	0.044	0.000	0.044	0.000	0.000	0.000			
6	2015-2016	1.585	0.000	1.585	0.43	0.000	0.43	0.004	0.000	0.004			
7	2016-2017	0.151	0.000	0.151	0.014	0.000	0.014	0.203	0.000	0.203			
8	2017-2018	3.520	0.000	3.520	1.308	0.000	1.308	0.016	0.000	0.016			
9	2018-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.003			
10	2019-2020	0.025	0.000	0.025	0.008	0.000	0.008	0.133	0.000	0.133			
Source: Sediment Data Book (2010 to 2020) WFR of Kutch, Saurashtra Including Luni Basins.													

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

I	Basin : Mahanadi											Unit : Metric Tonnes per day
Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Pairi at Baronda (Mahanadi)												
01-10 days	0	930	545	762	6	3	0	0	0	0	N.A.	0
11-20 days	0	138	955	504	4	1	0	0	0	0	0	0
R - days	1772	439	357	95	352	0	0	0	0	0	0	0
Monthly	591	502	619	454	121	1	0	0	0	0	0	0
Mahanadi at Rajim												
01-10 days	0	1107	3236	5097	270	373	0	0	0	0	0	0
11-20 days	0	289	1295	1177	79	0	0	0	0	0	0	0
R - days	1055	453	1698	606	955	0	0	0	0	0	0	0
Monthly	352	616	2076	2293	435	124	0	0	0	0	0	0
Mahanadi at Seorinarayan												
01-10 days	0	2075	62300	66524	20408	124	49	0	0	0	N.A.	0
11-20 days	0	293	23779	33468	2375	89	27	0	0	0	0	0
R - days	322	1920	12697	18693	6765	85	22	0	0	0	0	0
Monthly	107	1430	32925	39562	9850	99	33	0	0	0	0	0
Mahanadi at Basantpur												
01-10 days	26	3031	32833	33780	8018	80	18	1	0	0	N.A.	0
11-20 days	49	1075	20513	6306	1005	57	7	3	0	0	0	0
R - days	259	1605	7543	42276	1766	23	9	1	0	0	0	0
Monthly	111	1904	20296	27454	3596	54	11	2	0	0	0	0
Seonath at Kotni (Mahanadi)												
01-10 days	0	0	7510	14738	170	0	0	0	0	0	N.A.	0
11-20 days	0	0	5451	5965	59	0	0	0	0	0	N.A.	0
R - days	0	0	1940	6478	522	0	0	0	0	0	N.A.	0
Monthly	0	0	4967	9060	251	0	0	0	0	0	0	0
Seonath at Simga (Mahanadi)												
01-10 days	0	0	4611	4845	970	331	0	0	0	0	N.A.	0
11-20 days	0	0	1642	2872	291	88	0	0	0	0	0	0
R - days	0	0	1014	1119	4624	0	0	0	0	0	0	0
Monthly	0	0	2422	2945	1962	140	0	0	0	0	0	0

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

I Basin : Mahanadi — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Hamp at Andhiarkhore (Mahanadi)												
01-10 days	0	10	3983	3863	2310	8	1	21	0	0	N.A.	0
11-20 days	0	56	711	1180	143	4	1	3	0	0	0	0
R - days	0	32	1172	1632	28	2	0	1	0	0	0	0
Monthly	0	33	1955	2225	827	5	1	8	0	0	0	0
Arpa at Ghatora (Mahanadi)												
01-10 days	0	133	3487	3437	1208	18	4	1	1	2	0	0
11-20 days	0	202	4265	799	10	4	3	2	0	1	0	0
R - days	0	84	8990	5627	7	9	2	3	1	0	0	1
Monthly	0	140	5581	3288	408	10	3	2	1	1	0	0
Seonath at Gunderdih (Mahanadi)												
01-10 days	0	0	0	1990	0	0	0	0	0	0	0	0
11-20 days	0	0	0	557	0	0	0	0	0	0	0	0
R - days	0	0	0	0	0	0	0	0	0	0	0	0
Monthly	0	0	0	1273	0	0	0	0	0	0	0	0
Seonath at Jondhra (Mahanadi)												
01-10 days	0	7	13721	57445	11628	28	12	0	0	0	N.A.	0
11-20 days	0	145	12794	16773	600	22	4	2	0	0	0	0
R - days	0	57	5048	41002	1159	9	0	8	0	0	0	0
Monthly	0	70	10521	38407	4463	19	5	4	0	0	0	0
Mahanadi at Kalma (Mahanadi)												
01-10 days	0	0	0	0	0	0	0	0	102	43	N.A.	2
11-20 days	0	0	0	0	0	0	0	0	21	242	35	10
R - days	0	0	0	0	0	0	0	0	39	69	2	0
Monthly	0	0	0	0	0	0	0	0	54	118	13	4
Jonk at Rampur (Mahanadi)												
01-10 days	0	77	3297	4039	335	76	0	0	0	0	N.A.	0
11-20 days	0	52	2016	514	83	3	0	0	0	0	0	0
R - days	0	166	1648	243	286	0	0	0	0	0	0	0
Monthly	0	99	2321	1598	235	26	0	0	0	0	0	0
Hasdeo at Manendragarh (Mahanadi)												
01-10 days	0	328	1595	62	81	2	0	0	0	0	0	0
11-20 days	0	38	585	693	15	2	0	0	0	0	0	0
R - days	0	65	1283	880	26	0	0	0	0	0	0	0
Monthly	0	144	1154	545	41	1	0	0	0	0	0	0
Hasdeo at Bamnidhi (Mahanadi)												
01-10 days	20	168	4669	544	3234	5	5	11	0	0	N.A.	1
11-20 days	42	82	1384	284	154	22	2	9	0	0	11	4
R - days	90	226	836	1197	160	7	4	1	0	0	3	2
Monthly	51	158	2296	675	1183	11	4	7	0	0	5	2

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

I Basin : Mahanadi — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Mand at Kurubhata (Mahanadi)												
01-10 days	0	956	18486	3301	16287	42	21	51	18	29	N.A.	0
11-20 days	0	230	27058	8282	1305	49	5	40	5	59	0	0
R - days	65	345	2883	94887	2567	17	9	8	6	51	0	0
Monthly	22	510	16142	35490	6720	36	12	33	9	47	0	0
Ib at Sundergarh (Mahanadi)												
01-10 days	N.A.	709	1000	680	1901	6	29	10	4	2	N.A.	1
11-20 days	N.A.	361	5493	5256	213	8	8	8	1	28	N.A.	2
R - days	438	96	7535	3865	608	2	17	0	1	7	4	0
Monthly	146	389	4676	3267	907	5	18	6	2	12	1	1
Ong at Salebhata (Mahanadi)												
01-10 days	0	404	2086	5547	2002	0	0	0	0	0	N.A.	0
11-20 days	0	8	10830	716	102	0	0	0	0	0	0	0
R - days	0	1066	3037	3311	254	0	0	0	0	0	0	0
Monthly	0	493	5318	3191	786	0	0	0	0	0	0	0
Tel at Kesinga (Mahanadi)												
01-10 days	1021	6281	76988	73654	3505	101	67	39	63	91	N.A.	81
11-20 days	438	3878	78923	32520	1282	102	43	25	22	24	409	170
R - days	2134	37241	70516	5932	3791	26	57	14	22	143	447	0
Monthly	1198	15800	75476	37369	2859	77	56	26	35	86	286	84
Tel at Kantamal (Mahanadi)												
01-10 days	624	6573	106244	41656	12237	353	340	150	155	31	N.A.	27
11-20 days	798	4059	65490	24988	4029	451	159	162	133	14	115	110
R - days	4364	28006	54820	6691	4934	189	243	58	155	34	21	15
Monthly	1929	12879	75518	24445	7066	331	247	123	147	26	45	51
Mahanadi at Tikarapara												
01-10 days	466	9030	53577	107767	55672	410	221	129	395	339	N.A.	247
11-20 days	873	3490	144819	96132	12422	363	114	206	93	7	1715	565
R - days	1874	17250	99440	29132	20906	177	156	84	105	277	820	0
Monthly	1071	9923	99279	77677	29666	317	164	140	198	208	845	271

Source: Suspended Sediment Data Year Book (2019 - 2020) Mahanadi Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

II **Basin : Subernarekha** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Subernarekha at Jamshedpur												
01-10 days	10	906	195	4007	5587	1993	71	517	68	130	N.A.	247
11-20 days	11	46	20737	14009	4726	339	168	369	73	183	152	510
R - days	57	469	10896	5663	11823	393	413	164	100	164	215	744
Monthly	26	474	10609	7893	7379	908	217	350	80	159	122	500
Kharkai at Adityapur (Subernarekha)												
01-10 days	156	370	1210	2144	1876	1017	288	220	107	131	N.A.	271
11-20 days	93	116	17880	3495	968	790	202	179	153	229	77	491
R - days	135	1022	13294	3421	5715	592	244	97	153	183	289	236
Monthly	128	503	10795	3020	2853	800	245	165	138	181	122	333
Govindpur (Subernarekha)												
01-10 days	N.A.	0	2670	5136	4018	3868	52	38	106	59	N.A.	401
11-20 days	N.A.	0	10467	3107	2206	462	53	138	28	61	46	239
R - days	N.A	8358	4182	4126	2436	305	151	141	19	111	45	339
Monthly	0	2786	5773	4123	2887	1545	85	106	51	77	30	326

Contd/…

Source: Suspended Sediment Data Year Book (2019 - 2020) (Subernarekha & Burhabalang)

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

III **Basin: Brahmani & Baitarani** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Baitarani at Anandpur												
01-10 days	4	44	2500	3434	1148	751	20	2	2	14	N.A.	7
11-20 days	2	84	12614	3382	1539	303	7	4	1	7	13	17
R - days	13	171	6970	2095	2502	126	5	1	5	18	130	10
Monthly	6	100	7361	2970	1730	393	11	2	3	13	48	11
Baitarani at Champua												
01-10 days	8	290	2118	1559	538	194	5	1	4	6	N.A.	12
11-20 days	15	126	3242	3905	390	64	2	2	3	4	21	10
R - days	98	66	5558	1416	1394	35	3	1	2	3	14	4
Monthly	40	161	3639	2293	774	98	3	1	3	4	12	9
Brahmani at Tilga												
01-10 days	0	4858	3208	1039	2980	170	32	142	0	95	N.A.	109
11-20 days	0	2189	11981	3474	1032	107	130	93	0	1322	96	19
R - days	2231	6478	5835	4929	1843	50	37	36	0	221	214	6
Monthly	744	4508	7008	3147	1952	109	66	90	0	546	103	45
Brahmani at Panposh												
01-10 days	26	3202	7562	7941	38569	2704	233	320	53	291	N.A.	743
11-20 days	53	3391	71782	18583	9782	1434	298	76	115	2795	168	692
R - days	910	5335	45054	19892	24641	520	183	50	158	621	966	531
Monthly	330	3976	41466	15472	24331	1553	238	149	109	1236	378	655
Brahmani at Gomlai												
01-10 days	30	4740	18048	10026	35980	908	183	144	90	91	N.A.	384
11-20 days	27	5966	178436	22565	5582	272	164	234	74	832	26	249
R - days	1235	5488	55334	20933	34671	213	184	106	58	867	287	125
Monthly	431	5398	83939	17841	25411	464	177	161	74	597	104	253
Brahmani at Jenapur												
01-10 days	30	1267	4304	33452	15505	1758	192	2660	180	356	N.A.	533
11-20 days	180	652	11837	11898	3969	243	66	103	347	234	363	401
R - days	971	406	15332	5101	6043	328	32	49	190	326	1416	348
Monthly	394	775	10491	16817	8506	776	97	937	239	305	593	427
Baitarani at Altuma												
01-10 days	2	8	601	2359	147	12	3	3	3	12	N.A.	6
11-20 days	6	16	544	665	24	5	2	1	2	4	7	5
R - days	3	63	239	624	90	2	1	2	7	3	6	10
Monthly	4	29	461	1216	87	7	2	2	4	6	4	7

Source: Suspended Sediment Data Year Book (2019 - 2020) Brahmani & Baitarani).

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20												
IV	Basin : Godavari										Unit : Metric Tonnes per day	
Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Godavari at Polavaram												
01-10 days	774	40314	2448447	1054618	160437	50364	1024	682	598	527	562	648
11-20 days	653	40318	855282	729145	32284	7878	814	615	553	408	506	507
R - days	1489	339959	442328	232138	95481	2698	627	593	680	574	572	639
Monthly	972	140197	1248686	671967	96067	20313	822	630	610	503	547	598
Godavari at Perur												
01-10 days	16	34541	548148	439876	56188	24993	235	130	49	13	2	33
11-20 days	22	19704	273002	279512	14712	5309	138	148	81	4	3	209
R - days	992	107340	170729	148331	54346	1294	64	49	48	3	37	287
Monthly	343	53862	330626	289240	41749	10532	146	109	59	7	14	176
Indravati at Pathagudem (Godavari)												
01-10 days	3	43609	580836	568714	15220	8745	657	884	36	18	6	9
11-20 days	17	20977	171767	199429	18013	2776	564	432	52	8	7	49
R - days	989	272924	127511	71095	39847	515	547	85	50	9	13	12
Monthly	336	112503	293371	279746	24360	4012	589	467	46	12	9	23
Indravati at Jagdalpur (Godavari)												
01-10 days	0	4972	97469	114432	425	776	44	0	35	20	11	4
11-20 days	975	4460	16878	3358	627	113	11	0	37	13	6	15
R - days	3254	49260	9101	455	894	59	0	15	25	11	10	15
Monthly	1410	19564	41149	39415	649	316	18	5	32	15	9	11
Peddavagu at Bhatpalli (Godavari)												
01-10 days	5	38	3567	101	542	392	15	12	7	7	N.A.	11
11-20 days	4	27	860	628	637	115	14	9	6	7	15	9
R - days	87	332	293	1800	490	25	12	8	7	5	14	9
Monthly	32	132	1573	843	556	177	14	10	7	6	10	10

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

IV Basin : Godavari — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Wardha at Bamni (Godavari)												
01-10 days	4	13126	516756	32688	7621	2070	348	227	251	119	N.A.	30
11-20 days	0	513	41356	25091	596	652	240	204	144	97	134	47
R - days	119	153445	14074	32450	1918	352	194	186	62	80	98	13
Monthly	41	55695	190729	30076	3378	1025	261	206	152	99	77	30
Penganga at P.G.Bridge (Godavari)												
01-10 days	0	272	69400	2262	1219	3340	16	8	1	0	N.A.	0
11-20 days	0	129	670	5227	133	163	11	4	0	0	0	0
R - days	0	18376	382	7170	5376	38	2	1	0	0	0	0
Monthly	0	6259	23484	4886	2243	1180	10	4	0	0	0	0
Wunna at Nandgaon (Godavari)												
01-10 days	0	59	40332	104857	485	10	11	9	5	1	N.A.	0
11-20 days	0	3	233	8935	21	1	11	3	1	0	0	0
R - days	7	84437	23307	6960	15	6	5	31	16	0	0	0
Monthly	2	28166	21291	40251	174	6	9	14	7	0	0	0
Wardha at Hivra (Godavari)												
01-10 days	0	41	1253	600	2265	414	8	7	9	5	N.A.	0
11-20 days	0	0	43	1717	47	5	6	6	2	1	0	0
R - days	21	954	30	20474	426	6	3	3	4	1	0	0
Monthly	7	332	442	7597	913	142	6	5	5	2	0	0
Wainganga at Asthi (Godavari)												
01-10 days	8	4085	622045	1217386	149357	3686	593	9	82	11	N.A.	81
11-20 days	9	3253	637638	588698	4028	1481	428	25	198	47	9	76
R - days	18	98191	253031	195305	10601	1021	36	53	8	171	15	68
Monthly	12	35176	504238	667130	54662	2063	352	29	96	76	8	75
Kanhan at Satrapur (Godavari)												
01-10 days	0	496	11759	16709	8818	63	10	32	22	4	N.A.	0
11-20 days	0	21	1349	9967	198	28	18	33	18	2	0	0
R - days	0	98	15709	37333	107	22	20	15	8	1	0	0
Monthly	0	205	9606	21336	3041	38	16	27	16	2	0	0

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

IV **Basin : Godavari** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Khanan at Ramakona (Godavari)												
01-10 days	0	390	3359	3902	959	271	24	32	28	11	N.A.	0
11-20 days	0	8	3506	2210	247	187	26	28	17	11	0	0
R - days	0	595	3735	3791	132	114	28	27	12	8	0	0
Monthly	0	331	3533	3301	446	191	26	29	19	10	0	0
Bagh at Rajegaon (Godavari)												
01-10 days	1	1972	20588	65859	3179	169	22	41	14	10	N.A.	21
11-20 days	1	82	5463	21231	597	56	18	22	16	2	5	7
R - days	0	1224	6833	11454	2411	32	15	6	19	0	6	2
Monthly	1	1093	10961	32848	2062	86	18	23	16	4	4	10
Wainganga at Kumhari (Godavari)												
01-10 days	0	3791	8888	349948	3357	184	17	45	15	14	N.A.	0
11-20 days	0	45	4272	26822	681	55	37	24	7	32	0	0
R - days	1	1044	5584	21829	1063	18	10	17	27	15	0	0
Monthly	0	1627	6248	132866	1700	86	21	29	16	20	0	0
Wardha at Sakmur (Godavari)												
01-10 days	1	2394	6131	3033	1843	997	220	252	48	81	N.A.	32
11-20 days	0	851	2477	1203	623	687	189	227	48	92	73	20
R - days	76	1500	1539	3726	634	522	185	56	39	52	56	13
Monthly	26	1582	3382	2654	1033	735	198	178	45	75	43	22
Godavari at Mancherial												
01-10 days	13	14	11555	398	2319	4112	0	0	0	0	0	0
11-20 days	12	10	3290	0	401	0	0	0	0	0	0	0
R - days	10	8	1337	2920	12569	0	0	0	0	0	0	0
Monthly	12	11	5394	1106	5096	1371	0	0	0	0	0	0
Manjira at Saloora												
01-10 days	0	0	774	1046	130	303	21	1	0	0	0	0
11-20 days	0	0	214	63	259	69	9	0	0	0	0	0
R - days	0	0	16	972	963	32	4	0	0	0	0	0
Monthly	0	0	335	694	451	135	11	0	0	0	0	0
Purna at Purna												
01-10 days	0	0	324	782	0	238	0	0	0	0	0	0
11-20 days	0	0	19	603	859	0	0	0	0	0	0	0
R - days	0	0	0	226	9933	0	0	0	0	0	0	0
Monthly	0	0	114	537	3597	79	0	0	0	0	0	0

Source: Suspended Sediment Data Year Book (2019 - 2020) Godavari Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

V Basin : Krishna — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Krishna at Vijayawada												
01-10 days	0	0	0	74	98	95	0	0	0	0	0	0
11-20 days	0	0	53975	1349	154	13	0	0	0	0	0	0
R - days	0	0	18	412	1956	0	0	0	0	0	0	0
Monthly	0	0	17998	612	736	36	0	0	0	0	0	0
Munneru at Keesara (Krishna)												
01-10 days	0	0	1166	2280	1079	828	156	79	103	50	N.A.	0
11-20 days	0	0	505	1495	1378	215	97	38	54	42	0	0
R - days	0	0	1205	2110	1094	234	85	30	57	17	0	0
Monthly	0	0	959	1962	1184	426	113	49	71	36	0	0
Wyra at Madhira (Krishna)												
01-10 days	0	0	60	229	164	30	8	4	15	20	N.A.	0
11-20 days	0	0	9	495	1105	18	3	6	15	16	0	0
R - days	0	0	75	170	83	16	10	2	15	14	0	0
Monthly	0	0	48	298	451	21	7	4	15	17	0	0
Paleru at Paleru Bridge (Krishna)												
01-10 days	2	1	2	21	19	18	4	0	5	8	N.A.	N.A.
11-20 days	2	1	1	23	24	12	2	3	11	10	N.A.	N.A.
R - days	2	0	17	28	29	11	1	1	6	10	N.A.	N.A.
Monthly	2	1	7	24	24	14	2	1	7	9	N.A.	N.A.
Krishna at Wadenapally												
01-10 days	0	0	0	648	859	822	28	29	62	35	N.A.	10
11-20 days	0	0	13285	3684	1090	248	25	28	50	26	16	4
R - days	0	0	177	2350	5672	76	38	34	64	27	23	5
Monthly	0	0	4487	2227	2540	382	30	30	59	29	13	6
Musi at Damerachela (Krishna)												
01-10 days	0	0	36	261	323	246	80	46	96	135	N.A.	13
11-20 days	0	0	7	207	281	244	6	113	43	21	N.A.	7
R - days	0	0	73	261	311	237	15	18	60	62	4	10
Monthly	0	0	39	243	305	242	34	59	66	73	1	10

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20												
V	Basin : Krishna										Unit : Metric Tonnes per day	
Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Tungabhadra at Bawapuram (Krishna)												
01-10 days	0	0	0	10918	5665	721	334	10	11	8	0	0
11-20 days	0	0	39045	8202	6324	68	58	7	6	5	0	0
R - days	0	0	2720	20855	17805	17	13	34	3	0	0	0
Monthly	0	0	13922	13325	9931	269	135	17	7	4	0	0
Tungabhadra at Mantralayam (Krishna)												
01-10 days	0	3	0	9410	12681	1976	54	4	10	3	N.A.	0
11-20 days	46	0	25936	19272	37651	577	22	16	3	0	0	0
R - days	36	0	2954	40932	15075	165	12	4	5	0	0	0
Monthly	27	1	9630	23205	21802	906	29	8	6	1	0	0
Haridra at Byalardahalli (Krishna)												
01-10 days	0	0	0	2	2	11	6	4	0	0	0	0
11-20 days	0	0	1	2	9	5	5	3	0	0	0	0
R - days	0	0	1	2	601	5	4	2	0	0	0	0
Monthly	0	0	1	2	204	7	5	3	0	0	0	0
Kumudavathi at Kuppelur (Krishna)												
01-10 days	0	0	0	854	194	167	5	0	0	0	0	0
11-20 days	0	0	1202	556	234	65	1	0	0	0	0	0
R - days	0	0	386	261	665	9	0	0	0	0	0	0
Monthly	0	0	529	557	364	80	2	0	0	0	0	0

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

V **Basin : Krishna** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Tungabhadra at Honnali (Krisnha)												
01-10 days	15	7	N.A.	N.A.	N.A.	N.A.	N.A.	38	30	18	58	42
11-20 days	12	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	29	23	17	49	39
R - days	31	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	47	18	17	37	25
Monthly	19	2	0	0	0	0	0	38	24	17	48	35
Bhima at Yadgir (Krishna)												
01-10 days	0	0	6400	1478	3165	5202	0	0	0	0	N.A.	0
11-20 days	0	0	16406	6945	3024	2313	0	0	0	0	0	0
R - days	0	0	1509	5825	9590	569	0	0	0	0	0	0
Monthly	0	0	8105	4749	5260	2695	0	0	0	0	0	0
Kagna at Malkhed (Krishna)												
01-10 days	0	0	7	24	36	28	2	2	2	0	N.A.	0
11-20 days	0	0	15	24	44	28	2	2	0	0	0	0
R - days	0	1	2	35	30	11	2	2	0	0	0	0
Monthly	0	0	8	28	37	22	2	2	1	0	0	0
Nira at Sarati (Krishna)												
01-10 days	0	0	13540	920	96	903	0	0	0	0	N.A.	0
11-20 days	0	0	1511	168	121	211	0	0	0	0	0	0
R - days	0	125	12	938	1912	27	0	0	0	0	0	0
Monthly	0	42	5021	675	710	380	0	0	0	0	0	0
Krishna at Huvinhedigi												
01-10 days	7	12	18591	11301	2081	2049	64	104	20	71	N.A.	9
11-20 days	11	29	28004	11013	2767	326	83	42	108	61	18	15
R - days	35	12217	4481	6647	8385	106	32	138	36	7	9	5
Monthly	18	4086	17025	9654	4411	827	60	95	55	46	14	10

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

V **Basin : Krishna** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Bhima at Takali (Krishna)												
01-10 days	0	0	7156	1397	127	651	0	0	0	0	N.A.	0
11-20 days	0	0	3295	1385	197	228	0	0	0	0	0	0
R - days	0	0	142	3279	4958	13	0	0	0	0	0	0
Monthly	0	0	3531	2020	1761	297	0	0	0	0	0	0
Malaprabha at Cholachagudda (Seasonal) (Krishna)												
01-10 days	0	0	145	537	5070	2357	44	124	347	39	0	0
11-20 days	0	0	139	569	627	588	33	117	117	0	0	0
R - days	0	0	62	385	1354	393	32	206	93	0	0	0
Monthly	0	0	115	497	2350	1113	36	149	186	13	0	0
Krishna at Kurundwad												
01-10 days	0	10994	43190	13724	2299	2346	0	0	0	0	N.A.	0
11-20 days	0	6289	37333	10677	3220	0	0	0	0	0	0	0
R - days	0	7665	2425	5581	8033	0	0	0	0	0	0	0
Monthly	0	8316	27649	9994	4517	782	0	0	0	0	0	0
Krishna at Arjunwad (Seasonal)												
01-10 days	0	2696	20607	5980	1080	923	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11-20 days	0	3151	15090	3346	1052	370	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	0	2483	755	2147	3609	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	0	2777	12151	3824	1914	431	0	0	0	0	0	0
Varna at Samdoli (Seasonal) (Krishna)												
01-10 days	0	839	3138	1286	143	103	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11-20 days	0	716	2140	828	181	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	0	756	162	476	691	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	0	770	1813	863	338	34	0	0	0	0	0	0
Krishna at Karad												
01-10 days	0	3148	58095	9488	0	816	0	0	0	0	N.A.	0
11-20 days	0	2298	9597	7001	0	395	0	0	0	0	0	0
R - days	0	4942	501	10399	4048	105	0	0	0	0	0	0
Monthly	0	3463	22731	8963	1349	439	0	0	0	0	0	0
Koyna at Warunji (Krishna)												
01-10 days	0	3240	12518	9873	0	361	0	0	0	0	N.A.	0
11-20 days	0	3269	1594	693	0	208	0	0	0	0	0	0
R - days	0	2114	158	2104	3508	82	0	0	0	0	0	0
Monthly	0	2874	4757	4223	1169	217	0	0	0	0	0	0
Ghataprabha at Gokak Falls (Seasonal) (Krishna)												
01-10 days	0	1253	4873	564	19	0	0	0	0	0	0	0
11-20 days	0	1592	664	405	0	0	0	0	0	0	0	0
R - days	0	1118	334	37	0	0	0	0	0	0	0	0
Monthly	0	1321	1957	335	6	0	0	0	0	0	0	0

Source: Suspended Sediment Data Year Book (2019 - 2020) Krishna Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

VI **Basin : Cauvery** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Thirumalairajanar at Thengudi (Cauvery)												
01-10 days	0	0	0	0	2	11	12	3	1	0	0	0
11-20 days	0	0	0	5	6	5	7	2	0	0	0	0
R - days	0	0	0	4	9	9	5	2	0	0	0	0
Monthly	0	0	0	3	5	8	8	2	0	0	0	0
Cauvery at Musiri												
01-10 days	1	1	1	469	150	221	156	77	5	4	N.A.	4
11-20 days	1	0	219	398	230	225	42	77	6	5	3	3
R - days	0	9	293	201	188	61	59	15	4	3	4	5
Monthly	1	3	171	356	189	169	86	56	5	4	2	4
Amaravathy at Nallamaranpatty (Cauvery)												
01-10 days	0	0	0	0	0	1	0	0	0	0	N.A.	0
11-20 days	0	0	5	0	0	0	0	0	0	0	0	0
R - days	0	0	1	9	8	2	1	0	0	0	0	0
Monthly	0	0	2	3	3	1	0	0	0	0	0	0
Noyyal at Elunuthimangalam (Cauvery)												
01-10 days	2	0	2	3	2	11	10	4	2	2	N.A.	2
11-20 days	1	0	11	4	5	12	8	2	2	2	0	0
R - days	0	0	2	4	5	13	7	3	3	2	1	0
Monthly	1	0	5	4	4	12	8	3	2	2	1	1
Cauvery at Kodumudi												
01-10 days	8	0	8	2993	924	768	530	470	31	41	N.A.	33
11-20 days	4	9	139	2354	890	735	228	396	61	47	8	35
R - days	3	9	252	1171	1623	421	215	109	24	55	71	49
Monthly	5	6	133	2173	1146	641	324	325	39	48	26	39
Bhavani at Savandapur (Cauvery)												
01-10 days	3	5	5	160	56	383	142	33	8	13	N.A.	23
11-20 days	2	21	141	127	298	795	13	9	13	11	23	12
R - days	3	9	209	144	212	89	6	11	13	55	38	21
Monthly	3	12	118	144	189	422	54	18	11	26	20	19

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

VI Basin : Cauvery **Unit : Metric Tonnes**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Moyar at Thengumarahada (Cauvery)												
01-10 days	0	0	51	2	44	1	0	0	0	0	N.A.	3
11-20 days	0	0	23	1	9	1	1	0	0	0	0	0
R - days	0	0	1	1	35	1	0	0	0	0	0	0
Monthly	0	0	25	1	29	1	0	0	0	0	0	1
Cauvery at Urachikottai												
01-10 days	0	3	16	978	437	325	220	293	0	24	N.A.	0
11-20 days	4	19	183	764	381	257	130	252	0	0	0	0
R - days	0	0	282	460	574	201	161	70	0	0	0	0
Monthly	1	7	160	734	464	261	170	205	0	8	0	0
Palar at Kudlur (Cauvery)												
01-10 days	0	0	0	0	68	43	2	0	0	0	N.A.	0
11-20 days	0	0	0	0	279	9	1	0	0	0	0	0
R-days	0	0	0	3	26	4	0	0	0	0	0	0
Monthly	0	0	0	1	124	19	1	0	0	0	0	0
Cauvery at Biligundulu												
01-10 days	21	3	897	959	617	361	114	179	13	17	6	31
11-20 days	7	3	1895	1647	1091	888	108	27	38	4	9	15
R - days	4	64	386	5132	1158	153	123	14	3	5	12	46
Monthly	11	23	1059	2579	955	467	115	73	18	9	9	31
Arkavathi at T. Bekuppe (Cauvery)												
01-10 dyas	26	6	10	20	17	59	8	4	5	4	1	5
11-20 days	5	6	18	10	6	70	10	6	4	5	1	4
R-days	6	9	10	21	15	16	6	6	3	2	27	10
Monthly	12	7	13	17	13	48	8	5	4	4	10	6
Shimsha at T.K.Halli (Cauvery)												
01-10 days	0	0	0	22	84	28	23	0	0	0	0	1
11-20 days	0	0	0	23	19	32	19	0	0	0	0	0
R - days	0	0	14	98	32	28	19	0	0	0	0	4
Monthly	0	0	5	48	45	29	20	0	0	0	0	2

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

VI Basin : Cauvery — **Unit : Metric Tonnes**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Cauvery at Kollegal												
01-10 days	4	0	132	457	138	132	87	9	5	6	3	4
11-20 days	2	0	441	333	202	114	78	7	5	3	3	6
R - days	0	136	224	235	350	91	56	6	23	3	6	6
Monthly	2	45	266	342	230	112	74	7	11	4	4	5
Kabini at T.Narasipur (Cauvery)												
01-10 days	23	6	21	150	72	77	52	6	11	24	2	9
11-20 days	9	10	224	102	516	113	28	4	4	29	2	47
R - days	10	59	153	197	946	38	19	2	9	15	12	68
Monthly	14	25	133	150	511	76	33	4	8	23	5	41
Kabini at Muthankera (Cauvery)												
01-10 days	2	90	381	438	39	50	29	6	2	2	3	4
11-20 days	16	96	220	116	58	33	13	6	2	3	2	4
R - days	17	190	239	53	78	21	9	3	2	4	1	4
Monthly	12	125	280	202	58	35	17	5	2	3	2	4
Hemavathi at Akkihebbal (Cauvery)												
01-10 days	0	0	673	28	382	240	230	98	14	18	0	8
11-20 days	1	0	673	631	532	185	187	31	23	31	1	26
R-days	0	21	372	445	684	172	227	22	22	6	0	57
Monthly	0	7	573	368	533	199	215	50	20	18	0	30
Hemavathi at M.H.Halli (Cauvery)												
01-10 days	0	0	143	69	4	3	4	5	6	4	5	3
11-20 days	0	0	76	9	4	9	5	10	4	1	1	3
R - days	0	57	8	4	8	11	3	2	4	0	1	1
Monthly	0	19	76	27	5	8	4	6	5	2	2	2
Hemavathi at Sakleshpur (Cauvery)												
01-10 days	0	626	2389	238	34	14	7	2	1	1	0	1
11-20 days	2	122	1734	66	27	15	4	2	1	0	0	1
R-days	6	27	114	25	40	24	3	2	1	0	0	1
Monthly	3	258	1412	110	34	18	5	2	1	0	0	1
Cauvery at Kudige												
01-10 days	2	67	153	156	60	41	18	1	1	1	1	3
11-20 days	22	8	369	94	203	30	3	1	1	1	0	8
R - days	54	32	108	55	139	12	1	2	0	1	2	2
Monthly	26	36	210	102	134	28	7	1	1	1	1	4

Source: Suspended Sediment Data Year Book (2019 - 2020) Cauvery Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

VII Basin : Pennar — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Pennar at Nellore												
01-10 days	0	0	0	0	0	685	0	0	0	0	0	0
11-20 days	0	0	0	0	219	6	0	0	0	0	0	0
R - days	0	0	0	0	155	0	0	0	0	0	0	0
Monthly	0	0	0	0	125	230	0	0	0	0	0	0
Sagileru at Nandipalli (Pennar)												
01-10 days	0	0	0	0	0	0	0	0	0	0	0	0
11-20 days	0	0	0	0	0	0	0	0	0	0	0	0
R - days	0	0	0	50	0	1	0	0	0	0	0	0
Monthly	0	0	0	17	0	0	0	0	0	0	0	0
Pennar at Chennur												
01-10 days	0	0	0	12833	17937	3081	2185	310	72	33	0	0
11-20 days	0	0	12177	81126	14914	1345	859	231	51	10	0	0
R - days	0	0	27420	43639	20087	1080	973	65	10	0	0	2
Monthly	0	0	13199	45866	17646	1835	1339	202	44	14	0	1
Kunderu at Alladupalli (Pennar)												
01-10 days	47	42	84	7434	13785	4087	3314	1374	739	442	0	101
11-20 days	20	2	10800	81539	7699	3228	2069	2495	442	517	0	149
R - days	53	0	5153	28486	9112	2430	2703	656	280	56	0	218
Monthly	40	15	5346	39153	10199	3248	2695	1508	487	338	0	156

Source: Suspended Sediment Data Year Book (2019 - 2020) Pennar Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

VIII Basin : East Flowing Rivers From Mahanadi to Pennar — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Gunupur (Vamsadhara) (EMP)												
01-10 days	0	122	162424	2741	2878	1624	118	81	101	N.A.	N.A.	95
11-20 days	0	98	4912	2663	2344	1256	130	22	24	N.A.	90	503
R - days	1	209	1642	2479	11956	185	78	21	43	N.A.	175	17
Monthly	0	143	56326	2628	5726	1022	109	41	56	0	88	205

Kashinagar : (Vamsadhara) (EMP)												
01-10 days	2	4	133804	27425	2574	1426	113	44	43	118	N.A.	253
11-20 days	1	3	13925	4163	2759	466	88	24	122	158	N.A.	63
R - days	2	888	5647	3280	13008	164	59	14	37	116	N.A.	20
Monthly	2	298	51125	11623	6114	685	87	27	67	131	0	112
Purushottampur (Rushikulya) (EMP)												
01-10 days	0	4	13818	16411	3392	799	N.A.	11	10	10	N.A.	0
11-20 days	0	3	8363	2843	2318	157	N.A.	13	2	1	7	0
R - days	2	996	4070	14783	8581	183	N.A.	3	1	8	18	0
Monthly	1	334	8750	11346	4764	380	0	9	4	6	8	0
Srikakulam (Nagavali) (EMP)												
01-10 days	48	29	57234	7349	7381	157	6	0	0	0	N.A.	0
11-20 days	3	26	1842	1176	24965	7	0	0	0	0	0	0
R - days	3	412	854	2745	11699	5	1	0	0	0	0	0
Monthly	18	156	19977	3757	14682	56	2	0	0	0	0	0
Gundlakamma at Marella (EMP)												
01-10 days	0	0	0	5	70	84	48	20	2	0	0	0
11-20 days	0	0	0	37	77	91	49	27	3	0	0	0
R - days	0	8	0	76	88	98	44	4	0	0	0	0
Monthly	0	3	0	39	78	91	47	17	2	0	0	0

Source: Suspended Sediment Data Year Book (2019 - 2020)

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

IX **Basin : East flowing Rivers Pennar to Kanyakumari** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Swarnamukhi at Naidupeta (EPK)												
01-10 days	0	0	0	0	0	0	279	0	0	0	0	0
11-20 days	0	0	0	0	0	23	41	0	4	0	0	0
R - days	0	0	0	0	0	9	41	0	84	0	0	0
Monthly	0	0	0	0	0	11	120	0	29	0	0	0
Kalingi at Sulurpet (EPK)												
01-10 days	0	0	0	0	0	16	87	5	0	0	0	0
11-20 days	0	0	0	0	0	5	31	0	0	0	0	0
R - days	0	0	0	0	184	9	3	0	0	0	0	0
Monthly	0	0	0	0	61	10	40	2	0	0	0	0
Ponnaiyar at Vazhavachanur (EPK)												
01-10 days	0	0	0	0	2	2	5	0	23	2	0	0
11-20 days	0	0	0	4	0	0	2	0	29	0	0	0
R - days	0	0	0	4	2	1	0	0	23	0	0	0
Monthly	0	0	0	3	1	1	2	0	25	1	0	0
Ponnaiyar at Gummanur (EPK)												
01-10 days	7	5	8	17	65	55	48	24	0	1	N.A.	0
11-20 days	17	6	50	17	62	52	44	8	4	6	0	0
R - days	25	33	56	184	80	41	23	0	1	0	0	6
Monthly	16	15	38	73	69	49	38	11	2	2	0	2
Vaigai at Paramakudi (EPK)												
01-10 days	0	0	0	0	0	0	0	0	0	0	N.A.	0
11-20 days	0	0	0	0	0	111	0	0	0	0	0	0
R - days	0	0	0	0	0	0	11	0	0	0	0	0
Monthly	0	0	0	0	0	37	4	0	0	0	0	0
Suruliyar at Theni (EPK)												
01-10 days	0	0	202	205	275	406	355	136	21	0	N.A.	1
11-20 days	3	7	375	244	660	291	107	73	17	0	0	0
R - days	6	25	161	296	368	250	172	49	1	0	6	1
Monthly	3	11	246	248	434	316	211	86	13	0	2	1
Vaigai at Ambasamudram (EPK)												
01-10 days	0	0	0	0	1	138	203	8	0	0	N.A.	0
11-20 days	0	0	0	0	20	2379	59	0	0	0	0	0
R - days	0	0	0	0	212	928	32	0	0	0	0	0
Monthly	0	0	0	0	78	1148	98	3	0	0	0	0
Tambraparani at Murappandu (EPK)												
01-10 days	3	34	11	64	67	50	605	26	31	22	N.A.	10
11-20 days	4	41	15	85	18	60	179	37	44	25	0	19
R - days	5	18	32	95	29	104	152	46	46	38	3	43
Monthly	4	31	19	81	38	71	312	36	40	28	1	24

Source: Suspended Sediment Data Year Book (2019 - 2020) (East Flowing Rivers From Pennar to Kanyakumari)

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20												
X	Basin : Narmada										Unit : Metric Tonnes per day	
Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Orsang at Chandwada (Narmada)												
01-10 days	N.A.	38	260	6	5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11-20 days	N.A.	1	7	87	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	N.A.	N.A.	23	15	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	N.A.	13	97	36	2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Narmada at Garudeshwar												
01-10 days	0	0	24227	33837	6078	0	0	0	0	0	N.A.	0
11-20 days	0	0	101950	105638	167	0	0	0	0	0	0	0
R - days	0	4	53456	25518	5	0	0	0	0	0	0	0
Monthly	N.A.	1	59878	54998	2083	0	0	0	0	0	0	0
Narmada at Mandleshwar												
01-10 days	284	2334	1208	117877	20505	1246	641	679	575	1140	863	1119
11-20 days	227	1195	17937	183700	2459	671	441	506	335	591	533	1459
R - days	257	1099	50097	28496	937	906	606	609	2019	708	1679	1120
Monthly	256	1542	23081	110024	7967	941	563	598	976	813	1025	1233
Narmada at Handia												
01-10 days	517	282981	251189	1554472	583619	29692	21899	1830	2835	2801	2215	2199
11-20 days	442	57280	561232	2123126	119799	27123	12053	2117	2712	2675	2130	2173
R - days	199	299372	983273	672099	39871	25789	6347	2866	4268	2032	2063	2656
Monthly	386	213211	598565	1449899	247763	27535	13433	2271	3272	2502	2136	2343
Narmada at Hoshangabad												
01-10 days	38	694	11291	9238	2608	474	221	242	273	313	254	374
11-20 days	50	183	28891	11056	482	458	221	313	278	314	417	484
R - days	56	870	12782	2834	532	205	184	303	338	264	546	418
Monthly	48	582	17655	7709	1207	379	209	286	296	297	406	425
Narmada at Sandia												
01-10 days	75	10646	45129	129716	50964	5953	526	611	906	1423	469	1162
11-20 days	193	2163	58623	97985	13526	4878	423	995	909	1183	1546	2506
R - days	97	6962	121875	55198	6915	2748	345	1336	1245	587	2073	2090
Monthly	122	6590	75209	94299	23802	4526	432	981	1020	1064	1363	1920

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

X Basin : Narmada **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Shakkar at Gadarwara (Narmada)												
01-10 days	N.A.	2778	12694	38225	1570	14	5	5	1	0	0	0
11-20 days	N.A.	146	45101	20325	95	8	5	4	1	0	0	0
R - days	2	9383	25479	7924	185	6	5	3	1	0	0	0
Monthly	2	4102	27758	22158	617	10	5	4	1	0	0	0

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Narmada at Barmanghat												
01-10 days	41	43428	158584	129619	10836	550	199	136	128	162	236	142
11-20 days	64	1997	274022	81938	1100	486	159	173	150	166	231	305
R - days	512	15809	64613	31360	747	321	250	164	133	170	210	199
Monthly	206	20411	165740	80972	4228	452	203	158	137	166	226	215
Banjar at Bamini (Narmada)												
01-10 days	N.A.	160	20226	39176	28841	35	3	35	8	3	0	N.A.
11-20 days	N.A.	65	12903	6606	358	8	2	9	2	4	N.A.	N.A.
R - days	N.A.	304	6157	3619	284	4	2	3	9	1	N.A.	N.A.
Monthly	0	176	13095	16467	9828	16	2	15	6	3	0	0
Burhner at Mohgaon (Narmada)												
01-10 days	0	16254	100324	130988	2325	410	43	12	53	69	76	5
11-20 days	0	1177	59180	64527	596	559	42	8	16	692	11	6
R - days	146	8265	28806	33810	1012	73	27	11	70	101	2	6
Monthly	49	8565	62770	76442	1311	347	38	10	46	288	30	6
Narmada at Manot												
01-10 days	0	20550	41999	42194	2618	528	143	59	17	17	10	16
11-20 days	0	4825	45398	72205	863	468	111	31	16	495	8	25
R - days	204	7715	20880	64503	2035	376	82	21	12	27	7	18
Monthly	68	11030	36092	59634	1838	457	112	37	15	180	8	20

Source: Suspended Sediment Data Year Book (2019 - 2020) Narmada Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XI **Basin : Tapi** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Tapi at Burhanpur												
01-10 days	0	7513	116524	26176	3768	566	13	1	0	0	N.A.	0
11-20 days	0	839	25519	36490	335	172	4	0	0	0	0	0
R - days	0	74238	100933	22383	532	33	1	0	0	0	0	0
Monthly	0	27530	80992	28350	1545	257	6	0	0	0	0	0
Purna at Gopalkheda												
01-10 days	0	0	15052	3685	8403	0	0	0	0	0	N.A.	0
11-20 days	0	0	4313	3704	0	0	0	0	0	0	0	0
R - days	0	0	3760	25680	0	0	0	0	0	0	0	0
Monthly	0	0	7708	11023	2801	0	0	0	0	0	0	0
Purna at Yerli (Tapi)												
01-10 days	0	9524	57616	16654	4787	596	41	0	0	0	N.A.	0
11-20 days	0	10	13885	8621	1228	297	0	0	0	0	0	0
R - days	3195	6580	4554	87091	449	109	0	0	0	0	0	0
Monthly	1065	5371	25352	37455	2155	334	14	0	0	0	0	0
Tapi at Sarangkheda												
01-10 days	0	2074	564113	12958	24414	21373	0	0	0	0	N.A.	0
11-20 days	0	0	88043	36076	10087	39165	0	0	0	0	0	0
R - days	0	600351	4526	154725	22298	5596	0	0	0	0	0	0
Monthly	0	200808	218894	67920	18933	22045	0	0	0	0	0	0
Purna at Mahuwa												
01-10 days	0	4	12260	142	17	0	0	0	0	0	N.A.	0
11-20 days	0	0	546	178	1	0	0	0	0	0	0	0
R - days	0	602	28	131	0	0	0	0	0	0	0	0
Monthly	0	202	4278	150	6	0	0	0	0	0	0	0
Ambika at Gadat (Tapi)												
01-10 days	0	8	77885	6104	1762	0	0	0	0	0	N.A.	0
11-20 days	0	10	6498	9246	741	0	0	0	0	0	0	0
R - days	0	9548	2293	6787	0	0	0	0	0	0	0	0
Monthly	0	3189	28892	7379	834	0	0	0	0	0	0	0
Vaitarna at Durvesh (Tapi)												
01-10 days	0	0	157281	57923	456	0	0	0	0	0	N.A.	0
11-20 days	0	1118	5428	70244	112	0	0	0	0	0	0	0
R - days	0	47170	1860	1311	63	0	0	0	0	0	0	0
Monthly	0	16096	54856	43159	210	0	0	0	0	0	0	0

Source: Suspended Sediment Data Year Book (2019 - 2020) Tapi Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XII **Basin : West Flowing Rivers From Tapi to Tadri** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Bharathapuzha at Mankara												
01-10 days	0	129	1912	1134	54	312	49	18	19	7	N.A.	12
11-20 days	2	65	463	289	1198	165	24	12	21	2	2	2
R - days	14	116	321	118	411	120	22	19	14	1	28	0
Monthly	5	103	899	514	554	199	32	16	18	3	10	5
Muvattupuzha at Ramamangalam												
01-10 days	76	50	1994	449	52	81	44	20	77	65	N.A.	20
11-20 days	52	390	1343	88	219	74	8	23	23	30	9	48
R - days	55	284	239	127	324	25	12	15	226	22	5	111
Monthly	61	241	1192	221	198	60	21	19	109	39	5	60
Ulhas at Badlapur												
01-10 days	28	2447	9455	5079	1043	60	28	10	29	12	N.A.	0
11-20 days	46	2103	2394	6647	234	22	22	19	24	8	N.A.	9
R - days	994	12873	2760	1110	546	15	21	20	18	12	N.A.	16
Monthly	356	5808	4870	4279	608	32	24	16	24	11	0	8
Pamba at Malakkara												
01-10 days	3	1	242	467	87	362	57	0	0	0	N.A.	0
11-20 days	6	65	1101	48	542	190	63	0	0	0	0	15
R - days	4	30	14775	90	514	87	50	0	0	0	0	54
Monthly	4	32	5373	202	381	213	57	0	0	0	0	23
Kallada at Pattazhy												
01-10 days	107	5	529	249	226	294	54	18	17	18	N.A.	25
11-20 days	51	39	733	38	464	35	49	3	10	21	13	80
R - days	36	43	156	219	603	35	36	2	10	19	26	76
Monthly	65	29	473	169	431	121	46	8	12	19	13	60
Vamanapuram at Ayilam												
01-10 days	2	1	52	22	121	30	9	0	0	0	N.A.	0
11-20 days	11	85	62	14	79	32	3	0	0	0	0	0
R - days	2	92	23	12	43	14	0	0	0	0	0	0
Monthly	5	59	46	16	81	25	4	0	0	0	0	0

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XII **Basin : West Flowing Rivers From Tapi to Tadri** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Netravathi at Bantwal												
01-10 days	0	934	7428	6271	557	292	0	0	0	0	0	0
11-20 days	0	1580	4209	1427	396	291	0	0	0	0	0	0
R - days	0	1504	1896	1570	1316	75	0	0	0	0	0	0
Monthly	0	1339	4511	3089	756	219	0	0	0	0	0	0
Payaswani at Erinjipuzha (WTK)												
01-10 days	0	533	8686	2274	125	85	10	1	0	0	0	0
11-20 days	4	279	3426	459	175	90	4	1	0	0	0	0
R - days	11	715	602	156	210	19	3	0	0	0	0	1
Monthly	5	509	4238	963	170	65	6	1	0	0	0	0
Valapatanam at Perumannu (WTK)												
01-10 days	1	367	50531	6851	0	40	34	8	6	2	N.A.	1
11-20 days	44	221	6422	358	143	41	14	3	2	1	1	1
R - days	49	658	494	114	133	28	17	12	2	1	1	1
Monthly	31	415	19149	2441	92	36	22	8	3	1	1	1
Kuttiyadi at Kuttiyadi (WTK)												
01-10 days	0	1	13	5	1	1	0	0	1	0	N.A.	0
11-20 days	0	2	6	2	1	0	0	0	0	0	0	0
R - days	0	6	6	1	3	1	0	0	0	0	0	0
Monthly	0	3	8	3	2	1	0	0	0	0	0	0
Chaliyar at Kuniyil(WTK)												
01-10 days	0	704	54744	3488	271	599	139	0	0	0	N.A.	0
11-20 days	67	323	10520	744	808	252	37	0	0	0	0	0
R - days	0	1210	1959	294	1002	148	0	0	0	0	0	0
Monthly	22	746	22408	1509	694	333	59	0	0	0	0	0
Meenachi at Kidangoor (WTK)												
01-10 days	28	7	407	95	34	61	3	1	0	0	0	0
11-20 days	16	206	490	48	77	19	2	0	0	0	0	0
R - days	14	314	98	41	86	9	2	0	0	0	0	0
Monthly	19	176	332	61	66	30	2	0	0	0	0	0

Source: Suspended Sediment Data Year Book (2019 - 2020) (West Flowing Rivers From Tapi to Tadri)

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XIII **Basin : West Flowing Rivers From Tadri to Kanyakumari** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Kal at Mangaon (WTK)												
01-10 days	0	578	1608	1326	38	11	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11-20 days	0	169	165	263	24	1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	577	952	91	200	86	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	192	566	621	596	49	4	0	0	0	0	0	0
Kumaradhara at Pulikukku												
01-10 days	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2	0	0	0
11-20 days	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0	0	0	6
R - days	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0	0	0	5
Monthly	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1	0	0	4
Chaliyar at THOTTATHINKADAVU												
01-10 days	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1	0	N.A.	0
11-20 days	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1	21	0	0
R - days	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1	0	0	0	1
Monthly	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0	1	7	0	0

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XIII **Basin : West Flowing Rivers From Tadri to Kanyakumari** **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Bharathapuzha at Kumbidi (WTK)												
01-10 days	0	376	3853	5588	241	898	58	0	0	0	0	0
11-20 days	0	301	2314	1206	1343	947	0	0	0	0	0	0
R - days	0	2102	341	582	2526	128	0	0	0	0	0	0
Monthly	0	926	2169	2459	1370	658	19	0	0	0	0	0
Pulanthodu at Pulmanthole (WTK)												
01-10 days	13	1174	20696	159109	201	222	48	1	0	0	0	0
11-20 days	27	130	1877	287	1234	172	16	0	0	0	0	0
R-days	0	372	1482	547	1021	30	5	0	0	0	0	0
Monthly	13	559	8018	53314	819	141	23	0	0	0	0	0
Kannadipuzha at Pudur												
01-10 days	0	36	1189	395	5	48	78	1	1	1	N.A.	1
11-20 days	1	14	213	11	497	19	3	1	2	0	0	0
R - days	7	33	18	4	70	4	15	1	1	0	1	0
Monthly	3	28	473	137	191	24	32	1	1	0	0	0

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XIII	Basin : West Flowing Rivers From Tadri to Kanyakumari										Unit : Metric Tonnes per day	
Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Aliyar at Ambarampalayam (WTK)												
01-10 days	12	3	27	7	7	29	14	26	17	7	N.A.	1
11-20 days	6	3	7	5	7	27	11	27	13	4	5	4
R - days	6	3	4	8	31	5	10	30	13	4	7	7
Monthly	8	3	13	7	15	20	12	28	14	5	4	4
Chalakudy at Arangaly (WTK)												
01-10 days	0	36	4524	558	106	128	21	5	0	0	N.A.	0
11-20 days	8	180	3297	255	470	112	27	3	0	0	0	19
R - days	12	196	263	90	361	39	38	0	0	0	0	58
Monthly	7	137	2695	301	312	93	29	3	0	0	0	26
Periyar at Neeleswaram (WTK)												
01-10 days	66	115	12067	2811	178	244	42	27	8	9	N.A.	0
11-20 days	275	2513	4715	1464	829	130	63	18	17	19	2	0
R - days	63	1650	770	601	708	81	38	9	2	12	18	0
Monthly	135	1426	5851	1625	572	152	48	18	9	13	7	0
Kaliyar at Kalampur (WTK)												
01-10 days	0	0	0	0	0	0	0	0	0	0	N.A.	0
11-20 days	0	0	0	0	0	2	3	0	0	0	0	0
R - days	0	0	0	0	0	3	1	0	0	0	0	0
Monthly	0	0	0	0	0	2	1	0	0	0	0	0

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XIII	Basin : West Flowing Rivers From Tadri to Kanyakumari										Unit : Metric Tonnes per day	
Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Manimala at Kallooppara (WTK)												
01-10 days	0	0	374	167	25	84	0	0	0	0	N.A.	0
11-20 days	0	384	1757	31	112	26	0	0	0	0	0	0
R - days	0	457	247	105	173	3	0	0	0	0	0	0
Monthly	0	280	793	101	103	38	0	0	0	0	0	0
Achankovil at Thumpamon (WTK)												
01-10 days	0	2	401	116	196	150	4	0	0	0	N.A.	4
11-20 days	7	159	917	50	161	107	3	0	0	0	0	12
R - days	3	142	234	172	333	13	0	0	0	0	0	17
Monthly	3	101	517	113	230	90	2	0	0	0	0	11

Source: Suspended Sediment Data Year Book (2019 - 2020) (West Flowing Rivers from Tadri to Kanyakumari)

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XIV Basin : Mahi — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Mahi at Mataji												
01-10 days	N.A.	5725	7115	1147	605	0	0	0	0	0	N.A.	0
11-20 days	N.A.	40	3155	4544	46	0	0	0	0	0	0	0
R - days	13	38	2607	2960	5	0	0	0	0	0	0	0
Monthly	4	1934	4292	2884	219	0	0	0	0	0	0	0
Mahi at Paderdibadi												
01-10 days	0	19	34	60	226	0	0	0	0	0	N.A.	0
11-20 days	5	5	330	237	4	0	0	0	0	0	0	0
R - days	6	3	206	143	0	0	0	0	0	0	0	0
Monthly	4	9	190	147	77	0	0	0	0	0	0	0
Mahi at Khanpur												
01-10 days	0	0	48	155	316	0	0	0	0	0	N.A.	0
11-20 days	0	0	173	2363	19	0	0	0	0	0	0	0
R - days	0	0	579	281	9	0	0	0	0	0	0	0
Monthly	0	0	267	933	115	0	0	0	0	0	0	0

Source: Suspended Sediment Data Year Book (2019 - 2020) Mahi Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20

XV Basin : Sabarmati — **Unit : Metric Tonnes per day**

Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Sabarmati at Derol Bridge (Sabarmati)												
01-10 days	N.A.	N.A.	31	N.A.	29	24	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11-20 days	N.A.	N.A.	N.A.	N.A.	19	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	N.A.	N.A.	1	N.A.	12	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	N.A.	N.A.	11	N.A.	20	8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Source: Suspended Sediment Data Year Book (2019 - 2020) Sabarmati Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2019-20												
XVI	Basin : WKS (West Flowing Rivers of Kutch & Saurashtra including Luni)										Unit : Metric Tonnes per day	
Site / Period	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Bhadar at Ganod (WKS)												
01-10 days	0	0	0	691	1507	46	0	0	0	N.A.	N.A.	0
11-20 days	0	0	0	1354	187	0	0	0	0	N.A.	0	0
R - days	0	0	0	9665	107	0	0	0	0	N.A.	0	0
Monthly	0	0	0	3903	600	15	0	0	0	N.A.	0	0
Shetrunji at Lowara (WKS)												
01-10 days	N.A.	0	404	1381	44	0	0	0	0	0	N.A.	N.A.
11-20 days	N.A.	N.A.	220	425	0	0	0	0	0	0	N.A.	N.A.
R - days	0	4	0	15	0	0	0	0	0	0	N.A.	N.A.
Monthly	0	1	208	607	15	0	0	0	0	0	N.A.	N.A.
Banas at Kamalpur (WKS)												
01-10 days	0	0	0	0	2117	0	0	0	0	N.A.	N.A.	0
11-20 days	0	0	194	75	0	0	0	0	0	N.A.	0	0
R - days	0	0	62	0	0	0	0	0	0	N.A.	0	0
Monthly	0	0	85	25	706	0	0	0	0	N.A.	0	0
Source: Suspended Sediment Data Year Book (2019 - 2020) West Flowing Rivers From Katch & Saurashtra including Luni)												

Table 11 (A): Tolerance limit of Water and Classification

The tolerance limits of water parameters are specified as per classified use of water depending on various uses of water. The following classifications have been adopted in India.

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) 1.2 mg/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: Central Pollution Control Board (CPCB)

Table 11(B) : Water Quality Standards in India

S. No	Characteristics	Designated best use				
		A	B	C	D	E
1	Dissolved Oxygen (DO) mg/l. min	6	5	4	4	-
2	Biochemical Oxygen demand (BOD) mg/l.max	2	3	3	-	-
3	Total coliform organisms MPN /100 ml.max	50	500	5000	-	-
4	pH value	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.0-8.5
5	Colour. Hazen units. max	10	300	300	-	-
6	Odour	Un-objectionable			-	-
7	Taste	Tasteless	-	-	-	-
8	Total dissolved solids. mg/l. max.	500	-	1500	-	2100
9	Total hardness (as CaCO3),mg/l.max	200	-	-	-	-
10	Calcium hardness (as CaCO3), mg/l.max	200	-	-	-	-
11	Magnesium hardness (as CaCO3), mg/l.max.	200	-	-	-	-
12	Copper (as Cu).mg/l.max	1.5	-	1.5	-	-
13	Iron (as Fe). Mg/l max.	0.3	-	0.5	-	-
14	Manganese (as Mn).mg/l.max	0.5	-	-	-	-
15	Chloride (as Cl). mg/l.max	250	-	600	-	600
16	Sulphates (as SO4). mg/l. max	400	-	400	-	1
17	Nitrate (as NO3). mg/l. max	20	-	50	-	-
18	Fluorides (as F). mg/l. max	1.5	1.5	1.5	-	-
19	Phenolic compounds (as C2H5OH). mg/l. max	0.002	0.005	0.005	-	-
20	Mercury (as Hg). mg/l.max.	0.001	-	-	-	-
21	Cadmium (as Cd).mg/l.max	0.01	-	0.01	-	-
22	Selenium (as Se).mg/l.max	0.01	-	0.05	-	-
23	Arsenic (as As).mg/l.max	0.05	0.2	0.2	-	-
24	Cyanide (as Pb).mg/l.max	0.05	0.05	0.05	-	-
25	Lead (as Pb).mg/l.max	0.1	-	0.1	-	-
26	Zinc (as Zn).mg/l.max	15	-	15	-	-
27	Chromium (as Cr6+).mg/l.max	0.05	-	0.05	-	-
28	Anionic detergents (sa MBAS). mg/l.max	0.2	1	1	-	-
29	Barium (as Ba).mg/l.max	1	-	-	-	-
30	Free Ammonia (as N)). Mg/l.max	-	-	-	1.2	-
31	Electrical Conductivity. Micromhos/cm. max.	-	-	-	-	2250
32	Sodium absorption ratio. max	-	-	-	-	26
33	Boron. Mg/l. max	-	-	-	-	2

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

I **Basin : Mahanadi**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Andhiarkhore			BOD=2.6 DO=3.4	01-08-19 01-08-19	DO=4.0	01-11-19
2	Bamnidhi			DO=4.2 DO=5.7 DO=4.6 DO=5.8 DO=5.8	01-06-19 01-07-19 01-08-19 01-09-19 01-10-19	DO=4.4	01-11-19
3	Baronda			DO=4.8 DO=4.6 DO=5.4	01-07-19 01-08-19 01-09-19	DO=5.2	01-11-19
4	Basantpur			DO=4.2 DO=5.0 DO=5.5 DO=5.6 DO=4.6	01-06-19 01-07-19 01-08-19 01-09-19 01-10-19	DO=5.6	01-11-19
5	Boudh			DO=5.5 DO=4.8	01-08-19 01-10-19	DO=5.2	01-11-19
6	Ghatora			PH=8.6 BOD=3.5 DO=0.0 DO=0.0 DO=2.6 DO=4.2 DO=4.2	01-07-19 01-06-19 01-06-19 01-07-19 01-08-19 01-09-19 01-10-19	DO=4.8 DO=5.8	01-11-19 02-12-19
7	Gunderdehi			BOD=3.2 DO=2.6 DO=3.3 DO=4.6 DO=5.8	03-09-19 01-06-19 01-07-19 01-08-19 03-09-19	DO=4.6 DO=5.8	01-11-19 02-12-19
8	Jondhara			DO=5.0 DO=4.0 DO=4.6	01-08-19 01-09-19 01-10-19	DO=4.4	01-11-19
9	Kalma	BOD=2.2	02-03-20	DO=5.1 DO=5.0 DO=5.5	01-06-19 02-07-19 02-08-19	DO=4.2	01-11-19
10	Kantamal			DO=5.3 DO=4.8 DO=4.6 DO=5.6 DO=5.6	01-06-19 01-07-19 01-08-19 01-09-19 01-10-19	BOD=2.4 DO=4.6	02-12-19 01-11-19
11	Kesinga			DO=5.3 DO=4.8 DO=5.7 DO=5.6	01-06-19 01-07-19 01-08-19 01-10-19	BOD=2.2 DO=4.4	02-12-19 01-11-19

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

I **Basin : Mahanadi**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12	Kotni			DO=5.4 DO=5.4	01-09-19 01-10-19	DO=3.8	01-11-19
13	Kurubhata			DO=4.7 DO=5.6 DO=5.6	01-07-19 01-09-19 01-10-19	DO=5.0	01-11-19
14	Manendragarh			DO=5.0 DO=5.6 DO=5.8	01-08-19 01-09-19 01-10-19	DO=5.0	01-11-19
15	Padampur			DO=4.8	01-10-19	DO=5.2	01-11-19
16	Pathardih			BOD=3.8 BOD=3.2 DO=4.6 DO=5.8	01-08-19 01-09-19 01-08-19 01-09-19	DO=3.2	01-11-19
17	Rajim			DO=4.7 DO=5.1	01-07-19 01-08-19	DO=4.8	01-11-19
18	Rampur			DO=5.5 DO=5.6	01-08-19 01-10-19	DO=4.6	01-11-19
19	Salebhata			DO=5.1 DO=5.4 DO=5.2	01-08-19 01-09-19 01-10-19	DO=4.6	01-11-19
20	Seorinarayan			DO=4.1 DO=5.5 DO=5.6 DO=5.2	01-07-19 01-08-19 01-09-19 01-10-19	DO=4.6	01-11-19
21	Simga			DO=3.8 DO=5.6 DO=4.1	01-08-19 01-09-19 01-10-19	DO=4.4	01-11-19
22	Sundergarh			DO=5.0 DO=5.0 DO=5.4	01-07-19 01-09-19 01-10-19	DO=4.8	01-11-19
23	Tikarpara	DO=5.7	02-03-20	DO=3.0 DO=3.0 DO=5.4 DO=5.0 DO=5.5	01-06-19 01-07-19 01-08-19 02-09-19 01-10-19	DO=4.9 DO=5.8 DO=5.3	01-11-19 02-12-19 01-01-20

Source: Water Quality Data Book (June 2019 to May 2020) Mahanadi Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

II	Basin : Subernarekha						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Muri					BOD=2.7	10-01-19
						DO=4.1	06-01-19
						DO=4.1	07-01-19
						DO=2.7	08-01-19
						DO=4.1	09-02-19
						DO=5.9	10-01-19
						DO=4.2	11-01-19
						DO=5.2	02-01-20
						DO=4.4	03-02-20
2	AdItyapur					BOD=2.7	11-01-19
						DO=0.8	06-01-19
						DO=0.8	07-01-19
						DO=2.9	08-01-19
						DO=5.2	09-02-19
						DO=4.2	10-01-19
						DO=3.4	01-01-20
						DO=3.4	02-01-20
						DO=4.8	03-02-20
3	Jamshedpur					DO=3.2	06-01-19
						DO=3.2	07-01-19
						DO=2.9	08-01-19
						DO=3.7	09-02-19
						DO=3.8	10-01-19
						DO=5.7	11-01-19
						DO=4.5	12-02-19
						DO=3.6	01-01-20
						DO=5.2	02-01-20
						DO=3.0	03-02-20
5	Ghatsila					BOD=2.6	07-01-19
						DO=1.7	08-01-19
						DO=5.4	09-02-19
						DO=5.9	10-01-19
						DO=4.0	11-01-19
						DO=5.4	12-02-19
						DO=5.6	02-01-20
						DO=3.5	03-02-20
6	Jamsholaghat					DO=4.5	06-01-19
						DO=4.5	07-01-19
						DO=3.3	08-01-19
						DO=5.2	09-02-19
						DO=4.8	10-01-19
						DO=4.1	02-01-20
						DO=3.9	03-02-20

Contd/….

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

II **Basin : Subernarekha**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7	Ghatsila Road Bridge					DO=4.9	06-01-19
						DO=4.9	07-01-19
						DO=2.3	08-01-19
						DO=5.2	09-02-19
						DO=5.2	10-01-19
						DO=5.7	11-01-19
						DO=5.6	12-02-19
						DO=4.5	01-01-20
						DO=3.7	03-02-20
8	Baridhi Nala					DO=4.0	06-01-19
						DO=3.5	07-01-19
						DO=1.2	08-01-19
						DO=4.4	09-02-19
						DO=4.6	10-01-19
						DO=4.5	11-01-19
						DO=2.3	01-01-20
						DO=3.4	02-01-20
						DO=4.8	03-02-20
9	Kulpatanga					BOD=2.5	10-01-19
						DO=4.7	06-01-19
						DO=4.9	07-01-19
						DO=1.9	08-01-19
						DO=5.0	09-02-19
						DO=5.7	10-01-19
						DO=5.3	11-01-19
						DO=3.2	01-01-20
						DO=5.2	02-01-20
10	Govindpur					PH=8.9	03-02-20
						DO=3.8	06-01-19
						DO=4.0	08-01-19
						DO=4.8	10-01-19
						DO=4.5	11-01-19
						DO=5.8	12-02-19
						DO=5.9	01-01-20
						DO=4.8	03-02-20

Source: Water Quality Data Book (June 2019 to May 2020) Subernarekha

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

III **Basin : Brahmani & Baitarani**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Champua**					BOD=2.1	10-01-19
						BOD=3.8	11-01-19
						DO=3.2	06-01-19
						DO=3.2	07-01-19
						DO=5.2	08-01-19
						DO=4.6	09-02-19
						DO=5.7	10-01-19
						DO=4.5	12-02-19
						DO=5.5	01-01-20
						DO=4.3	02-01-20
						DO=4.3	03-02-20

Contd/….

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

III	Basin : Brahmani & Baitarani						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2	**Anandapur**					BOD=2.5	10-01-19
						DO=4.3	06-01-19
						DO=4.3	07-01-19
						DO=1.5	08-01-19
						DO=5.6	09-02-19
						DO=5.2	10-01-19
						DO=5.0	12-02-19
						DO=5.3	01-01-20
						DO=5.6	02-01-20
						DO=3.9	03-02-20
3	**Tilga**					DO=3.6	06-01-19
						DO=3.6	07-01-19
						DO=4.8	08-01-19
						DO=4.3	09-02-19
						DO=5.7	10-01-19
						DO=5.3	11-01-19
						DO=5.0	12-02-19
						DO=5.7	01-01-20
						DO=4.9	02-01-20
						DO=4.4	03-02-20
4	**Jarikela**					PH=5.6	10-01-19
						DO=3.4	06-01-19
						DO=3.4	07-01-19
						DO=3.6	08-01-19
						DO=4.3	09-02-19
						DO=5.5	10-01-19
						DO=5.7	11-01-19
						DO=5.0	12-02-19
						DO=5.3	01-01-20
						DO=4.9	02-01-20
						DO=3.5	03-02-20
5	**Panposh**					BOD=3.4	03-02-20
						DO=2.8	06-01-19
						DO=4.1	07-01-19
						DO=3.4	08-01-19
						DO=4.4	09-02-19
						DO=5.4	10-01-19
						DO=5.4	12-02-19
						DO=5.7	01-01-20
6	**Gomlai**					DO=4.0	06-01-19
						DO=4.0	07-01-19
						DO=3.6	08-01-19
						DO=5.0	09-02-19
						DO=5.4	10-01-19
						DO=5.0	12-02-19
						DO=4.4	01-01-20
						DO=4.8	03-02-20

Contd/…..

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

III	Basin : Brahmani & Baitarani						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7	**Jenapur**					DO=3.8	06-01-19
						DO=3.8	07-01-19
						DO=2.7	08-01-19
						DO=4.8	09-02-19
						DO=4.6	10-01-19
						DO=3.9	12-02-19
						DO=5.4	02-01-20
						DO=3.1	03-02-20
8	**Talcher**					BOD=2.4	07-01-19
						DO=4.7	06-01-19
						DO=4.7	07-01-19
						DO=3.1	08-01-19
						DO=4.6	09-02-19
						DO=5.4	12-02-19
						DO=5.7	01-01-20
						DO=3.7	03-02-20
9	**Nandira**					BOD=2.6	07-01-19
						DO=3.8	06-01-19
						DO=2.7	08-01-19
						DO=5.0	09-02-19
						DO=5.9	10-01-19
						DO=5.4	12-02-19
						DO=4.9	02-01-20
						DO=3.9	03-02-20
10	**Kamalanga**					BOD=2.5	10-01-19
						DO=4.1	06-01-19
						DO=5.4	07-01-19
						DO=2.9	08-01-19
						DO=5.0	10-01-19
						DO=4.2	11-01-19
						DO=5.8	12-02-19
						DO=3.2	01-01-20
						DO=5.6	02-01-20
11	**RSP NALA**					BOD=2.1	06-01-19
						DO=4.3	06-01-19
						DO=1.5	08-01-19
						DO=1.5	09-02-19
						DO=3.6	10-01-19
						DO=3.0	11-01-19
						DO=3.0	12-02-19
						DO=3.4	01-01-20
						DO=3.2	02-01-20
						DO=4.3	03-02-20

Source: Water Quality Data Book (June 2019 to May 2020) Subernarekha, Baitarani & Burhabalang.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV	Basin : Godavari						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Godavari RLY Bridge**	DO=4.1 Tcol-MPN=9000	02-03-20 02-03-20	BOD=2.6 DO=4.4 DO=5.0 DO=5.9 Tcol-MPN=3000 Tcol-MPN=2800 Tcol-MPN=2200 Tcol-MPN=16000 Tcol-MPN=1700	03-09-2019 03-06-19 01-08-19 03-10-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.6 BOD=2.2 DO=2.8 DO=3.9 Tcol-MPN=3500 Tcol-MPN=2400 Tcol-MPN=3500 Tcol-MPN=16000	01-11-19 03-02-20 03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
2	**Polavaram**	Tcol-MPN=9000	02-03-20	BOD=5.8 BOD=4.2 BOD=4.1 BOD=2.1 BOD=3.4 Tcol-MPN=9000 Tcol-MPN=2800 Tcol-MPN=1400 Tcol-MPN=2800 Tcol-MPN=9000	03-06-19 01-07-19 01-08-19 03-09-19 03-10-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.6 BOD=2.2 BOD=3.0 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=2200	01-11-19 02-12-19 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
3	**Konta**	Tcol-MPN=16000	02-03-20	BOD=4.6 Tcol-MPN=130 Tcol-MPN=1400 Tcol-MPN=1700 Tcol-MPN=2200 Tcol-MPN=220	01-08-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	Tcol-MPN=16000 Tcol-MPN=9000 Tcol-MPN=5000 Tcol-MPN=3500	01-11-19 02-12-19 03-01-20 03-02-20
4	**Saradaput**	Tcol-MPN=2400	02-03-20	DO=5.7 Tcol-MPN=3000 Tcol-MPN=2800 Tcol-MPN=1400 Tcol-MPN=2800 Tcol-MPN=3500	01-07-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	DO=5.5 Tcol-MPN=16000 Tcol-MPN=9000 Tcol-MPN=9000 Tcol-MPN=3500	01-11-19 01-11-19 02-12-19 03-01-20 03-02-20
5	**Sangam**	DO=3.1 Tcol-MPN=2800	02-03-20 02-03-20	DO=5.9 DO=5.8 Tcol-MPN=700 Tcol-MPN=3500 Tcol-MPN=1700 Tcol-MPN=1400 Tcol-MPN=2800	01-07-19 03-10-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.8 DO=5.3 DO=5.5 Tcol-MPN=9000 Tcol-MPN=9000 Tcol-MPN=9000 Tcol-MPN=3500	03-01-20 01-11-19 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
6	**Bhadrachalam**	Tcol-MPN=3500	02-03-20	DO=5.1 DO=5.8 Tcol-MPN=800 Tcol-MPN=2200 Tcol-MPN=1300 Tcol-MPN=210 Tcol-MPN=16000	01-07-19 01-08-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.7 Tcol-MPN=2800 Tcol-MPN=3500 Tcol-MPN=2400 Tcol-MPN=2800	01-11-19 01-11-19 02-12-19 03-01-20 03-02-20
7	**Perur**	BOD=2.1 DO=5.9 Tcol-MPN=1700	02-03-20 02-03-20 02-03-20	DO=5.9 Tcol-MPN=110 Tcol-MPN=2800 Tcol-MPN=1300 Tcol-MPN=1400 Tcol-MPN=2200	03-10-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.3 DO=5.9 Tcol-MPN=16000 Tcol-MPN=9000 Tcol-MPN=3500 Tcol-MPN=9000	01-11-19 03-01-20 01-11-19 02-12-19 03-01-20 03-02-20

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV	Basin : Godavari						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
8	**Pathagudem**	Tcol-MPN=270	02-03-20	DO=5.1	03-06-19	DO=2.7	01-11-19
				DO=5.4	01-07-19	DO=3.0	03-02-20
				Tcol-MPN=500	03-06-19	Tcol-MPN=16000	01-11-19
				Tcol-MPN=1700	01-07-19	Tcol-MPN=5000	02-12-19
				Tcol-MPN=1100	01-08-19	Tcol-MPN=3000	03-01-20
				Tcol-MPN=16000	03-09-19	Tcol-MPN=16000	03-02-20
				Tcol-MPN=2800	03-10-19		
9	**Chindnar**	DO=5.8	02-03-20	PH=8.6	03-06-19	BOD=2.8	03-01-20
		Tcol-MPN=5000	02-03-20	BOD=3.3	03-09-19	DO=5.9	03-02-20
				DO=5.4	03-06-19	Tcol-MPN=16000	01-11-19
				Tcol-MPN=130	03-06-19	Tcol-MPN=9000	02-12-19
				Tcol-MPN=1400	01-07-19	Tcol-MPN=5000	03-01-20
				Tcol-MPN=1300	01-08-19	Tcol-MPN=9000	03-02-20
				Tcol-MPN=9000	03-09-19		
				Tcol-MPN=3500	03-10-19		
10	**Jagdalpur**	Tcol-MPN=170	02-03-20	BOD=2.4	01-08-19	Tcol-MPN=3500	01-11-19
				Tcol-MPN=3500	01-07-19	Tcol-MPN=2800	02-12-19
				Tcol-MPN=1400	01-08-19	Tcol-MPN=2200	03-01-20
				Tcol-MPN=9000	03-09-19	Tcol-MPN=3500	03-02-20
				Tcol-MPN=16000	03-10-19		
11	**Nowrangpur**	Tcol-MPN=330	02-03-20	BOD=2.9	01-08-19	BOD=2.9	01-11-19
				BOD=2.7	03-09-19	Tcol-MPN=1100	01-11-19
				DO=5.8	03-06-19	Tcol-MPN=800	02-12-19
				Tcol-MPN=140	03-06-19	Tcol-MPN=1100	03-01-20
				Tcol-MPN=1400	01-07-19	Tcol-MPN=16000	03-02-20
				Tcol-MPN=1700	01-08-19		
				Tcol-MPN=5000	03-09-19		
				Tcol-MPN=2800	03-10-19		
12	**Gandlapet**	DO=2.9	02-03-20	Tcol-MPN=5000	03-10-19	DO=3.9	03-02-20
		Tcol-MPN=900	02-03-20			Tcol-MPN=16000	01-11-19
						Tcol-MPN=16000	09-12-19
						Tcol-MPN=16000	03-01-20
						Tcol-MPN=2800	03-02-20
13	**Nanded**	DO=5.5	02-03-20	BOD=3.2	03-09-19	PH=8.6	03-02-20
		Tcol-MPN=2200	02-03-20	BOD=3.2	03-10-19	BOD=2.9	02-12-19
				Tcol-MPN=1400	03-09-19	BOD=2.6	03-02-20
				Tcol-MPN=16000	03-10-19	DO=5.5	01-11-19
						Tcol-MPN=16000	01-11-19
						Tcol-MPN=9000	02-12-19
						Tcol-MPN=9000	03-01-20
						Tcol-MPN=16000	03-02-20
14	**G.R. Bridge**	Tcol-MPN=3500	02-03-20	BOD=2.9	25-08-19	DO=5.5	03-02-20
				DO=5.8	03-09-19	Tcol-MPN=2200	01-11-19
				Tcol-MPN=16000	25-08-19	Tcol-MPN=2800	02-12-19
				Tcol-MPN=16000	03-09-19	Tcol-MPN=2200	03-01-20
						Tcol-MPN=2800	03-02-20

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV	Basin : Godavari						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
15	**Purna**			DO=5.9 Tcol-MPN=16000 Tcol-MPN=330 Tcol-MPN=16000	04-08-19 04-08-19 03-09-19 21-10-19	BOD=3.6 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=16000	02-12-19 01-11-19 02-12-19 03-01-20
16	**Dhalegaon**			BOD=3.8 BOD=3.0 DO=5.3 DO=5.8 Tcol-MPN=16000 Tcol-MPN=5000 Tcol-MPN=1700	22-08-19 19-09-19 19-09-19 03-10-19 22-08-19 19-09-19 03-10-19	Tcol-MPN=16000	01-11-19
17	**Pachegaon**			BOD=3.0 BOD=3.4 Tcol-MPN=2800 Tcol-MPN=3500 Tcol-MPN=1400	03-09-19 03-10-19 06-08-19 03-09-19 03-10-19	BOD=2.9 Tcol-MPN=16000	01-11-19 01-11-19
18	**Pratappur**			BOD=2.3 BOD=4.0 DO=5.9 Tcol-MPN=16000 Tcol-MPN=700 Tcol-MPN=2200 Tcol-MPN=3500	22-07-19 01-08-19 03-09-19 22-07-19 01-08-19 03-09-19 03-10-19	BOD=2.6 DO=5.0 Tcol-MPN=9000 Tcol-MPN=5000 Tcol-MPN=3000	01-11-19 03-01-20 01-11-19 02-12-19 03-01-20
19	**Kopergaon**			BOD=2.3 DO=3.7 Tcol-MPN=1100 Tcol-MPN=500 Tcol-MPN=2200 Tcol-MPN=16000	01-08-19 01-07-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.6 DO=2.6 Tcol-MPN=2800 Tcol-MPN=2200 Tcol-MPN=1700 Tcol-MPN=2200	09-12-19 03-02-20 01-11-19 09-12-19 03-01-20 03-02-20
20	**Nashik**	DO=5.5 Tcol-MPN=16000	02-03-20 02-03-20	BOD=53.0 BOD=3.1 BOD=3.1 BOD=2.5 DO=1.8 DO=4.6 DO=5.7 Tcol-MPN=16000 Tcol-MPN=2800 Tcol-MPN=1100 Tcol-MPN=3500 Tcol-MPN=16000	03-06-19 01-08-19 03-09-19 03-10-19 03-06-19 01-07-19 03-10-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.4 DO=2.7 DO=2.7 DO=4.1 Tcol-MPN=2800 Tcol-MPN=3500 Tcol-MPN=2800 Tcol-MPN=16000	03-01-20 01-11-19 02-12-19 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV	Basin : Godavari						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
21	**Kumhari**	Tcol-MPN=1700	02-03-20	BOD=20.0	01-06-19	DO=5.8	02-12-19
				BOD=20.0	02-07-19	Tcol-MPN=340	01-11-19
				DO=3.0	01-06-19	Tcol-MPN=110	02-12-19
				DO=3.8	02-07-19	Tcol-MPN=3500	01-01-20
				DO=5.8	01-08-19	Tcol-MPN=500	01-02-20
				Tcol-MPN=300	01-06-19		
				Tcol-MPN=1100	02-07-19		
				Tcol-MPN=3000	01-08-19		
				Tcol-MPN=2400	03-09-19		
				Tcol-MPN=7000	03-10-19		
22	**Rajegaon**	BOD=3.1	02-03-20	BOD=40.0	02-07-19	Tcol-MPN=3000	01-11-19
		Tcol-MPN=2800	02-03-20	BOD=3.2	03-09-19	Tcol-MPN=270	02-12-19
				DO=5.9	01-06-19	Tcol-MPN=340	01-01-20
				DO=5.0	02-07-19	Tcol-MPN=16000	01-02-20
				Tcol-MPN=1700	01-06-19		
				Tcol-MPN=9000	02-07-19		
				Tcol-MPN=16000	01-08-19		
				Tcol-MPN=9000	03-09-19		
				Tcol-MPN=1100	03-10-19		
23	**Satrapur**	Tcol-MPN=1100	02-03-20	BOD=30.0	02-07-19	DO=5.8	02-12-19
				BOD=2.3	01-08-19	Tcol-MPN=3500	01-11-19
				BOD=3.6	03-09-19	Tcol-MPN=1300	02-12-19
				BOD=2.2	03-10-19	Tcol-MPN=1700	01-01-20
				DO=4.0	02-07-19	Tcol-MPN=1700	01-02-20
				Tcol-MPN=500	01-06-19		
				Tcol-MPN=16000	02-07-19		
				Tcol-MPN=2400	01-08-19		
				Tcol-MPN=2400	03-09-19		
				Tcol-MPN=5000	03-10-19		
24	**Pauni**	BOD=2.6	02-03-20	BOD=30.0	01-06-19	BOD=3.2	01-11-19
		Tcol-MPN=3000	02-03-20	BOD=2.2	01-07-19	BOD=2.9	02-12-19
				BOD=4.0	01-08-19	BOD=2.5	01-02-20
				BOD=2.4	03-10-19	DO=3.7	02-12-19
				DO=4.2	01-06-19	DO=5.6	01-01-20
				DO=5.4	01-07-19	Tcol-MPN=2800	01-11-19
				Tcol-MPN=5000	01-06-19	Tcol-MPN=16000	02-12-19
				Tcol-MPN=16000	01-07-19	Tcol-MPN=16000	01-01-20
				Tcol-MPN=3500	01-08-19	Tcol-MPN=330	01-02-20
				Tcol-MPN=3000	03-09-19		
				Tcol-MPN=1700	03-10-19		
25	**Asthi**	Tcol-MPN=500	02-03-20	PH=8.7	01-06-19	Tcol-MPN=110	01-11-19
				PH=8.7	02-07-19	Tcol-MPN=140	02-12-19
				BOD=2.2	02-07-19	Tcol-MPN=500	01-01-20
				BOD=3.6	03-09-19	Tcol-MPN=170	01-02-20
				BOD=2.2	03-10-19		
				DO=5.3	01-06-19		
				Tcol-MPN=1100	01-06-19		
				Tcol-MPN=9000	02-07-19		
				Tcol-MPN=1300	01-08-19		
				Tcol-MPN=16000	03-09-19		
				Tcol-MPN=2400	03-10-19		

Contd/…

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV	Basin : Godavari						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
26	**Hivra**	BOD=40.0 DO=2.6 Tcol-MPN=5000	02-03-20 02-03-20 02-03-20	BOD=2.1 BOD=60.0 BOD=30.0 DO=5.6 DO=4.6 DO=2.0 Tcol-MPN=9000 Tcol-MPN=16000 Tcol-MPN=9000 Tcol-MPN=9000	01-08-19 03-09-19 03-10-19 01-07-19 03-09-19 03-10-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=30.0 BOD=30.0 BOD=20.0 BOD=60.0 DO=3.2 DO=5.0 DO=3.9 DO=3.9 Tcol-MPN=3000 Tcol-MPN=2000 Tcol-MPN=800 Tcol-MPN=16000	01-11-19 02-12-19 01-01-20 01-02-20 01-11-19 02-12-19 01-01-20 01-02-20 01-11-19 02-12-19 01-01-20 01-02-20
27	**Nandgaon**	Tcol-MPN=340	02-03-20	BOD=2.4 BOD=4.8 DO=5.2 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=9000	01-07-19 03-10-19 01-07-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.5 DO=5.6 DO=3.9 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=1400 Tcol-MPN=2200	02-12-19 01-11-19 02-12-19 01-11-19 02-12-19 01-01-20 01-02-20
28	**P.R. Bridge**			BOD=2.7 Tcol-MPN=16000 Tcol-MPN=2400 Tcol-MPN=130	01-08-19 01-08-19 03-09-19 03-10-19	BOD=2.3 BOD=3.5 DO=5.8 Tcol-MPN=5000 Tcol-MPN=1300 Tcol-MPN=1300 Tcol-MPN=170	02-12-19 01-02-20 02-12-19 01-11-19 02-12-19 01-01-20 01-02-20
29	**Bamni**	DO=5.5 Tcol-MPN=2400	02-03-20 02-03-20	BOD=55.0 BOD=2.1 BOD=5.6 BOD=4.6 DO=4.6 DO=5.6 Tcol-MPN=1100 Tcol-MPN=16000 Tcol-MPN=500 Tcol-MPN=1700 Tcol-MPN=16000	01-06-19 01-08-19 03-09-19 03-10-19 01-06-19 02-07-19 01-06-19 02-07-19 01-08-19 03-09-19 03-10-19	BOD=3.4 BOD=5.1 BOD=2.9 BOD=4.3 DO=1.7 DO=5.8 Tcol-MPN=5000 Tcol-MPN=1700 Tcol-MPN=300 Tcol-MPN=2800	01-11-19 02-12-19 01-01-20 01-02-20 02-12-19 01-02-20 01-11-19 02-12-19 01-01-20 01-02-20
30	**Bhatpalli**	Tcol-MPN=500	02-03-20	BOD=2.7 BOD=10.0 BOD=2.6 DO=0.0 Tcol-MPN=1100 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=5000 Tcol-MPN=9000	01-06-19 02-07-19 03-09-19 02-07-19 01-06-19 02-07-19 01-08-19 03-09-19 03-10-19	BOD=2.1 DO=5.0 Tcol-MPN=5000 Tcol-MPN=1300 Tcol-MPN=3000 Tcol-MPN=5000	02-12-19 02-12-19 01-11-19 02-12-19 01-01-20 01-02-20

Contd/…

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV	Basin : Godavari						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
31	**Tekra**	Tcol-MPN=500	02-03-20	PH=8.7	01-06-19	BOD=2.5	02-12-19
				BOD=2.2	01-06-19	BOD=2.5	01-02-20
				BOD=2.6	01-08-19	DO=4.4	02-12-19
				Tcol-MPN=130	02-07-19	Tcol-MPN=1700	01-11-19
				Tcol-MPN=1300	01-08-19	Tcol-MPN=140	02-12-19
				Tcol-MPN=230	03-09-19	Tcol-MPN=90	01-01-20
				Tcol-MPN=16000	03-10-19	Tcol-MPN=220	01-02-20
32	**Ramakona**	Tcol-MPN=5000	02-03-20	BOD=20.0	02-07-19	BOD=2.1	01-02-20
				DO=0.0	02-07-19	Tcol-MPN=1700	01-11-19
				Tcol-MPN=3500	02-07-19	Tcol-MPN=3000	02-12-19
				Tcol-MPN=5000	01-08-19	Tcol-MPN=2400	01-01-20
				Tcol-MPN=500	03-09-19	Tcol-MPN=700	01-02-20
				Tcol-MPN=900	03-10-19		
33	**Keolari**	BOD=2.6	02-03-20	PH=8.7	01-08-19	BOD=3.0	01-02-20
		Tcol-MPN=230	02-03-20	BOD=5.1	01-06-19	DO=4.6	02-12-19
				BOD=4.6	02-07-19	Tcol-MPN=2200	01-11-19
				BOD=2.8	03-09-19	Tcol-MPN=9000	02-12-19
				DO=5.8	01-08-19	Tcol-MPN=1700	01-01-20
				Tcol-MPN=2200	01-06-19	Tcol-MPN=90	01-02-20
				Tcol-MPN=16000	02-07-19		
				Tcol-MPN=16000	01-08-19		
				Tcol-MPN=16000	03-09-19		
				Tcol-MPN=9000	03-10-19		
34	**Sakmur**			PH=8.6	01-06-19	BOD=2.3	01-02-20
				BOD=30.0	01-06-19	DO=5.6	02-12-19
				BOD=20.0	02-07-19	Tcol-MPN=5000	01-11-19
				BOD=2.2	01-08-19	Tcol-MPN=700	02-12-19
				BOD=3.4	03-10-19	Tcol-MPN=110	01-01-20
				DO=4.6	01-06-19	Tcol-MPN=500	01-02-20
				DO=4.6	02-07-19		
				DO=5.8	01-08-19		
				Tcol-MPN=1300	01-06-19		
				Tcol-MPN=1400	02-07-19		
				Tcol-MPN=16000	01-08-19		
				Tcol-MPN=9000	03-09-19		
				Tcol-MPN=16000	03-10-19		
35	**Wairagarh**			BOD=2.4	03-10-19	Tcol-MPN=3000	01-11-19
				Tcol-MPN=3000	01-08-19	Tcol-MPN=1700	02-12-19
				Tcol-MPN=3000	03-09-19	Tcol-MPN=1300	01-01-20
				Tcol-MPN=16000	03-10-19		
36	**Magarddara**			BOD=30.0	01-07-19	BOD=2.5	02-12-19
				BOD=2.1	01-08-19	BOD=2.9	01-02-20
				DO=4.4	01-07-19	DO=5.4	02-12-19
				DO=5.6	03-09-19		

Contd/…

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV	Basin : Godavari						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
37	**Bakhari**	BOD=2.4	02-03-20	BOD=3.5 BOD=2.8 DO=5.8	01-08-19 03-10-19 03-09-19	BOD=2.1 BOD=3.1	01-01-20 01-02-20
38	**Ambagaon(Bagadi)**	BOD=2.1	02-03-20	BOD=2.8 BOD=5.2	01-08-19 03-10-19	BOD=3.0 BOD=10.0 BOD=2.5 DO=5.8 DO=3.9	01-11-19 02-12-19 01-01-20 01-11-19 02-12-19
39	**Mahalgaon**			BOD=2.2	03-10-19	BOD=2.1 DO=5.4	01-02-20 02-12-19
40	**Patansaongi**			BOD=20.0 BOD=30.0 BOD=2.6 DO=4.8 DO=2.8 DO=5.8	01-07-19 01-08-19 03-09-19 01-07-19 01-08-19 03-10-19	BOD=3.0 BOD=3.3 BOD=3.3	01-11-19 01-01-20 01-02-20
41	**Kokiwada**	BOD=2.9	02-03-20	BOD=2.2	03-09-19	BOD=2.5 BOD=3.1	01-01-20 01-02-20
42	**Mungoli(Townshi p)**	BOD=20.0 DO=4.8	02-03-20 02-03-20	BOD=2.4 BOD=3.1	01-07-19 01-08-19	BOD=2.5 BOD=2.4 BOD=55.0 DO=5.8 DO=3.7	02-12-19 01-01-20 01-02-20 02-12-19 01-02-20
43	**Sakhra(Wadsa)**	BOD=2.8	02-03-20	BOD=6.0 DO=5.4 DO=5.8	03-10-19 01-07-19 01-08-19	BOD=2.2 BOD=2.3 BOD=4.2	02-12-19 01-01-20 01-02-20
44	**Patla**			BOD=2.4 BOD=3.0 DO=5.4	01-07-19 03-09-19 01-08-19	BOD=3.9 BOD=3.1 DO=4.8 DO=4.6	02-12-19 01-02-20 02-12-19 01-01-20
45	**Lodhikheda**	BOD=2.5 DO=5.5	02-03-20 02-03-20	BOD=50.0 DO=4.8 DO=5.8	01-08-19 01-08-19 03-10-19	BOD=2.8 BOD=2.9	01-11-19 01-02-20
46	**Mancherial**	Tcol-MPN=1300	02-03-20	BOD=2.3 DO=4.6 DO=5.6 Tcol-MPN=500 Tcol-MPN=16000 Tcol-MPN=1100 Tcol-MPN=9000	01-07-19 01-07-19 03-09-19 03-06-19 01-07-19 03-09-19 03-10-19	BOD=3.0 DO=5.8 DO=5.8 DO=5.1 DO=5.6 Tcol-MPN=3500 Tcol-MPN=2800 Tcol-MPN=3500 Tcol-MPN=16000	03-01-20 01-11-19 05-12-19 03-01-20 03-02-20 01-11-19 05-12-19 03-01-20 03-02-20

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IV Basin : Godavari

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
47	**Saigaon**			DO=5.3	26-10-19	BOD=2.5	01-11-19
				Tcol-MPN=2800	26-10-19	DO=4.7	01-11-19
						DO=2.8	02-12-19
						Tcol-MPN=2800	01-11-19
						Tcol-MPN=2200	02-12-19
						Tcol-MPN=2800	03-01-20
48	**Saloora**			BOD=2.7	03-10-19	BOD=2.6	01-11-19
				Tcol-MPN=1400	03-09-19	BOD=2.5	02-12-19
				Tcol-MPN=2800	03-10-19	BOD=2.2	03-01-20
						Tcol-MPN=16000	01-11-19
						Tcol-MPN=9000	02-12-19
						Tcol-MPN=9000	03-01-20
49	**Yelli**	Tcol-MPN=16000	02-03-20	BOD=4.5	01-08-19	BOD=2.4	01-11-19
				BOD=2.9	03-09-19	BOD=2.2	03-02-20
				BOD=2.8	03-10-19	DO=5.0	03-01-20
				DO=4.6	03-06-19	Tcol-MPN=9000	01-11-19
				DO=5.6	01-07-19	Tcol-MPN=9000	02-12-19
				Tcol-MPN=2400	03-06-19	Tcol-MPN=9000	03-01-20
				Tcol-MPN=2800	01-07-19	Tcol-MPN=2800	03-02-20
				Tcol-MPN=260	01-08-19		
				Tcol-MPN=2800	03-09-19		
				Tcol-MPN=16000	03-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) Godavari Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

V Basin : Krishna

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Shimoga**			BOD=3.5	03-10-19	DO=4.6	02-12-19
				DO=4.5	03-10-19	DO=4.6	01-01-20
				Tcol-MPN=2800	11-07-19	Tcol-MPN=3500	01-11-19
				Tcol-MPN=3500	01-08-19	Tcol-MPN=330	02-12-19
				Tcol-MPN=1300	03-09-19	Tcol-MPN=5400	01-01-20
				Tcol-MPN=54000	04-10-19		
2	**Karad**			Tcol-MPN=14000	07-07-19	DO=5.5	06-11-19
				Tcol-MPN=90000	06-08-19	Tcol-MPN=17000	06-11-19
				Tcol-MPN=8000	04-09-19		
3	**Honnali**			BOD=5.1	01-06-19	BOD=3.8	02-12-19
				BOD=3.8	01-07-19	BOD=5.1	01-01-20
				BOD=15.4	01-08-19	Tcol-MPN=3500	01-11-19
				BOD=5.1	03-09-19	Tcol-MPN=2200	02-12-19
				Tcol-MPN=9200	01-06-19	Tcol-MPN=230	01-01-20
				Tcol-MPN=16000	01-07-19	Tcol-MPN=11000	04-02-20
				Tcol-MPN=1400	01-08-19		
				Tcol-MPN=5400	03-09-19		
				Tcol-MPN=160000	03-10-19		
4	**Warunji**			Tcol-MPN=17000	03-07-19	Tcol-MPN=30000	06-11-19
				Tcol-MPN=50000	06-08-19		
				Tcol-MPN=14000	04-09-19		

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

V	Basin : Krishna						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
5	**Haralahalli**	Tcol-MPN=230	18-05-20	BOD=3.2	01-08-19	BOD=2.1	02-12-19
				DO=5.3	01-07-19	Tcol-MPN=2400	01-11-19
				Tcol-MPN=3500	01-07-19	Tcol-MPN=2400	02-12-19
				Tcol-MPN=2800	01-08-19		
				Tcol-MPN=490	03-09-19		
				Tcol-MPN=11000	03-10-19		
6	**Samdoli (Seasonal)**			DO=5.9	02-07-19	Tcol-MPN=24000	05-11-19
				Tcol-MPN=3000	02-07-19		
				Tcol-MPN=1100	19-08-19		
				Tcol-MPN=5000	03-09-19		
				Tcol-MPN=50000	03-10-19		
7	**Marol**			BOD=13.5	01-08-19		
				Tcol-MPN=16000	08-07-19		
				Tcol-MPN=16000	01-08-19		
				Tcol-MPN=170	03-09-19		
				Tcol-MPN=54000	30-10-19		
8	**Arjunwad (Seasonal)**			Tcol-MPN=13000	02-07-19	Tcol-MPN=30000	05-11-19
				Tcol-MPN=160000	19-08-19		
				Tcol-MPN=5000	03-09-19		
				Tcol-MPN=90000	03-10-19		
9	**KURUNDWAD**	DO=5.2	14-05-20	Tcol-MPN=22000	02-07-19	Tcol-MPN=3400	05-11-19
				Tcol-MPN=3000	19-08-19		
				Tcol-MPN=17000	03-09-19		
				Tcol-MPN=28000	03-10-19		
10	**BYALADAHALLI**			BOD=2.8	13-08-19	Tcol-MPN=5400	01-11-19
				Tcol-MPN=16000	13-08-19	Tcol-MPN=1700	02-12-19
				Tcol-MPN=1100	03-09-19	Tcol-MPN=5400	01-01-20
				Tcol-MPN=28000	03-10-19		
11	**HOLEHONNUR**	DO=5.9	21-03-20	DO=5.9	21-06-19	DO=5.5	21-11-19
		DO=4.9	18-05-20	DO=5.7	01-07-19	DO=3.3	11-02-20
				DO=5.7	11-07-19	Tcol-MPN=790	01-11-19
				DO=5.1	13-08-19	Tcol-MPN=790	11-11-19
				Tcol-MPN=5400	01-06-19	Tcol-MPN=1200	21-11-19
				Tcol-MPN=1700	11-06-19	Tcol-MPN=9200	02-12-19
				Tcol-MPN=2400	21-06-19	Tcol-MPN=9200	11-12-19
				Tcol-MPN=9200	01-07-19	Tcol-MPN=9200	21-12-19
				Tcol-MPN=2200	11-07-19	Tcol-MPN=230	01-01-20
				Tcol-MPN=13000	22-07-19	Tcol-MPN=2800	13-01-20
				Tcol-MPN=1100	01-08-19	Tcol-MPN=2400	21-01-20
				Tcol-MPN=700	13-08-19	Tcol-MPN=9200	03-02-20
				Tcol-MPN=1100	21-08-19	Tcol-MPN=790	11-02-20
				Tcol-MPN=490	03-09-19		
				Tcol-MPN=5400	11-09-19		
				Tcol-MPN=2800	21-09-19		
				Tcol-MPN=160000	03-10-19		
				Tcol-MPN=35000	11-10-19		
				Tcol-MPN=9200	21-10-19		

Contd/…

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

V **Basin : Krishna**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12	**Terwad (Seasonal)**	DO=5.9 DO=5.7 DO=5.8	04-05-20 14-05-20 26-05-20	BOD=2.3 DO=4.0 DO=4.5 Tcol-MPN=13000 Tcol-MPN=24000 Tcol-MPN=30000 Tcol-MPN=35000 Tcol-MPN=50000	03-06-19 02-07-19 19-08-19 03-06-19 02-07-19 19-08-19 03-09-19 03-10-19	DO=5.5 Tcol-MPN=1700	05-11-19 05-11-19
13	**KELLODU**			BOD=2.2 Tcol-MPN=1400 Tcol-MPN=22000	03-10-19 03-08-19 03-10-19	Tcol-MPN=2400 Tcol-MPN=16000 Tcol-MPN=1300	01-11-19 02-12-19 01-01-20
14	**KUPPELUR**			Tcol-MPN=2800 Tcol-MPN=5400 Tcol-MPN=54000	08-08-19 03-09-19 03-10-19	BOD=6.4 BOD=2.2 DO=4.1 DO=3.2 Tcol-MPN=230 Tcol-MPN=5400	01-11-19 02-12-19 01-11-19 02-12-19 01-11-19 02-12-19
15	**Takli**			BOD=3.5 Tcol-MPN=11000 Tcol-MPN=90000	03-10-19 05-08-19 03-10-19	Tcol-MPN=5000	05-11-19
16	**Wadakbal**			BOD=3.7 Tcol-MPN=14000 Tcol-MPN=90000	04-10-19 04-09-19 04-10-19	Tcol-MPN=11000	06-11-19
17	**Phulgaon(Seasonal)**			Tcol-MPN=50000 Tcol-MPN=160000 Tcol-MPN=17000 Tcol-MPN=50000	03-07-19 06-08-19 04-09-19 04-10-19		
18	**Paragaon**			BOD=2.6 BOD=3.9 Tcol-MPN=3000 Tcol-MPN=22000 Tcol-MPN=9000 Tcol-MPN=160000	03-07-19 04-10-19 03-07-19 06-08-19 04-09-19 04-10-19	BOD=3.2 Tcol-MPN=17000	06-11-19 06-11-19
19	**Mirawadi**			BOD=2.2 BOD=3.4 Tcol-MPN=17000 Tcol-MPN=24000 Tcol-MPN=13000 Tcol-MPN=90000	04-09-19 04-10-19 03-07-19 08-08-19 04-09-19 04-10-19	BOD=2.9 Tcol-MPN=17000	06-11-19 06-11-19
20	**Vijaywada**	Tcol-MPN=2800	02-03-20	BOD=2.3 DO=3.7 DO=3.9 Tcol-MPN=700 Tcol-MPN=3500 Tcol-MPN=16000 Tcol-MPN=1700 Tcol-MPN=1700	03-06-19 01-07-19 01-08-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.8 BOD=2.2 DO=5.7 DO=4.4 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=1600	02-12-19 03-01-20 02-12-19 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20

Contd/…

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

V	Basin : Krishna						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
21	**Sarati**			Tcol-MPN=5000 Tcol-MPN=30000	05-08-19 08-10-19	Tcol-MPN=17000	05-11-19
22	**Keesara**	DO=4.7 Tcol-MPN=1700	02-03-20 02-03-20	BOD=3.6 BOD=3.6 DO=3.8 DO=5.8 DO=5.8 Tcol-MPN=16000 Tcol-MPN=1400 Tcol-MPN=16000	03-09-19 03-10-19 02-08-19 03-09-19 03-10-19 02-08-19 03-09-19 03-10-19	BOD=2.6 BOD=3.2 DO=3.7 DO=4.9 DO=4.0 Tcol-MPN=2800 Tcol-MPN=2200 Tcol-MPN=2200 Tcol-MPN=3500	01-11-19 02-12-19 01-11-19 03-01-20 05-02-20 01-11-19 02-12-19 03-01-20 05-02-20
23	**Madhira**	DO=4.7 Tcol-MPN=2800	02-03-20 02-03-20	BOD=2.7 DO=5.2 DO=5.4 DO=5.4 Tcol-MPN=1100 Tcol-MPN=9000 Tcol-MPN=2800	03-08-19 03-08-19 03-09-19 03-10-19 03-08-19 03-09-19 03-10-19	DO=4.4 DO=5.1 DO=5.4 DO=2.5 Tcol-MPN=9000 Tcol-MPN=5000 Tcol-MPN=700 Tcol-MPN=16000	01-11-19 02-12-19 03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
24	**Munugodu**	BOD=2.3 Tcol-MPN=5000	02-03-20 02-03-20	BOD=2.2 DO=3.9 DO=3.8 DO=4.0 DO=4.0 Tcol-MPN=2200 Tcol-MPN=16000 Tcol-MPN=170 Tcol-MPN=1100 Tcol-MPN=16000	26-06-19 01-07-19 01-08-19 03-09-19 03-10-19 26-06-19 01-07-19 01-08-19 03-09-19 03-10-19	DO=5.7 DO=5.7 DO=4.7 Tcol-MPN=2200 Tcol-MPN=1700 Tcol-MPN=1700 Tcol-MPN=9000	02-12-19 03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
25	**Paleru Bridge**	BOD=3.0 Tcol-MPN=3500	02-03-20 02-03-20	BOD=2.4 BOD=2.3 DO=3.9 DO=4.2 DO=3.3 Tcol-MPN=260 Tcol-MPN=16000 Tcol-MPN=16000 Tcol-MPN=1100 Tcol-MPN=2800	01-07-19 01-08-19 03-06-19 01-07-19 01-08-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	DO=4.6 DO=3.3 DO=2.5 Tcol-MPN=3500 Tcol-MPN=3500 Tcol-MPN=9000 Tcol-MPN=3500	01-11-19 03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
26	**Wadenapally**	BOD=2.3 Tcol-MPN=16000	02-03-20 02-03-20	DO=5.7 DO=5.4 DO=5.7 Tcol-MPN=16000 Tcol-MPN=1700 Tcol-MPN=260 Tcol-MPN=3500 Tcol-MPN=3500	03-06-19 01-07-19 01-08-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.3 DO=5.1 DO=5.4 Tcol-MPN=16000 Tcol-MPN=9000 Tcol-MPN=3500 Tcol-MPN=1700	01-11-19 01-11-19 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20

Contd/…

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

V	Basin : Krishna						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
27	**Valigonda**	DO=4.6 Tcol-MPN=340	02-03-20 02-03-20	BOD=2.3 DO=4.6 DO=3.5 DO=4.3 DO=4.3 Tcol-MPN=2200 Tcol-MPN=300 Tcol-MPN=9000 Tcol-MPN=16000	03-10-19 08-07-19 01-08-19 03-09-19 03-10-19 08-07-19 01-08-19 03-09-19 03-10-19	BOD=2.2 DO=5.5 DO=4.5 DO=5.7 DO=5.1 Tcol-MPN=16000 Tcol-MPN=9000 Tcol-MPN=2200 Tcol-MPN=2200	03-02-20 01-11-19 04-12-19 03-01-20 03-02-20 01-11-19 04-12-19 03-01-20 03-02-20
28	**Dameracherla**	Tcol-MPN=3500	02-03-20	DO=5.0 DO=4.9 DO=4.9 Tcol-MPN=170 Tcol-MPN=2800 Tcol-MPN=3500	01-08-19 03-09-19 03-10-19 01-08-19 03-09-19 03-10-19	BOD=2.9 Tcol-MPN=9000 Tcol-MPN=9000 Tcol-MPN=2800 Tcol-MPN=1400	03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
29	**Halia**	BOD=2.5 Tcol-MPN=9000	02-03-20 02-03-20	BOD=2.9 DO=4.5 DO=3.9 DO=4.5 DO=4.5 Tcol-MPN=2200 Tcol-MPN=3500 Tcol-MPN=800 Tcol-MPN=3500 Tcol-MPN=1700	01-08-19 01-07-19 01-08-19 03-09-19 03-10-19 10-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.9 BOD=2.3 BOD=2.2 DO=5.8 Tcol-MPN=3500 Tcol-MPN=2400 Tcol-MPN=3500 Tcol-MPN=3500	01-11-19 02-12-19 03-02-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
30	**Bhawapuram**	BOD=2.7 Tcol-MPN=3500	02-03-20 02-03-20	BOD=2.2 DO=3.8 Tcol-MPN=9000 Tcol-MPN=16000 Tcol-MPN=2800	12-08-19 12-08-19 12-08-19 03-09-19 03-10-19	DO=5.9 DO=5.2 DO=5.6 Tcol-MPN=2200 Tcol-MPN=1700 Tcol-MPN=3500 Tcol-MPN=2200	02-12-19 03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
31	**Mantralayam**	BOD=2.3 Tcol-MPN=340	02-03-20 02-03-20	BOD=3.2 BOD=3.0 BOD=4.4 BOD=4.4 DO=4.0 DO=5.0 Tcol-MPN=1700 Tcol-MPN=2800 Tcol-MPN=16000 Tcol-MPN=900 Tcol-MPN=330	01-07-19 12-08-19 03-09-19 03-10-19 15-06-19 12-08-19 15-06-19 01-07-19 12-08-19 03-09-19 03-10-19	BOD=2.2 BOD=2.3 BOD=2.6 Tcol-MPN=2800 Tcol-MPN=2200 Tcol-MPN=1700 Tcol-MPN=2800	01-11-19 02-12-19 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
32	**T Ramapuram**	BOD=3.6 Tcol-MPN=16000	02-03-20 02-03-20	BOD=3.0 BOD=2.2 BOD=2.2 DO=5.7 Tcol-MPN=3500 Tcol-MPN=9000 Tcol-MPN=16000	06-06-19 18-09-19 03-10-19 06-06-19 06-06-19 18-09-19 03-10-19	DO=4.2 DO=4.0 Tcol-MPN=2800 Tcol-MPN=3500 Tcol-MPN=2200 Tcol-MPN=3500	03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20

Contd/…

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

V **Basin : Krishna**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
33	**Malkhed**			DO=5.6 DO=5.8 DO=5.8 Tcol-MPN=800 Tcol-MPN=2800 Tcol-MPN=9000 Tcol-MPN=330	24-07-19 03-09-19 03-10-19 24-07-19 06-08-19 03-09-19 03-10-19	BOD=2.8 DO=4.7 DO=5.6 Tcol-MPN=2800 Tcol-MPN=2200 Tcol-MPN=2800 Tcol-MPN=3800	01-11-19 03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
34	**Lakkavalli**	DO=4.5 DO=4.3 Tcol-MPN=1700	02-03-20 18-05-20 18-05-20	DO=5.9 Tcol-MPN=790 Tcol-MPN=400 Tcol-MPN=330 Tcol-MPN=9200 Tcol-MPN=3300	03-09-19 01-06-19 01-07-19 01-08-19 03-09-19 01-10-19	DO=5.7 DO=4.5 DO=5.0 DO=4.3 Tcol-MPN=230 Tcol-MPN=2400 Tcol-MPN=5400 Tcol-MPN=5400	01-11-19 01-12-19 01-01-20 03-02-20 01-11-19 02-12-19 01-01-20 03-02-20
35	**Yadgir**			PH=8.7 BOD=2.7 DO=3.8 Tcol-MPN=16000 Tcol-MPN=1700 Tcol-MPN=2200	03-09-19 08-08-19 08-08-19 08-08-19 03-09-19 01-10-19	Tcol-MPN=3500	01-11-19
36	**Malkhed**			DO=5.6 DO=5.8 DO=5.8 Tcol-MPN=800 Tcol-MPN=2800 Tcol-MPN=9000 Tcol-MPN=330	24-07-19 03-09-19 03-10-19 24-07-19 06-08-19 03-09-19 03-10-19	BOD=2.8 DO=4.7 DO=5.6 Tcol-MPN=2800 Tcol-MPN=2200 Tcol-MPN=2800 Tcol-MPN=3800	01-11-19 03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
37	**Hariharapura**	Tcol-MPN=170	18-05-20	Tcol-MPN=790 Tcol-MPN=490 Tcol-MPN=140 Tcol-MPN=3500 Tcol-MPN=35000	01-06-19 01-07-19 01-08-19 03-09-19 01-10-19	Tcol-MPN=1100 Tcol-MPN=1300 Tcol-MPN=5400 Tcol-MPN=4300	01-11-19 01-12-19 01-01-20 03-02-20
38	**Deongaon Bridge (Deongaon)**	BOD=2.7 DO=5.6 Tcol-MPN=16000	02-03-20 02-03-20 02-03-20	BOD=2.6 DO=5.5 Tcol-MPN=1400 Tcol-MPN=16000 Tcol-MPN=9000	05-08-19 05-08-19 05-08-19 11-09-19 03-10-19	DO=5.5 Tcol-MPN=2800 Tcol-MPN=3500 Tcol-MPN=1400 Tcol-MPN=1700	03-12-19 01-11-19 03-12-19 03-01-20 03-02-20
39	**Dhond**			BOD=2.1 Tcol-MPN=2600 Tcol-MPN=17000 Tcol-MPN=7000 Tcol-MPN=35000	03-07-19 03-07-19 06-08-19 04-09-19 03-10-19	Tcol-MPN=14000	06-11-19

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

V Basin : Krishna

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
40	**Huvinhedigi**	BOD=3.0 Tcol-MPN=16000	02-03-20 02-03-20	DO=4.5 DO=5.9 DO=5.3 DO=5.7 DO=5.7 Tcol-MPN=2800 Tcol-MPN=2800 Tcol-MPN=260 Tcol-MPN=1700 Tcol-MPN=2200	09-06-19 01-07-19 01-08-19 03-09-19 03-10-19 09-06-19 01-07-19 01-08-19 03-09-19 03-10-19	DO=5.0 DO=4.3 Tcol-MPN=3500 Tcol-MPN=2800 Tcol-MPN=1400 Tcol-MPN=2800	03-01-20 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
41	**Deosugar**	DO=3.0 Tcol-MPN=9000	02-03-20 02-03-20	DO=5.1 DO=5.1 Tcol-MPN=170 Tcol-MPN=16000 Tcol-MPN=3500	03-09-19 03-10-19 01-08-19 03-09-19 03-10-19	BOD=2.6 BOD=2.5 BOD=3.0 DO=4.7 DO=4.4 Tcol-MPN=2800 Tcol-MPN=3000 Tcol-MPN=16000 Tcol-MPN=16000	01-11-19 02-12-19 03-02-20 02-12-19 03-02-20 01-11-19 02-12-19 03-01-20 03-02-20
42	**Cholachguda(Seasonal)**			Tcol-MPN=4900 Tcol-MPN=16000 Tcol-MPN=160000	08-08-19 05-09-19 03-10-19	Tcol-MPN=1700 Tcol-MPN=1700 Tcol-MPN=2400 Tcol-MPN=2400	04-11-19 02-12-19 01-01-20 03-02-20
43	**Gokak Falls(Seasonal)**			Tcol-MPN=490 Tcol-MPN=2800 Tcol-MPN=790 Tcol-MPN=35000	02-07-19 01-08-19 03-09-19 04-10-19	Tcol-MPN=16000 Tcol-MPN=1700	01-11-19 03-12-19

Source: Water Quality Data Book (June 2019 to May 2020) Krishna Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VI Basin : Cauvery

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Gopurajapuram**			BOD=3.4	13-09-19		
2	**Annavasal**					BOD=4.5 BOD=2.2	01-11-19 02-12-19
3	**Nallathur**			BOD=2.6 BOD=4.0 BOD=3.4	26-08-19 16-09-19 01-10-19	BOD=2.2	02-12-19
4	**Menangudi**			BOD=5.0 BOD=5.3	07-09-19 10-10-19	BOD=2.6 BOD=2.2	01-11-19 02-12-19
5	**Porakudi**			BOD=4.8	17-09-19	BOD=2.2	01-11-19

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VI	Basin : Cauvery						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
6	**Peralam**					BOD=2.6	01-11-19
7	**Thengudi**			BOD=3.2 BOD=3.4 DO=4.0	13-09-19 01-10-19 13-09-19	BOD=3.2 BOD=2.4	01-11-19 01-01-20
8	**Varanavasi(Varana)**			BOD=2.6 Tcol-MPN=160000 Tcol-MPN=160000 Tcol-MPN=54000	17-08-19 17-08-19 17-09-19 19-10-19	Tcol-MPN=22000 Tcol-MPN=160000	01-11-19 02-12-19
9	**Musiri**	PH=9.2 PH=8.9 PH=8.8 Tcol-MPN=9400 Tcol-MPN=1700 Tcol-MPN=2800	02-03-20 04-05-20 23-05-20 02-03-20 04-05-20 23-05-20	PH=8.6 PH=8.6 PH=8.9 BOD=3.4 Tcol-MPN=13000 Tcol-MPN=17000 Tcol-MPN=14000 Tcol-MPN=17000 Tcol-MPN=11000	01-06-19 03-07-19 01-10-19 07-08-19 01-06-19 03-07-19 07-08-19 03-09-19 01-10-19	PH=8.8 PH=8.8 Tcol-MPN=13000 Tcol-MPN=7900 Tcol-MPN=13000 Tcol-MPN=980	01-01-20 01-02-20 01-11-19 02-12-19 01-01-20 01-02-20
10	**Elunuthimangalam**	PH=9.4 PH=9.1 PH=8.9 PH=8.9 BOD=11.8 BOD=3.8 BOD=37.7 BOD=17.7 Tcol-MPN=12000 Tcol-MPN=3500 Tcol-MPN=2200 Tcol-MPN=11000	02-03-20 11-03-20 21-03-20 04-05-20 02-03-20 11-03-20 21-03-20 04-05-20 02-03-20 11-03-20 21-03-20 04-05-20	PH=8.6 PH=8.7 PH=9.0 PH=8.9 PH=9.0 PH=8.9 PH=9.0 PH=8.9 BOD=9.8 BOD=7.8 BOD=9.8 BOD=3.8 BOD=9.8 BOD=11.8 BOD=23.7 BOD=9.8 BOD=11.8 BOD=7.8 BOD=7.8 Tcol-MPN=6800 Tcol-MPN=14000 Tcol-MPN=27000 Tcol-MPN=17000 Tcol-MPN=350000 Tcol-MPN=33000 Tcol-MPN=2200 Tcol-MPN=2600 Tcol-MPN=9400 Tcol-MPN=4900 Tcol-MPN=1600000	07-06-19 11-06-19 21-08-19 03-09-19 12-09-19 21-09-19 01-10-19 11-10-19 07-06-19 11-06-19 10-08-19 13-08-19 21-08-19 03-09-19 12-09-19 21-09-19 01-10-19 11-10-19 21-10-19	PH=8.6 PH=8.7 PH=8.7 PH=8.8 PH=8.9 PH=8.9 PH=9.6 PH=9.2 DO=3.8 BOD=3.8 BOD=5.8 BOD=3.8 BOD=3.8 BOD=3.8 BOD=3.8 BOD=3.8 BOD=7.8 BOD=11.8 BOD=5.8 BOD=11.8 BOD=9.8 Tcol-MPN=79000 Tcol-MPN=23000 Tcol-MPN=170000 Tcol-MPN=13000 Tcol-MPN=28000 Tcol-MPN=92000 Tcol-MPN=240000 Tcol-MPN=22000 Tcol-MPN=79000 Tcol-MPN=11000 Tcol-MPN=33000 Tcol-MPN=2000	01-11-19 11-12-19 01-01-20 13-01-20 21-01-20 01-02-20 11-02-20 21-02-20 11-12-19 01-11-19 11-11-19 21-11-19 02-12-19 11-12-19 21-12-19 01-01-20 13-01-20 21-01-20 01-02-20 11-02-20 21-02-20 01-11-19 11-11-19 21-11-19 02-12-19 11-12-19 21-12-19 01-01-20 13-01-20 21-01-20 01-02-20 11-02-20 21-02-20

contd...

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VI	Basin : Cauvery						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
11	**Nallamaranpatty**			BOD=7.8	20-08-19	BOD=5.2	01-01-20
				Tcol-MPN=13000	20-08-19	Tcol-MPN=1700	01-11-19
				Tcol-MPN=92000	25-09-19	Tcol-MPN=14000	02-12-19
				Tcol-MPN=92000	29-10-19	Tcol-MPN=3300	01-01-20
12	**Alandurai**			Tcol-MPN=4700	09-07-19	Tcol-MPN=160000	01-11-19
				Tcol-MPN=4000	01-08-19	Tcol-MPN=92000	02-12-19
				Tcol-MPN=17000	03-09-19	Tcol-MPN=92000	01-01-20
				Tcol-MPN=160000	01-10-19	Tcol-MPN=35000	01-02-20
13	**Kodumudi**	PH=8.8	02-03-20	PH=8.7	01-07-19	Tcol-MPN=9400	01-11-19
		PH=8.6	04-05-20	PH=8.8	01-08-19	Tcol-MPN=54000	02-12-19
		PH=8.7	23-05-20	BOD=2.4	01-06-19	Tcol-MPN=7900	01-01-20
		BOD=2.4	04-05-20	BOD=2.4	01-07-19	Tcol-MPN=1100	01-02-20
		Tcol-MPN=160000	02-03-20	BOD=3.8	01-08-19		
		Tcol-MPN=3100	04-05-20	Tcol-MPN=17000	01-06-19		
		Tcol-MPN=940	23-05-20	Tcol-MPN=780	01-07-19		
				Tcol-MPN=4900	01-08-19		
				Tcol-MPN=17000	03-09-19		
				Tcol-MPN=4900	01-10-19		
14	**Savandapur**	BOD=3.2	04-05-20	BOD=3.8	01-06-19	BOD=2.2	01-01-20
		Tcol-MPN=9400	02-03-20	Tcol-MPN=160000	01-06-19	Tcol-MPN=35000	01-11-19
		Tcol-MPN=22000	04-05-20	Tcol-MPN=780	01-07-19	Tcol-MPN=17000	02-12-19
		Tcol-MPN=3500	23-05-20	Tcol-MPN=24000	01-08-19	Tcol-MPN=17000	01-01-20
				Tcol-MPN=7900	03-09-19	Tcol-MPN=1300	01-02-20
				Tcol-MPN=4900	01-10-19		
15	**Thengumarahada**	Tcol-MPN=7000	02-03-20	Tcol-MPN=22000	01-06-19	Tcol-MPN=54000	01-11-19
				Tcol-MPN=2200	01-07-19	Tcol-MPN=22000	02-12-19
				Tcol-MPN=54000	01-08-19	Tcol-MPN=35000	01-01-20
				Tcol-MPN=11000	03-09-19	Tcol-MPN=1700	01-02-20
				Tcol-MPN=35000	01-10-19		
16	**Gandhavayal**	Tcol-MPN=54000	02-03-20	Tcol-MPN=92000	09-08-19	Tcol-MPN=35000	01-11-19
				Tcol-MPN=160000	03-09-19	Tcol-MPN=170000	02-12-19
				Tcol-MPN=49000	01-10-19	Tcol-MPN=54000	01-01-20
						Tcol-MPN=2700	01-02-20
17	**Odendurai**	Tcol-MPN=92000	02-03-20	Tcol-MPN=92000	08-08-19	Tcol-MPN=160000	01-11-19
				Tcol-MPN=7000	03-09-19	Tcol-MPN=92000	02-12-19
				Tcol-MPN=92000	01-10-19	Tcol-MPN=92000	01-01-20
						Tcol-MPN=17000	01-02-20
18	**Nellithurai**	Tcol-MPN=160000	11-03-20	Tcol-MPN=13000	06-08-19		
19	**Thevur**			Tcol-MPN=4100	17-09-19	Tcol-MPN=35000	01-11-19
				Tcol-MPN=92000	01-10-19	Tcol-MPN=160000	02-12-19
						Tcol-MPN=92000	01-01-20

contd...

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VI	Basin : Cauvery						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
20	**Kokkedoddy**	Tcol-MPN=3500	25-04-20	PH=8.6	01-06-19	BOD=4.5	01-11-19
				BOD=3.1	03-09-19	Tcol-MPN=1100	01-11-19
				BOD=5.1	01-10-19	Tcol-MPN=5400	02-12-19
				Tcol-MPN=16000	01-06-19	Tcol-MPN=9400	01-01-20
				Tcol-MPN=9200	01-07-19	Tcol-MPN=9200	03-02-20
				Tcol-MPN=1300	01-08-19		
				Tcol-MPN=3500	03-09-19		
				Tcol-MPN=24000	01-10-19		
21	**T. Bekuppe**	BOD=13.7	02-03-20	BOD=16.7	01-06-19	BOD=15.8	01-11-19
		BOD=19.2	11-03-20	BOD=10.5	11-06-19	BOD=13.8	11-11-19
		BOD=14.3	21-03-20	BOD=11.3	21-06-19	BOD=13.9	21-11-19
		BOD=11.5	25-04-19	BOD=23.7	01-07-19	BOD=7.4	02-12-19
		DO=1.7	02-03-20	BOD=10.3	11-07-19	BOD=12.5	11-12-19
		DO=2.5	11-03-20	BOD=20.4	22-07-19	BOD=16.1	21-12-19
		DO=2.8	21-03-20	BOD=30.0	01-08-19	BOD=28.5	01-01-20
		DO=3.8	25-04-19	BOD=14.2	13-08-19	BOD=15.0	13-01-20
		Tcol-MPN=54000	11-03-20	BOD=16.3	21-08-19	BOD=15.0	21-01-20
		Tcol-MPN=92000	21-03-20	BOD=17.5	03-09-19	BOD=14.2	03-02-20
		Tcol-MPN=1300	25-04-19	BOD=19.4	12-09-19	BOD=9.2	11-02-20
				BOD=12.3	21-09-19	BOD=13.9	21-02-20
				BOD=12.4	01-10-19	DO=3.3	01-11-19
				BOD=16.5	11-10-19	DO=3.7	11-11-19
				BOD=13.6	21-10-19	DO=2.6	21-11-19
				DO=3.0	01-06-19	DO=2.9	02-12-19
				DO=3.2	11-06-19	DO=2.9	11-12-19
				DO=3.0	21-06-19	DO=3.0	21-12-19
				DO=2.8	01-07-19	DO=2.8	01-01-20
				DO=2.8	11-07-19	DO=2.1	13-01-20
				DO=2.0	22-07-19	DO=2.3	21-01-20
				DO=2.2	01-08-19	DO=2.4	03-02-20
				DO=2.2	13-08-19	DO=2.3	11-02-20
				DO=2.0	21-08-19	DO=1.7	21-02-20
				DO=2.5	03-09-19	Tcol-MPN=160000	01-11-19
				DO=1.9	12-09-19	Tcol-MPN=160000	11-11-19
				DO=1.3	21-09-19	Tcol-MPN=54000	21-11-19
				DO=1.9	01-10-19	Tcol-MPN=92000	02-12-19
				DO=3.1	11-10-19	Tcol-MPN=92000	11-12-19
				DO=3.1	21-10-19	Tcol-MPN=160000	21-12-19
				Tcol-MPN=92000	01-06-19	Tcol-MPN=92000	01-01-20
				Tcol-MPN=13000	11-06-19	Tcol-MPN=92000	13-01-20
				Tcol-MPN=54000	21-06-19	Tcol-MPN=160000	21-01-20
				Tcol-MPN=2000	01-07-19	Tcol-MPN=160000	03-02-20
				Tcol-MPN=35000	11-07-19	Tcol-MPN=54000	11-02-20
				Tcol-MPN=22000	22-07-19	Tcol-MPN=54000	21-02-20
				Tcol-MPN=280000	01-08-19		
				Tcol-MPN=22000	13-08-19		
				Tcol-MPN=22000	21-08-19		
				Tcol-MPN=54000	03-09-19		
				Tcol-MPN=35000	12-09-19		
				Tcol-MPN=22000	21-09-19		
				Tcol-MPN=170000	01-10-19		
				Tcol-MPN=130000	11-10-19		
				Tcol-MPN=92000	21-10-19		

contd...

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VI **Basin : Cauvery**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
22	**Sevanur**			Tcol-MPN=22000	30-08-19	Tcol-MPN=92000	01-11-19
				Tcol-MPN=4100	03-09-19	Tcol-MPN=54000	02-12-19
				Tcol-MPN=92000	01-10-19	Tcol-MPN=54000	01-01-20
23	**Kudlur**			Tcol-MPN=160000	25-09-19	PH=8.6	01-11-19
				Tcol-MPN=220000	09-10-19	PH=8.6	02-12-19
						Tcol-MPN=54000	01-11-19
						Tcol-MPN=17000	02-12-19
24	**Urachikottai**	Tcol-MPN=54000	06-03-20	PH=8.8	15-07-19	PH=8.7	11-12-19
				BOD=2.6	17-06-19	BOD=3.4	01-01-20
				BOD=3.0	05-07-19	BOD=4.4	01-11-19
				BOD=3.6	15-07-19	BOD=2.2	11-11-19
				BOD=2.2	01-08-19	Tcol-MPN=54000	11-12-19
				BOD=2.8	13-08-19	Tcol-MPN=28000	01-01-20
				BOD=3.2	21-08-19	Tcol-MPN=24000	01-11-19
				Tcol-MPN=70000	17-06-19	Tcol-MPN=22000	11-11-19
				Tcol-MPN=7000	05-07-19	Tcol-MPN=3300	21-11-19
				Tcol-MPN=4600	15-07-19	Tcol-MPN=21000	02-12-19
				Tcol-MPN=9400	01-08-19	Tcol-MPN=160000	11-12-19
				Tcol-MPN=17000	13-08-19	Tcol-MPN=7000	21-12-19
				Tcol-MPN=6300	21-08-19	Tcol-MPN=17000	01-01-20
				Tcol-MPN=35000	03-09-19		13-01-20
				Tcol-MPN=22000	12-09-19		21-01-20
				Tcol-MPN=2600	21-09-19		
				Tcol-MPN=17000	01-10-19		
				Tcol-MPN=1400	11-10-19		
				Tcol-MPN=9400	21-10-19		
25	**T.K.Halli**			DO=5.5	03-09-19	DO=5.8	01-11-19
				DO=3.3	12-09-19	DO=5.5	11-11-19
				DO=5.8	21-09-19	DO=5.5	21-11-19
				DO=5.6	03-10-19	DO=5.1	01-01-20
				DO=5.6	11-10-19	Tcol-MPN=92000	01-11-19
				Tcol-MPN=3500	03-09-19	Tcol-MPN=5400	11-11-19
				Tcol-MPN=3500	12-09-19	Tcol-MPN=16000	21-11-19
				Tcol-MPN=16000	21-09-19	Tcol-MPN=2400	02-12-19
				Tcol-MPN=160000	03-10-19	Tcol-MPN=3500	12-12-19
				Tcol-MPN=35000	11-10-19	Tcol-MPN=3500	21-12-19
				Tcol-MPN=9200	21-10-19	Tcol-MPN=2400	01-01-20
26	**Kollegal**	Tcol-MPN=330	23-04-20	DO=5.5	03-10-19	Tcol-MPN=1700	01-11-19
				Tcol-MPN=230	01-06-19	Tcol-MPN=2400	02-12-19
				Tcol-MPN=490	01-08-19	Tcol-MPN=9200	01-01-20
				Tcol-MPN=490	03-09-19	Tcol-MPN=35000	03-02-20
				Tcol-MPN=35000	03-10-19		
27	**Akkihebbal**			DO=5.0	01-08-19	DO=5.6	01-11-19
				Tcol-MPN=790	17-06-19	Tcol-MPN=16000	01-11-19
				Tcol-MPN=3500	01-08-19	Tcol-MPN=3500	02-12-19
				Tcol-MPN=5400	03-09-19	Tcol-MPN=2400	01-01-20
				Tcol-MPN=11000	03-10-19	Tcol-MPN=3500	03-02-20

contd...

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VI	Basin : Cauvery						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
28	**Bendrahalli**			BOD=3.2	03-10-19	DO=4.5	01-11-19
				DO=4.5	03-09-19	DO=4.7	03-02-20
				DO=4.9	03-10-19	BOD=2.6	01-11-19
				Tcol-MPN=1300	03-09-19	Tcol-MPN=3400	01-11-19
				Tcol-MPN=160000	03-10-19	Tcol-MPN=5400	02-12-19
						Tcol-MPN=9200	01-01-20
						Tcol-MPN=5400	03-02-20
29	**Billigundulu**	PH=8.6	02-03-20	PH=8.8	01-06-19	PH=8.6	01-01-20
		BOD=3.8	02-03-20	PH=8.8	01-07-19	PH=8.9	01-02-20
		Tcol-MPN=680	02-03-20	PH=8.6	01-10-19	DO=5.7	02-12-19
				BOD=3.2	01-06-19	DO=5.7	01-02-20
				BOD=2.2	01-08-19	Tcol-MPN=12000	01-11-19
				DO=5.7	01-07-19	Tcol-MPN=2600	02-12-19
				DO=5.0	01-08-19	Tcol-MPN=13000	01-01-20
				DO=5.4	03-09-19	Tcol-MPN=1700	01-02-20
				Tcol-MPN=2000	01-06-19		
				Tcol-MPN=180	01-07-19		
				Tcol-MPN=780	01-08-19		
				Tcol-MPN=3300	03-09-19		
				Tcol-MPN=180	01-10-19		
30	**T. Narasipur**	BOD=5.8	23-04-20	BOD=5.3	03-09-19	DO=5.3	02-12-19
		Tcol-MPN=490	23-04-20	BOD=5.5	03-10-19	Tcol-MPN=1700	01-11-19
				DO=3.8	01-08-19	Tcol-MPN=2200	02-12-19
				DO=3.9	03-10-19	Tcol-MPN=9200	01-01-20
				Tcol-MPN=2400	01-06-19	Tcol-MPN=9200	03-02-20
				Tcol-MPN=9200	01-07-19		
				Tcol-MPN=1300	03-09-19		
				Tcol-MPN=16000	03-10-19		
31	**Muthankera**			BOD=7.5	01-08-19	BOD=2.8	02-12-19
				DO=5.7	01-07-19	Tcol-MPN=16000	01-11-19
				Tcol-MPN=9200	01-06-19	Tcol-MPN=1300	02-12-19
				Tcol-MPN=3500	01-07-19	Tcol-MPN=2400	01-01-20
				Tcol-MPN=16000	01-08-19	Tcol-MPN=1300	03-02-20
				Tcol-MPN=1300	03-09-19		
				Tcol-MPN=22000	03-10-19		
32	**K.M. Vadi**			DO=5.9	08-07-19	BOD=2.6	01-11-19
				DO=5.7	01-08-19	BOD=3.0	01-01-20
				Tcol-MPN=2700	08-07-19	Tcol-MPN=1700	01-11-19
				Tcol-MPN=5400	01-08-19	Tcol-MPN=2400	02-12-19
				Tcol-MPN=700	03-09-19	Tcol-MPN=16000	01-01-20
				Tcol-MPN=160000	03-10-19		
33	**M.H. Halli**	Tcol-MPN=1700	14-05-20	DO=5.5	03-09-19	DO=4.2	02-12-19
				Tcol-MPN=9200	01-08-19	DO=5.9	03-02-20
				Tcol-MPN=230	03-09-19	Tcol-MPN=2200	01-11-19
				Tcol-MPN=92000	01-10-19	Tcol-MPN=2200	02-12-19
						Tcol-MPN=9200	01-01-20
						Tcol-MPN=9200	03-02-20

contd...

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VI Basin : Cauvery

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
34	**Thimmanahalli**	BOD=2.6	02-03-20	BOD=5.5	01-07-19	DO=5.9	01-01-20
		Tcol-MPN=790	28-04-20	BOD=4.2	01-08-19	Tcol-MPN=5400	01-11-19
				BOD=2.4	03-09-19	Tcol-MPN=3500	02-12-19
				DO=3.1	01-07-19	Tcol-MPN=16000	01-01-20
				DO=4.7	01-08-19	Tcol-MPN=16000	03-02-20
				Tcol-MPN=1700	01-06-19		
				Tcol-MPN=2400	01-07-19		
				Tcol-MPN=790	01-08-19		
				Tcol-MPN=16000	03-09-19		
				Tcol-MPN=7900	03-10-19		
35	**Sakaleshpur**	Tcol-MPN=490	28-04-20	DO=5.5	01-07-19	BOD=4.0	02-12-19
				Tcol-MPN=16000	01-06-19	DO=5.7	01-01-20
				Tcol-MPN=2400	01-07-19	Tcol-MPN=2800	01-11-19
				Tcol-MPN=790	01-08-19	Tcol-MPN=3500	02-12-19
				Tcol-MPN=3500	03-09-19	Tcol-MPN=16000	01-01-20
				Tcol-MPN=24000	03-10-19	Tcol-MPN=16000	03-02-20
36	**Chunchunkatte**			DO=5.5	01-08-19	DO=5.8	01-11-19
				Tcol-MPN=1300	01-07-19	DO=5.7	02-12-19
				Tcol-MPN=3300	01-08-19	Tcol-MPN=1700	01-11-19
				Tcol-MPN=5400	03-09-19	Tcol-MPN=2200	02-12-19
				Tcol-MPN=54000	03-10-19	Tcol-MPN=3500	01-01-20
37	**Kudige**	BOD=2.7	02-03-20	DO=5.5	01-06-19	Tcol-MPN=16000	01-11-19
				Tcol-MPN=790	01-06-19	Tcol-MPN=3500	02-12-19
				Tcol-MPN=790	01-07-19	Tcol-MPN=9200	01-01-20
				Tcol-MPN=490	01-08-19	Tcol-MPN=24000	03-02-20
				Tcol-MPN=230	03-09-19		
				Tcol-MPN=24000	01-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) Cauvery Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VII Basin : Pennar

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Nandipalli**			BOD=2.4	22-09-19		
2	**Chennur**	BOD=3.0	02-03-20	DO=5.7	01-10-19		
3	**Alladupalli**			BOD=2.8	03-06-19	BOD=2.8	01-02-20
				BOD=2.6	01-07-19	DO=5.5	02-12-19
				BOD=3.4	16-08-19	DO=5.4	01-01-20
				BOD=3.6	03-09-19		
				BOD=3.4	01-10-19		
				DO=4.0	03-09-19		
4	**Tadipattri**			PH=8.7	04-10-19		
				BOD=2.6	25-09-19		
				BOD=2.6	04-10-19		
5	**Singavaram**			PH=8.6	01-10-19		
				BOD=2.2	01-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) Pennar Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

VIII Basin : East Flowing Rivers from Mahanadi to Pennar

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Gunupur**					DO=4.1	06-01-19
						DO=4.1	07-01-19
						DO=5.2	08-01-19
						DO=4.0	11-01-19
						DO=3.9	02-01-20
2	**Kashinagar**					BOD=2.3	10-01-19
						DO=3.0	06-01-19
						DO=3.0	07-01-19
						DO=5.2	08-01-19
						DO=3.9	09-02-19
						DO=5.5	10-01-19
						DO=3.6	11-01-19
						DO=4.3	12-02-19
						DO=5.7	01-01-20
						DO=5.6	03-02-20
3	**Purushottampur**					DO=4.1	06-01-19
						DO=4.1	07-01-19
						DO=5.0	08-01-19
						DO=4.8	10-01-19
						DO=4.9	11-01-19
						DO=3.7	12-02-19
						DO=5.5	01-01-20
						DO=4.3	02-01-20
						DO=5.2	03-02-20
4	**Srikakulam**					DO=3.8	06-01-19
						DO=4.7	07-01-19
						DO=3.8	08-01-19
						DO=5.3	11-01-19
						DO=5.1	12-02-19
						DO=4.5	01-01-20
						DO=4.5	02-01-20
						DO=4.8	03-02-20
5	**Marella**			PH=8.6	04-09-19	BOD=2.3	03-02-20
				BOD=3.3	04-09-19	DO=5.5	01-11-19
				BOD=2.7	03-10-19	DO=5.9	02-12-19
				DO=4.9	24-07-19	DO=3.6	03-01-20
				DO=4.9	03-10-19	Tcol-MPN=16000	01-11-19
				Tcol-MPN=9000	24-07-19	Tcol-MPN=9000	02-12-19
				Tcol-MPN=5000	04-09-19	Tcol-MPN=9000	03-01-20
				Tcol-MPN=1100	03-10-19	Tcol-MPN=16000	03-02-20

Source: Water Quality Data Book (June 2019 to May 2020) East Flowing Rivers from Mahanadi toPennar.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IX **Basin : East Flowing Rivers from Pennar to Kanyakumari**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Chengalpet**			BOD=2.8	21-08-19	BOD=2.2	02-12-19
				BOD=2.8	03-09-19	BOD=2.8	01-02-20
2	**Arcot**					BOD=4.7	26-11-19
						BOD=3.4	02-12-19
						BOD=4.0	01-01-20
3	**Vazhavachanur**			BOD=2.4	01-10-19	BOD=3.0	07-02-20
4	**Gummanpur**	PH=8.6	03-03-20	BOD=17.8	01-06-19	BOD=9.8	01-11-19
		PH=8.7	11-03-20	BOD=19.7	11-06-19	BOD=13.8	11-11-19
		BOD=17.8	03-03-20	BOD=23.7	01-07-19	BOD=23.7	21-11-19
		BOD=7.8	11-03-20	BOD=15.8	22-07-19	BOD=9.8	02-12-19
		DO=4.4	03-03-20	BOD=19.7	01-08-19	BOD=27.7	11-12-19
		DO=4.8	11-03-20	BOD=7.8	13-08-19	BOD=23.7	21-12-19
		Tcol-MPN=110000	03-03-20	BOD=21.7	21-08-19	BOD=11.8	01-01-20
		Tcol-MPN=79000	11-03-20	BOD=9.8	03-09-19	BOD=13.8	13-01-20
				BOD=9.7	12-09-19	BOD=21.7	21-01-20
				BOD=5.1	21-09-19	DO=4.6	01-11-19
				BOD=19.7	01-10-19	DO=4.4	11-11-19
				BOD=21.7	11-10-19	DO=4.6	21-11-19
				BOD=9.8	21-10-19	DO=4.6	02-12-19
				DO=5.1	01-06-19	DO=4.4	11-12-19
				DO=4.6	11-06-19	DO=4.6	21-12-19
				DO=5.2	01-07-19	DO=4.8	01-01-20
				DO=5.0	22-07-19	DO=4.4	13-01-20
				DO=5.0	01-08-19	DO=4.6	21-01-20
				DO=4.6	13-08-19	Tcol-MPN=130000	01-11-19
				DO=4.8	21-08-19	Tcol-MPN=49000	11-11-19
				DO=4.8	03-09-19	Tcol-MPN=1600000	21-11-19
				DO=4.6	12-09-19	Tcol-MPN=49000	02-12-19
				DO=5.1	21-09-19	Tcol-MPN=140000	11-12-19
				DO=4.8	01-10-19	Tcol-MPN=110000	21-12-19
				DO=4.8	11-10-19	Tcol-MPN=1300000	01-01-20
				DO=4.8	21-10-19	Tcol-MPN=70000	13-01-20
				Tcol-MPN=94000	01-06-19	Tcol-MPN=70000	21-01-20
				Tcol-MPN=11000	11-06-19		
				Tcol-MPN=32000	01-07-19		
				Tcol-MPN=17000	22-07-19		
				Tcol-MPN=17000	01-08-19		
				Tcol-MPN=7800	13-08-19		
				Tcol-MPN=33000	21-08-19		
				Tcol-MPN=21000	03-09-19		
				Tcol-MPN=170000	12-09-19		
				Tcol-MPN=11000	21-09-19		
				Tcol-MPN=920000	01-10-19		
				Tcol-MPN=17000	11-10-19		
				Tcol-MPN=13000	21-10-19		
5	**Naidupeta**					BOD=4.0	02-12-19
6	**Sulurpet**			BOD=3.4	23-10-19	BOD=4.2	01-12-19

Contd/…..

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IX **Basin : East Flowing Rivers from Pennar to Kanyakumari**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7	**Singasadanapalli**	BOD=155.3	02-03-20	BOD=19.7	01-06-19	BOD=29.7	01-11-19
		BOD=125.4	11-03-20	BOD=19.7	11-06-19	BOD=41.7	11-11-19
		BOD=191.2	21-03-20	BOD=21.7	21-06-19	BOD=35.7	21-11-19
		DO=0.0	02-03-20	BOD=29.7	01-07-19	BOD=41.7	02-12-19
		DO=0.0	11-03-20	BOD=43.7	11-07-19	BOD=53.6	11-12-19
		DO=0.0	21-03-20	BOD=47.7	22-07-19	BOD=47.7	21-12-19
		Tcol-MPN=16000000	02-03-20	BOD=27.7	01-08-19	BOD=95.5	01-01-20
		Tcol-MPN=16000000	11-03-20	BOD=27.7	13-08-19	BOD=101.5	13-01-20
		Tcol-MPN=5400000	21-03-20	BOD=55.6	21-08-19	BOD=59.6	21-01-20
				BOD=25.7	03-09-19	BOD=63.6	01-02-20
				BOD=49.6	12-09-19	BOD=43.7	11-02-20
				BOD=75.6	21-09-19	BOD=75.6	21-02-20
				BOD=35.7	01-10-19	DO=0.0	01-11-19
				BOD=35.7	11-10-19	DO=0.0	11-11-19
				BOD=41.7	21-10-19	DO=0.0	21-11-19
				DO=0.0	01-06-19	DO=0.0	02-12-19
				DO=0.0	11-06-19	DO=0.0	11-12-19
				DO=0.0	21-06-19	DO=0.0	21-12-19
				DO=0.0	01-07-19	DO=0.0	01-01-20
				DO=0.0	11-07-19	DO=0.0	13-01-20
				DO=0.0	22-07-19	DO=0.0	21-01-20
				DO=0.0	01-08-19	DO=0.0	01-02-20
				DO=0.0	13-08-19	DO=0.0	11-02-20
				DO=0.0	21-08-19	DO=0.0	21-02-20
				DO=0.0	03-09-19	Tcol-MPN=5400000	01-11-19
				DO=0.0	12-09-19	Tcol-MPN=5400000	11-11-19
				DO=0.0	21-09-19	Tcol-MPN=16000000	21-11-19
				DO=0.0	01-10-19	Tcol-MPN=2200000	02-12-19
				DO=0.0	11-10-19	Tcol-MPN=16000000	11-12-19
				DO=0.0	21-10-19	Tcol-MPN=16000000	21-12-19
				Tcol-MPN=540000	01-06-19	Tcol-MPN=16000000	01-01-20
				Tcol-MPN=130000	11-06-19	Tcol-MPN=9200000	13-01-20
				Tcol-MPN=170000	21-06-19	Tcol-MPN=480000	21-01-20
				Tcol-MPN=94000	01-07-19	Tcol-MPN=16000000	01-02-20
				Tcol-MPN=110000	11-07-19	Tcol-MPN=3500000	11-02-20
				Tcol-MPN=920000	22-07-19	Tcol-MPN=5400000	21-02-20
				Tcol-MPN=27000	01-08-19		
				Tcol-MPN=94000	13-08-19		
				Tcol-MPN=14000	21-08-19		
				Tcol-MPN=5400000	03-09-19		
				Tcol-MPN=16000000	12-09-19		
				Tcol-MPN=240000	21-09-19		
				Tcol-MPN=2800000	01-10-19		
				Tcol-MPN=390000	11-10-19		
				Tcol-MPN=16000000	21-10-19		
8	**Theni**			BOD=2.4	12-07-19	Tcol-MPN=92000	01-11-19
				DO=4.7	12-07-19	Tcol-MPN=35000	02-12-19
				Tcol-MPN=11000	13-06-19	Tcol-MPN=54000	03-01-20
				Tcol-MPN=3900	12-07-19	Tcol-MPN=7900	01-02-20
				Tcol-MPN=4100	01-08-19		
				Tcol-MPN=7900	03-09-19		
				Tcol-MPN=54000	01-10-19		

Contd/…..

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

IX Basin : East Flowing Rivers from Pennar to Kanyakumari

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
9	**Ambasamudram**			BOD=3.6	01-10-19	Tcol-MPN=35000	01-11-19
				Tcol-MPN=160000	01-10-19	Tcol-MPN=92000	02-12-19
						Tcol-MPN=35000	03-01-20
10	**Murappanadu**	Tcol-MPN=7000	03-03-20	BOD=4.2	01-07-19	DO=5.6	01-11-19
		Tcol-MPN=16000	22-05-20	BOD=2.2	01-08-19	DO=5.7	02-12-19
				DO=5.9	01-06-19	DO=5.6	01-01-20
				DO=5.6	01-08-19	DO=5.6	01-02-20
				DO=5.9	01-10-19	Tcol-MPN=17000	01-11-19
				Tcol-MPN=3300	01-06-19	Tcol-MPN=17000	02-12-19
				Tcol-MPN=1200	01-07-19	Tcol-MPN=24000	01-01-20
				Tcol-MPN=2300	01-08-19	Tcol-MPN=1700	01-02-20
				Tcol-MPN=3300	03-09-19		
				Tcol-MPN=35000	01-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) East Flowing Rivers from Mahanadi to Kanyakumari . .

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

X Basin : Narmada

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Orasang at Chandwada**			BOD=3.5	01-08-19	DO=5.6	01-11-19
2	**Narmada at Garudeshwar**			BOD=2.4	03-06-19	BOD=2.2	02-12-19
				BOD=2.9	01-07-19		
3	**Narmada at Mandleshwar**			DO=4.9	03-06-19	BOD=2.9	01-11-19
				DO=2.4	01-07-19	BOD=4.1	02-12-19
				DO=5.2	01-08-19	DO=4.0	01-11-19
				DO=5.8	03-09-19	DO=5.9	03-02-20
				DO=5.9	03-10-19		
4	**Kundi at Kogaon**			DO=5.1	03-06-19	DO=5.9	01-11-19
				DO=5.3	01-07-19		
				DO=5.9	01-08-19		
				DO=5.3	03-09-19		
5	**Narmada at Handia**	DO=5.6	02-03-20	DO=4.6	03-06-19	DO=5.9	01-11-19
				DO=4.9	01-08-19		
				DO=5.6	03-09-19		
				DO=5.8	03-10-19		
6	**Ganjal at Chhidgaon**			DO=3.5	03-06-19		
				DO=3.3	01-07-19		
				DO=5.7	03-09-19		
				DO=5.9	03-10-19		
7	**Narmada at Hoshangabad**			DO=4.7	03-06-19		
				DO=5.9	01-07-19		
				DO=4.7	01-08-19		
				DO=5.7	03-09-19		
				DO=5.7	03-10-19		

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

X	Basin : Narmada						
Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
8	Narmada at Sandia	DO=5.6 DO=5.8	02-03-20 05-05-2020	DO=5.2 DO=5.8 DO=5.6 DO=5.1 DO=5.7	03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	DO=4.7	02-12-19
9	Shakker at Gadarwara			DO=2.2 DO=4.7 DO=4.2 DO=5.9	01-07-19 01-08-19 03-09-19 03-10-19		
10	Narmada at Barman			DO=5.2 DO=5.7 DO=5.3 DO=5.8	03-06-19 01-07-19 01-08-19 03-10-19		
11	Sher at Bhelkheri	BOD=3.8 DO=4.4	05-05-2020 05-05-2020	DO=4.7 DO=3.0 DO=5.0 DO=5.7 DO=5.9	03-06-19 01-07-19 01-08-19 03-09-19 03-10-19		
12	Hiran at Patan	BOD=3.4 DO=5.6	02-03-20 02-03-20	BOD=4.3 DO=1.4 DO=5.8 DO=3.9 DO=3.7 DO=5.0	01-07-19 03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	BOD=2.3 BOD=2.6 BOD=2.8 DO=3.9 DO=5.6 DO=5.5 DO=4.1	02-12-19 01-01-20 03-02-20 01-11-19 02-12-19 01-01-20 03-02-20
13	Banjar at Bamni			DO=5.6 DO=5.2 DO=5.7	01-08-19 03-09-19 03-10-19		
14	Mohgaon	DO=5.6	02-03-20	DO=3.6 DO=4.4 DO=5.5 DO=5.8	03-06-19 01-07-19 01-08-19 03-09-19		
15	Narmada at Manot	DO=5.9	02-03-20	DO=2.8 DO=4.2 DO=5.5 DO=5.2 DO=5.6	03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	DO=5.9	01-11-19
16	Narmada at Dindori	DO=2.7 DO=3.8	02-03-20 05-05-2020	DO=4.5 DO=3.9 DO=4.4 DO=5.2 DO=4.3	03-06-19 01-07-19 01-08-19 03-09-19 03-10-19	DO=4.8	03-02-20
17	Narmada at Mandla	DO=5.4	05-05-2020				

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

X Basin : Narmada

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
18	Gaur at Bhalwara	BOD=3.2	02-03-20	BOD=3.2	01-07-19	DO=5.0	03-02-20
				BOD=2.2	03-10-19		
				DO=2.1	03-06-19		
				DO=5.3	01-07-19		
				DO=5.6	01-08-19		
				DO=5.9	03-09-19		
				DO=2.4	03-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) Narmada Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XI Basin : Tapi

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Burhanpur	BOD=4.3	02-03-19	BOD=3.1	01-07-19	BOD=2.8	01-11-19
		BOD=4.0	01-05-19	BOD=2.3	03-10-19	BOD=2.7	02-12-19
		DO=4.4	01-05-19	DO=5.1	01-07-19	BOD=2.9	03-02-19
2	Sarangkheda	BOD=2.6	01-05-20			BOD=3.0	01-11-19
		BOD=2.8	21-05-19				
		DO=5.6	11-05-19				
		DO=5.4	21-05-19				
						BOD=3.5	01-11-19
3	Gopalkheda	BOD=2.7	02-03-20	BOD=2.9	03-09-19	BOD=3.3	02-12-19
		DO=5.5	02-03-20	DO=5.4	03-10-19	BOD=3.8	01-01-20
						BOD=4.9	03-02-20

Source: Water Quality Data Book (June 2019 to May 2020) Tapi Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XII Basin : West Flowing Rivers from Tapi to Tadri

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Badlapur	Tcol-MPN=90000	03/03/2020	DO=4.6	03-07-19	Tcol-MPN=8000	06-11-19
				Tcol-MPN=5000	05-06-19	Tcol-MPN=11000	04-12-19
				Tcol-MPN=160000	03-07-19	Tcol-MPN=8000	02-01-20
				Tcol-MPN=17000	08-08-19	Tcol-MPN=22000	04-02-20
				Tcol-MPN=90000	04-09-19		
				Tcol-MPN=24000	04-10-19		
2	Mangaon			DO=5.7	03-07-19	DO=5.9	06-11-19
				DO=5.4	05-09-19	Tcol-MPN=17000	06-11-19
				DO=5.6	04-10-19		
				Tcol-MPN=17000	03-07-19		
				Tcol-MPN=2700	06-08-19		
				Tcol-MPN=13000	05-09-19		
				Tcol-MPN=30000	04-10-19		
3	Nagothane			Tcol-MPN=5000	04-06-19	Tcol-MPN=8000	06-11-19
				Tcol-MPN=7000	03-07-19		
				Tcol-MPN=14000	06-08-19		
				Tcol-MPN=13000	05-09-19		
				Tcol-MPN=17000	04-10-19		

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XII **Basin : West Flowing Rivers from Tapi to Tadri**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
4	Pen			Tcol-MPN=30000	04-06-19	Tcol-MPN=7000	06-11-19
				Tcol-MPN=50000	03-07-19		
				Tcol-MPN=17000	06-08-19		
				Tcol-MPN=30000	05-09-19		
				Tcol-MPN=50000	04-10-19		
5	Muradpur			Tcol-MPN=1600000	04-07-19	Tcol-MPN=3000	05-11-19
				Tcol-MPN=50000	13-08-19		
				Tcol-MPN=90000	03-09-19		
				Tcol-MPN=11000	03-10-19		
6	Belne Bridge			Tcol-MPN=16000	01-07-19	DO=5.6	01-11-19
				Tcol-MPN=1700	01-08-19	DO=5.5	03-02-20
				Tcol-MPN=790	03-09-19	Tcol-MPN=2400	01-11-19
				Tcol-MPN=3900	03-10-19	Tcol-MPN=3500	02-12-19
						Tcol-MPN=5400	01-01-20
						Tcol-MPN=3900	03-02-20

Source: Water Quality Data Book (June 2019 to May 2020) West Flowing Rivers from Tapi to Tadri Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XIII **Basin : West Flowing Rivers from Tadri to Kanyakumari**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Kuniyil			DO=5.4	01-10-19	DO=5.9	02-12-19
2	Pulamanthole			DO=5.7	01-10-19		
3	Ambarampalayam	Tcol-MPN=24000	02-03-20	Tcol-MPN=1700	01-06-19	Tcol-MPN=11000	01-11-19
		Tcol-MPN=7900	25-04-20	Tcol-MPN=370	01-07-19	Tcol-MPN=11000	02-12-19
		Tcol-MPN=14000	19-05-20	Tcol-MPN=2400	01-08-19	Tcol-MPN=24000	01-01-20
				Tcol-MPN=35000	03-09-19	Tcol-MPN=2700	01-02-20
				Tcol-MPN=4600	01-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) West Flowing Rivers from Tadri to Kanyakumari Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XIV **Basin : Mahi**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Mataji	Tcol-MPN=330	02-03-20	BOD=2.1	01-06-19	Tcol-MPN=700	01-11-19
		Tcol-MPN=130	03-05-20	BOD=2.7	01-08-19	Tcol-MPN=500	02-12-19
		Tcol-MPN=170	13-05-20	DO=5.4	01-07-19	Tcol-MPN=500	01-01-20
		Tcol-MPN=68	23-05-20	Tcol-MPN=230	01-06-19	Tcol-MPN=170	01-02-20
				Tcol-MPN=330	01-07-19		
				Tcol-MPN=3500	01-08-19		
				Tcol-MPN=5400	03-09-19		
				Tcol-MPN=9200	01-10-19		

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XIV Basin : Mahi

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2	**Khanpur**	PH=8.7	02-03-20	PH=8.7	01-06-19	Tcol-MPN=16000	01-11-19
		Tcol-MPN=700	02-03-20	BOD=2.4	03-09-19	Tcol-MPN=110	02-12-19
		Tcol-MPN=340	01-05-20	DO=5.6	01-08-19	Tcol-MPN=220	01-01-20
		Tcol-MPN=270	11-05-20	Tcol-MPN=80	01-06-19	Tcol-MPN=170	01-02-20
		Tcol-MPN=110	22-05-20	Tcol-MPN=1400	01-08-19		
				Tcol-MPN=700	03-09-19		
				Tcol-MPN=270	01-10-19		
3	**Rangeli**	BOD=2.1	11-05-20	BOD=3.9	01-06-19	BOD=2.3	01-11-19
		BOD=2.3	21-05-20	BOD=2.9	01-07-19	Tcol-MPN=110	01-02-20
		Tcol-MPN=270	02-03-20	BOD=2.1	01-08-19		
		Tcol-MPN=120	01-05-20	BOD=3.0	03-09-19		
		Tcol-MPN=68	11-05-20	BOD=3.5	01-10-19		
				DO=4.2	01-06-19		
				DO=4.5	01-07-19		
				Tcol-MPN=300	01-06-19		
				Tcol-MPN=110	01-07-19		
				Tcol-MPN=2200	01-08-19		
				Tcol-MPN=210	03-09-19		
				Tcol-MPN=9200	01-10-19		
4	**Paderdibadi**	PH=8.6	03-03-20	BOD=2.1	01-06-19	BOD=4.3	01-02-20
		BOD=2.1	21-05-20	BOD=2.5	03-09-19	Tcol-MPN=210	01-11-19
		Tcol-MPN=3500	03-03-20	BOD=2.5	01-10-19	Tcol-MPN=500	02-12-19
		Tcol-MPN=170	01-05-20	DO=3.7	01-06-19	Tcol-MPN=210	01-01-20
		Tcol-MPN=170	11-05-20	Tcol-MPN=800	01-06-19	Tcol-MPN=130	01-02-20
		Tcol-MPN=68	21-05-20	Tcol-MPN=2400	01-07-19		
				Tcol-MPN=3500	01-08-19		
				Tcol-MPN=5400	03-09-19		
				Tcol-MPN=2200	01-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) Mahi Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XV Basin : Sabarmati

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Derol Bridge**			BOD=2.8	01-10-19	Tcol-MPN=790	01-11-19
				Tcol-MPN=270	03-09-19	Tcol-MPN=3000	02-12-19
				Tcol-MPN=16000	01-10-19	Tcol-MPN=80	01-01-20
2	**Vautha**	BOD=22.5	02-03-20	BOD=21.1	01-06-19		
		BOD=36.4	02-03-20	BOD=23.8	11-06-19		
		BOD=30.5	11-03-20	BOD=20.3	21-06-19		
		Tcol-MPN=79000	02-03-20	BOD=33.6	01-07-19		
		Tcol-MPN=240000	02-03-20	BOD=21.9	11-07-19		
		Tcol-MPN=130000	11-03-20	BOD=23.8	21-07-19		
				BOD=18.8	01-08-19		
				BOD=3.4	13-08-19		
				BOD=9.9	21-08-19		
				BOD=5.7	03-09-19		
				BOD=10.5	11-09-19		

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XV Basin : Sabarmati

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2	**Vautha**			BOD=6.6	23-09-19		
				BOD=22.9	14-10-19		
				BOD=26.4	21-10-19		
				DO=0.0	01-06-19		
				DO=0.0	11-06-19		
				DO=0.0	21-06-19		
				DO=0.0	01-07-19		
				DO=0.0	11-07-19		
				DO=0.0	21-07-19		
				DO=0.0	01-08-19		
				DO=3.8	13-08-19		
				DO=2.0	21-08-19		
				DO=5.9	03-09-19		
				DO=0.7	11-09-19		
				DO=3.0	23-09-19		
				DO=0.0	14-10-19		
				DO=0.0	21-10-19		
				Tcol-MPN=23000	01-06-19		
				Tcol-MPN=30000	11-06-19		
				Tcol-MPN=110000	21-06-19		
				Tcol-MPN=80000	01-07-19		
				Tcol-MPN=50000	11-07-19		
				Tcol-MPN=17000	21-07-19		
				Tcol-MPN=220000	01-08-19		
				Tcol-MPN=110000	13-08-19		
				Tcol-MPN=140000	21-08-19		
				Tcol-MPN=160000	03-09-19		
				Tcol-MPN=33000	11-09-19		
				Tcol-MPN=350000	23-09-19		
				Tcol-MPN=92000	01-10-19		
				Tcol-MPN=17000	14-10-19		
				Tcol-MPN=350000	21-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) Sabarmati Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XVI Basin : WFR of Kutch, Saurashtra Including Luni

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**Ganod**	BOD=2.7	01-05-20	PH=8.6	01-08-19	BOD=2.1	01-11-19
		BOD=3.2	11-05-20	PH=9.1	03-09-19	BOD=2.4	01-01-20
		BOD=3.4	21-05-20	BOD=6.0	01-06-19	Tcol-MPN=2200	02-12-19
		Tcol-MPN=220	02-03-20	BOD=3.5	01-07-19	Tcol-MPN=800	01-01-20
		Tcol-MPN=270	01-05-20	BOD=2.0	01-08-19	Tcol-MPN=790	02-02-20
		Tcol-MPN=220	11-05-20	BOD=3.3	03-09-19		
		Tcol-MPN=490	21-05-20	BOD=3.8	01-10-19		
				Tcol-MPN=130	01-06-19		
				Tcol-MPN=500	01-07-19		
				Tcol-MPN=800	01-08-19		
				Tcol-MPN=220	03-09-19		
				Tcol-MPN=2400	01-10-19		

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits for Class-A by Season during 2019-2020

XVI **Basin : WFR of Kutch, Saurashtra Including Luni**

Sl. No.	Site Name	Summer March to May		Monsoon June to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2	**Lowara**			BOD=2.3	03-09-19	Tcol-MPN=130	01-11-19
				Tcol-MPN=9000	01-07-19	Tcol-MPN=130	02-12-19
				Tcol-MPN=1300	01-08-19	Tcol-MPN=90	01-01-20
				Tcol-MPN=1700	03-09-19	Tcol-MPN=68	01-02-20
				Tcol-MPN=1300	01-10-19		
3	**Chitrasani**	Tcol-MPN=220	02-03-20	DO=5.2	03-09-19	Tcol-MPN=230	02-12-19
				Tcol-MPN=330	03-09-19	Tcol-MPN=340	01-01-20
				Tcol-MPN=3500	01-10-19	Tcol-MPN=78	01-02-20
4	**Abu Road**	BOD=3.5	01-05-20	BOD=5.0	01-08-19	BOD=3.9	01-02-20
		BOD=4.0	11-05-20	DO=5.4	01-08-19	DO=5.7	01-11-19
		BOD=3.8	21-05-20	Tcol-MPN=1100	01-08-19	Tcol-MPN=330	01-11-19
		Tcol-MPN=330	02-03-20	Tcol-MPN=330	03-09-19	Tcol-MPN=1700	02-12-19
		Tcol-MPN=93	01-05-20	Tcol-MPN=700	01-10-19	Tcol-MPN=130	01-01-20
		Tcol-MPN=68	11-05-20			Tcol-MPN=330	01-02-20
		Tcol-MPN=330	21-05-20				
5	**Kamalpur**			BOD=2.8	03-09-19		
				BOD=2.4	01-10-19		
				Tcol-MPN=230	03-09-19		
				Tcol-MPN=3500	01-10-19		
6	**Pimgalwada**			BOD=27.2	01-06-19		
				BOD=29.1	11-06-19		
				BOD=34.9	21-06-19		
				BOD=9.1	01-07-19		
				BOD=6.7	11-07-19		
				BOD=15.4	22-07-19		
				BOD=5.8	01-08-19		
				BOD=4.3	13-08-19		
				BOD=6.3	21-08-19		
				BOD=3.4	03-09-19		
				BOD=4.5	11-09-19		
				BOD=6.8	21-09-19		
				BOD=5.9	04-10-19		
				BOD=19.4	11-10-19		
				BOD=15.6	21-10-19		
				DO=0.0	01-06-19		
				DO=0.0	11-06-19		
				DO=0.0	21-06-19		
				DO=2.2	01-07-19		
				DO=1.7	11-07-19		
				DO=2.4	22-07-19		
				DO=3.5	01-08-19		
				DO=2.4	21-08-19		
				DO=4.3	03-09-19		
				DO=3.3	21-09-19		
				DO=2.7	04-10-19		
				DO=1.1	11-10-19		
				DO=0.5	21-10-19		

Source: Water Quality Data Book (June 2019 to May 2020) WFR of Kutch, Saurashtra Including Luni.

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

I : Mahanadi

Sl. No.	Parameter	Parmanpur		Rajim		Manendragarh		Bamnidhi		Sundergarh		Rampur	
		Mahanadi		Mahanadi		Hasdeo		Hasdeo		Ib		Jonk	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	1026	0.000	217.32	0	1578.44	2.99	1716	0.000	959.7	0.000
2	Temperature (oC)	29.5	17	31.50	20.50	27.7	22.8	31.5	20.5	30.0	18.0	28	17
3	pH_GEN	7.65	7.34	8.0	7.4	7.96	7.22	8.33	7.24	7.8	7.0	7.7	7.1
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	-	-	-	-	-	-	-	-	-	-	-	-
6	Sodium (Na)	-	-	-	-	-	-	-	-	-	-	-	-
7	Calcium (Ca)	40.08	14.71	35	8	14.71	9.62	34.35	16.18	34	6	37	19
8	Magnesium (Mg)	29.35	8.03	79.1	2.1	15.67	5.17	19.1	11.24	23.8	6.3	24.8	11.7
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	0.0	0.0	0.00	0.00	2.96	0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	156.46	53.48	151	63	78.57	48.62	140.82	83.34	146	19	188	88
14	Chloride (CL)	36.36	15.09	33.9	5.7	33.92	9.43	51.77	9.43	30.9	5.7	29.1	7.6
15	Fluoride (F)	-	-	-	-	-	-	-	-	-	-	-	-
16	Sulphate (SO4)	-	-	-	-	-	-	-	-	-	-	-	-
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-	-	-	-	-	-	-
19	Nitrite (NO2-N)	-	-	-	-	-	-	-	-	-	-	-	-
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	-	-	-	-	-	-	-	-	-	-	-	-
22	DO (Dissolved Oxygen)	6.8	5.1	7.0	4.7	5.8	5	7.2	4.2	7.4	4.8	7.0	4.6
23	BOD3-27 (Biochemical Oxygen Demand)	1.8	0.7	1.2	0.1	0.7	0.1	1.2	0.1	1.6	0.1	1.8	0.1
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	-	-	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	240.38	81.37	349	63	94.84	56.13	164	87	185	44	197	104
40	Na % (Sodium Percentage)	-	-	-	-	-	-	-	-	-	-	-	-
41	SAR (Sodium Adsorption Ratio)	-	-	-	-	-	-	-	-	-	-	-	-
42	RSC (Residual Sodium Carbonate)	-	-	0.1	0.0	-	-	0.00	0.00	0.2	0.0	0.0	0.0

Source: Water Quality Year Book (Mahanadi Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	I : Mahanadi											
Sl.	Parameter	Kelo at Raigarh		Salebhata		Baronda		Andhiyakhor		Pathardihi		Kotni	
No.		Kelo		Ong		Pairi		Hamp		kharun		Seonath	
(I)	(II)	(7)		(8)		(9)		(10)		(11)		(12)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	26.96	0.77	2137	0.000	690.6	0.000	196.5	0.000	299.5	0.000	1085	0.000
2	Temperature (oC)	32	18	31.7	20.1	27.5	12.0	30.0	18.1	29.0	26.3	29.0	19.5
3	pH_GEN	7.89	7.32	7.8	7.3	7.8	7.1	8.2	7.0	7.8	7.5	8.3	7.5
4	Specific Conductance												
5	Potassium (K)												
6	Sodium (Na)												
7	Calcium (Ca)	46.02	10.3	39	11	21	6	54	22	46	35	36	19
8	Magnesium (Mg)	28.45	8.21	26.8	10.3	23.8	6.2	49.3	16.1	32.1	25.3	29.0	11.9
9	Aluminium (Al)												
10	Iron (Fe)												
11	Ammonia (NH3-N)												
12	Carbonate (CO3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0
13	Bicarbonate (HCO3)	136.14	52.38	219	94	125	53	329	88	162	156	156	93
14	Chloride (CL)	39.28	11.76	32.7	7.6	26.8	7.5	65.4	18.9	71.4	30.2	29.1	9.4
15	Fluoride (F)												
16	Sulphate (SO4)												
17	Sulphite (SO3)												
18	Nitrate (NO3-N)												
19	Nitrite (NO2-N)												
20	Phosphate (PO4)												
21	Silica (Sio2)												
22	DO (Dissolved Oxygen)	7	3.6	7.2	4.6	7.0	4.6	6.8	3.4	5.8	3.2	7.2	3.8
23	BOD3-27 (Biochemical Oxygen	1.8	0.5	1.6	0.1	1.4	0.1	2.6	0.7	3.8	1.6	2.0	0.3
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	-	-	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	-	-	200	87	124	63	313	127	249	194	209	98
40	Na % (Sodium Percentage)	-	-	-	-	-	-	-	-	-	-	-	-
41	SAR (Sodium Adsorption Ratio)	-	-	-	-	-	-	-	-	-	-	-	-
42	RSC (Residual Sodium Carbonate)	-	-	0.4	0.0	0.1	0.0	0.7	0.0	0.0	0.0	0.0	0.0

Source: Water Quality Year Book (Mahanadi Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	I : Mahanadi											
Sl.	Parameter	Simga		Jondhra		Kesinga		Seorinarayan		Kurubhata		Basantpur	
No.		Seonath		Seonath		Tel		Mahanadi		Mand		Mahanadi	
(I)	(II)	(13)		(14)		(15)		(16)		(17)		(18)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1451.04	0	4309	0.000	3036	18.55	9195	0.000	1668	0.000	9524	0.000
2	Temperature (oC)	30	19	28.5	19.0	31.0	21.0	30.3	22.2	32.0	17.5	33.6	12.0
3	pH_GEN	7.88	7.52	7.9	7.3	8.4	7.5	8.5	7.3	7.8	7.3	7.8	6.9
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	-	-	-	-	-	-	-	-	-	-	-	-
6	Sodium (Na)	-	-	-	-	-	-	-	-	-	-	-	-
7	Calcium (Ca)	50	29	37	19	40	12	42	14	27	7	33	18
8	Magnesium (Mg)	35.6	19.6	34.4	13.2	32.5	12.1	40.0	14.6	22.4	5.4	25.7	9.1
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0.0	0.0	0.0	0.0	2.6	0.0	2.6	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	224	131	219	110	178	65	186	97	146	37	172	73
14	Chloride (CL)	41.8	7.6	46.4	7.6	32.7	2.0	35.7	11.3	35.7	5.7	30.9	7.6
15	Fluoride (F)	-	-	-	-	-	-	-	-	-	-	-	-
16	Sulphate (SO4)	-	-	-	-	-	-	-	-	-	-	-	-
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-	-	-	-	-	-	-
19	Nitrite (NO2-N)	-	-	-	-	-	-	-	-	-	-	-	-
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	-	-	-	-	-	-	-	-	-	-	-	-
22	DO (Dissolved Oxygen)	7.2	3.8	7.4	4.0	7.4	4.4	7.2	4.1	7.2	4.7	7.0	4.2
23	BOD3-27 (Biochemical Oxygen	1.4	0.1	1.6	0.5	2.2	0.1	1.8	0.1	2.0	0.1	1.8	0.2
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	-	-	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	248	155	236	103	228	82	232	112	153	41	182	82
40	Na % (Sodium Percentage)												
41	SAR (Sodium Adsorption Ratio)												
42	RSC (Residual Sodium Carbonate)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Water Quality Year Book (Mahanadi Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	I : Mahanadi											
Sl.	Parameter	Tikarpara		Gunderdehi		Boudh		Padampur		Kalma		Kantamal	
No.		Mahanadi		Tandula		Mahanadi		Ong		Mahanadi		Tel	
(I)	(II)	(19)		(20)		(21)		(22)		(23)		(24)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	21700	15.27	316.6	0.000	31202	142.5	746.0	0.000	10184	3.355	8000	41.53
2	Temperature (oC)	32.0	19.5	30.5	17.0	33.0	20.4	29.0	18.0	31.5	23.5	32.5	27.3
3	pH_GEN	7.7	7.1	8.5	7.5	8.0	7.3	7.9	7.4	8.4	7.3	8.0	7.3
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	13.2	0.2	-	-	-	-	-	-	-	-	-	-
6	Sodium (Na)	51.9	3.6	-	-	-	-	-	-	-	-	-	-
7	Calcium (Ca)	33	13	32	17	29	18	34	15	42	18	22	9
8	Magnesium (Mg)	12.4	0.9	34.6	17.7	32.5	12.7	32.2	11.6	37.2	11.8	23.8	12.3
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0
13	Bicarbonate (HCO3)	141	51	256	131	162	63	162	84	193	89	125	71
14	Chloride (CL)	70.0	13.1	79.2	18.9	32.1	5.7	32.7	11.3	34.5	9.4	28.6	5.9
15	Fluoride (F)	0.22	0.20	-	-	-	-	-	-	-	-	-	-
16	Sulphate (SO4)	-	-	-	-	-	-	-	-	-	-	-	-
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-	-	-	-	-	-	-
19	Nitrite (NO2-N)	-	-	-	-	-	-	-	-	-	-	-	-
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	-	-	-	-	-	-	-	-	-	-	-	-
22	DO (Dissolved Oxygen)	5.8	3.0	7.0	2.6	7.2	4.8	7.0	4.8	7.2	4.2	7.0	4.6
23	BOD3-27 (Biochemical Oxygen	1.5	0.5	3.2	0.5	1.9	0.7	1.6	0.5	2.2	0.7	2.4	0.1
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.03	0.03	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	94	42	221	140	203	97	206	85	243	93	149	85
40	Na % (Sodium Percentage)	66	11	-	-	-	-	-	-	-	-	-	-
41	SAR (Sodium Adsorption Ratio)	3.5	0.2	-	-	-	-	-	-	-	-	-	-
42	RSC (Residual Sodium Carbonate)	0.7	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Water Quality Year Book (Mahanadi Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	I : Mahanadi		
Sl. No.	Parameter	Kalma Mahanadi	
(I)	(II)	(25)	
		Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1452	0.000
2	Temperature (oC)	30.3	18.3
3	pH_GEN	8.6	7.3
4	Specific Conductance	-	-
5	Potassium (K)	-	-
6	Sodium (Na)	-	-
7	Calcium (Ca)	52	10
8	Magnesium (Mg)	76.5	9.1
9	Aluminium (Al)	-	-
10	Iron (Fe)	-	-
11	Ammonia (NH3-N)	-	-
12	Carbonate (CO3)	9.5	0.0
13	Bicarbonate (HCO3)	548	68
14	Chloride (CL)	158.4	5.7
15	Fluoride (F)	-	-
16	Sulphate (SO4)	-	-
17	Sulphite (SO3)	-	-
18	Nitrate (NO3-N)	-	-
19	Nitrite (NO2-N)	-	-
20	Phosphate (PO4)	-	-
21	Silica (Sio2)	-	-
22	DO (Dissolved Oxygen)	6.8	0.0
23	BOD3-27 (Biochemical Oxygen	3.5	0.5
24	Total Coliform (No. per 100 ml)	-	-
25	Faecal Coliform (No. per 100 ml)	-	-
26	Total plate count (No. per 100 ml)	-	-
27	Phytoplankton (No. per ml)	-	-
28	Zooplankton (No. per Litre)	-	-
29	Arsenic (ppm) (As)	-	-
30	Boron (ppm) (B)	-	-
31	Cadmium (Cd)	-	-
32	Chromium (Cr)	-	-
33	Copper (Cu)	-	-
34	Cyanide (Cn)	-	-
35	Lead (Pb)	-	-
36	Manganese (Mn)	-	-
37	Mercury (Hg)	-	-
38	Zinc (Zn)	-	-
39	Total Hardness (HAR _ Total)	436	64
40	Na % (Sodium Percentage)	-	-
41	SAR (Sodium Adsorption Ratio)	-	-
42	RSC (Residual Sodium Carbonate)	1.0	0.0

Source: Water Quality Year Book (Mahanadi Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

II : Subernarekha

Sl. No.	Parameter	Muri Subernarekha		Adityapur Kharkhai		Jamshedpur Subernarekha		Ghatshila Subernarekha		Jamsholaghat Subernarekha		Ghatsila Road Bridge Subernarekha	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-	-	-	-	-	-	-
2	Temperature (oC)	31.5	22.4	31	17.0	30.5	20.1	33.5	19	31.5	12.3	33.5	19
3	pH_GEN	8.2	7.3	7.7	7.1	8.1	6.7	8.1	7.1	7.9	7.2	8	7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	38.7	0.3	9.9	0.80	9.2	0.90	25	0.2	18.8	0.5	21.4	0.7
6	Sodium (Na)	112.4	12.9	101.4	6.8	49.4	7.60	28.9	1.4	118.7	4.6	133.6	5.2
7	Calcium (Ca)	33	17	54	13	38	13	60	16	44	16	47	17
8	Magnesium (Mg)	10.5	2	9.5	1.9	11.4	2.8	11.2	2.8	8.6	1.9	17.1	2
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	219	11	199	11	149	58	149	85	157	61	147	68
14	Chloride (CL)	61.2	30	75.8	12.3	51.1	14.7	137.8	12.5	38	15.6	56.2	13.2
15	Fluoride (F)	0.58	0.23	0.6	0.11	0.29	0.26	0.71	0.68	0.7	0.19	0.68	0.35
16	Sulphate (SO4)	36.2	3	52.2	1.80	36.7	8.2	33.5	4.1	27.9	10.3	31.4	4.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-	-	-	-	-	-	-
19	Nitrite (NO2-N)	-	-	-	-	-	-	-	-	-	-	-	-
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	7.5	7.5	8.5	8.5	8.2	8.2	8.8	8.8	7.5	7.5	9.2	9.2
22	DO (Dissolved Oxygen)	6.7	2.7	6.7	0.8	5.7	2.9	6.4	1.7	6.8	3.3	5.7	2.3
23	BOD3-27 (Biochemical Oxygen	2.7	0.6	2.7	0.2	1.7	0.6	2.6	0.6	1.7	0.6	1.4	0.4
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.10	0.10	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	102	63	174	47	109	82	172	86	122	47	145	55
40	Na % (Sodium Percentage)	67	28	58	15	48.00	16.00	41	2	64	11	66	12
41	SAR (Sodium Adsorption Ratio)	5.80	0.70	3.60	0.30	2.1	0.4	1.4	0.1	4.7	0.2	5.3	0.2
42	RSC (Residual Sodium Carbonate)	1.8	0.0	0.6	0.0	0.4	0.0	0.5	0	0.0	0.0	0.4	0

Source: Water Quality Year Book (Subernarekha Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

II	Basin : Subernarekha						
Sl.	Parameter	Baridhi Nala		Kulpatanga		Govindpur	
No.		Baridhi Nala		Kharkhai		Burhabalang	
(I)	(II)	(7)		(8)		(9)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-
2	Temperature (oC)	31	24	33.0	18	29	12.5
3	pH_GEN	8.1	6.9	8.1	7.3	8	6.7
4	Specific Conductance	-	-	-	-	-	-
5	Potassium (K)	28	1	7.1	0.9	7.9	0.8
6	Sodium (Na)	52.4	1.9	92.2	1	49.8	4.9
7	Calcium (Ca)	85	18	45	16	34	16
8	Magnesium (Mg)	27.3	3.7	16	1.9	9.5	1
9	Aluminium (Al)	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-
12	Carbonate (CO3)	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	184	58	183	58	167	65
14	Chloride (CL)	92.3	2.8	91.7	13.6	66.5	13.2
15	Fluoride (F)	0.67	0.22	0.31	0.23	0.56	0.55
16	Sulphate (SO4)	28.6	1.2	33.7	2.6	26.1	1.2
17	Sulphite (SO3)	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-
19	Nitrite (NO2-N)	-	-	-	-	-	-
20	Phosphate (PO4)	-	-	-	-	-	-
21	Silica (Sio2)	10	10	8	8	8.9	8.9
22	DO (Dissolved Oxygen)	4.8	1.2	6.1	1.9	7.6	3.8
23	BOD3-27 (Biochemical Oxygen	1.6	0.2	2.5	0.4	1.2	0.6
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-
30	Boron (ppm) (B)	0.03	0.03	0.01	0.01	0.01	0.01
31	Cadmium (Cd)	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	325	62	137	67	112	45
40	Na % (Sodium Percentage)	38	4	64	2	55	11
41	SAR (Sodium Adsorption Ratio)	1.7	0.1	3.9	0	2.5	0.2
42	RSC (Residual Sodium Carbonate)	1.1	0	0.9	0	1	0

Source: Water Quality Year Book (Subernarekha Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

III	Basin : Brahmani and Baitarani												
Sl.	Parameter	Champua		Anandpur		Tilga		Jaraikela		Panposh		Gomlai	
No.		Baitarani		Baitarani		Sankh		Koel		Brahmani		Brahmani	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-	-	-	-	-	-	-
2	Temperature (oC)	30.6	16.5	30.5	14	29	14	32	10.5	31	22.5	32	18
3	pH_GEN	8	7	7.8	6.6	7.9	6.9	7.8	5.6	7.9	6.6	7.9	7.1
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	6.6	0.3	7.8	0.2	11.5	0.9	11.5	1.1	11.5	0.7	158	1.1
6	Sodium (Na)	60.6	2	35.5	2.9	31.3	2.8	43.3	2.9	26.6	3.5	42.3	2.8
7	Calcium (Ca)	99	11	38	15	19	6	25	11	28	13	31	9
8	Magnesium (Mg)	8.6	1.9	41.7	2.8	15.1	2	16	3	13.2	1	12.4	1
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	169	63	188	40	78	15	125	5	87	47	159	19
14	Chloride (CL)	110.9	10.5	34.2	12.7	65.4	8.6	55.3	9.1	75.3	10.3	66.4	12.2
15	Fluoride (F)	0.3	0.22	0.66	0.29	0.2	0.11	0.62	0.29	0.5	0.38	0.45	0.1
16	Sulphate (SO4)	19.8	2.5	39.1	3.7	77	2.8	85	3.5	29.5	6.3	29.8	5.8
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-	-	-	-	-	-	-
19	Nitrite (NO2-N)	-	-	-	-	-	-	-	-	-	-	-	-
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	7.5	7.5	8.5	8.5	8.3	8.3	9.5	9.5	7.5	7.5	8.5	8.5
22	DO (Dissolved Oxygen)	6.1	3.2	6.4	1.5	5.7	3.6	5.7	3.4	8.9	2.8	6.6	3.6
23	BOD3-27 (Biochemical Oxygen	3.8	0.8	2.5	0.6	1.7	0.2	1.6	0.5	3.4	0.6	1.4	0.2
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.01	0.01	0.01	0.01	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	272	45	268	49	82	31	107	41	94	37	95	45
40	Na % (Sodium Percentage)	38	3	39	5	60	8	53	9	43	9	25	9
41	SAR (Sodium Adsorption Ratio)	1.8	0.1	1.5	0.2	2.4	0.2	2.2	0.2	1.5	0.2	2.2	0.2
42	RSC (Residual Sodium Carbonate)	0.7	0	0.9	0	0.2	0	0.3	0	0.2	0	1.2	0

Source: Water Quality Year Book (Brahmani and Baitarani Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

III	Basin : Brahmani and Baitarani										
Sl.	Parameter	Jenapur		Talcher		Nandira		Kamalanga		RSP Nala	
No.		Brahmani		Brahmani		Nandiranala		Brahmni		RSP Nala	
(I)	(II)	(7)		(8)		(9)		(10)		(11)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-	-	-	-	-
2	Temperature (oC)	32	20	33	17.5	33.5	18	33	18	32	20.3
3	pH_GEN	7.9	7	7.9	7.1	8	7.2	8.1	7.3	8.2	7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	16.6	0.8	12.6	0.9	61.4	2.7	37	1.8	69.4	2.6
6	Sodium (Na)	46.3	4.5	40.1	3.7	102	3.7	77	5.3	27.5	16
7	Calcium (Ca)	45	11	28	9	34	16	243	16	46	14
8	Magnesium (Mg)	15.1	1.9	12.1	1.9	11.8	3.7	20.4	2.6	16.2	2.9
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0
13	Bicarbonate (HCO3)	199	43	106	55	131	78	219	73	177	74
14	Chloride (CL)	147.5	13.2	63.7	11.4	78.8	17.9	53.7	17.2	74.3	26.5
15	Fluoride (F)	0.36	0.18	0.3	0.16	0.6	0.28	0.27	0.11	0.46	0.23
16	Sulphate (SO4)	39.4	7.7	36.2	1.4	34.3	12.4	30.2	12.7	54	5.5
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-	-	-	-	-
19	Nitrite (NO2-N)	-	-	-	-	-	-	-	-	-	-
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	7.3	7.3	8.1	8.1	7	7	9	9	9.5	9.5
22	DO (Dissolved Oxygen)	7.3	2.7	6.4	3.1	6.8	2.7	6.5	2.9	4.3	1.5
23	BOD3-27 (Biochemical Oxygen	1.7	0.4	2.4	0.6	2.6	0.4	2.5	0.6	2.1	0.8
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.01
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	133	49	102	47	114	71	692	58	152	48
40	Na % (Sodium Percentage)	52	7	58	8	55	8	38	9	37	14
41	SAR (Sodium Adsorption Ratio)	2.4	0.2	2.5	0.2	4.4	0.2	1.3	0.2	1.2	0.6
42	RSC (Residual Sodium Carbonate)	1.4	0	0.4	0	0.5	0	2.4	0	0.8	0

Source: Water Quality Year Book (Brahmani and Baitarani Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IV : Godavari

Sl. No.	Parameter	Godavari Rly. Bridge		Polavaram		Konta		Saradaput		Sangam		Bhadrachalam	
		Godavari		Godavari		Sabari		Sabari		Mureru		Godavari	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	35505	86.12	9391	140.6	4214	28.53	207.2	0	41691	0
2	Temperature (oC)	-	-	-	-	-	-	-	-	-	-	-	-
3	pH_GEN	8.3	7.3	8.2	7.6	8	7.5	8.2	7.4	8.4	7.4	8.5	7.6
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	0.6	0.2	2.5	0.2	0.8	0.1	0.9	0.1	2.6	0.2	2.3	0.1
6	Sodium (Na)	28.9	4.4	17.4	4.1	14.3	2.7	42.2	4.2	46.6	14.2	48.5	5.8
7	Calcium (Ca)	31	6	71	2	26	8	27	6	52	15	34	11
8	Magnesium (Mg)	16	5	18	0.1	12	0.5	39	0.3	43	9	25	10.9
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	20.7	0	28.3	0.1	20.8	0.1	25.7	0.1	6	0.1	29.7	0
11	Ammonia (NH3-N)	0.07	0.01	0.11	0.01	0.07	0.01	0.12	0.01	0.16	0.01	0.07	0.01
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	15	0	0	0
13	Bicarbonate (HCO3)	183	69	225	6	214	48	180	59	245	172	183	48
14	Chloride (CL)	37.1	3	103	3	33	1	18	2	62	24.8	77	4
15	Fluoride (F)	0.34	0.01	0.3	0.04	0.99	0.03	0.13	0.02	1.05	0.15	0.32	0.04
16	Sulphate (SO4)	26.4	1.1	56.5	1.5	43.8	0.4	48.7	1.6	49.8	3.7	37.4	3
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	7.09	0.11	5.62	0.21	3.77	0.16	3.55	0.17	13.01	0.26	6.62	0.32
19	Nitrite (NO2-N)	0.09	0	0.18	0.01	0.12	0.01	0.41	0.01	0.09	0.01	0.21	0.01
20	Phosphate (PO4)												
21	Silica (Sio2)	20.2	8.5	18.2	7.5	95.2	7.7	19.8	9.6	29.9	9.4	28	10.2
22	DO (Dissolved Oxygen)	7	2.8	9.4	6.8	9.6	6.2	7.6	5.5	7.7	3.1	7.3	5.1
23	BOD3-27 (Biochemical Oxygen	2.6	0.2	5.8	0.4	4.6	0.1	1.9	0.5	2.8	0.5	2.7	0.1
24	Total Coliform (No. per 100 ml)	16000	1700	16000	1400	16000	130	16000	1400	9000	700	16000	210
25	Faecal Coliform (No. per 100 ml)	3500	260	5000	170	2800	30	3500	280	2800	170	1700	140
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	3.1	2.7	6.8	6.8	4.4	2.5	3.3	1.3	2.7	0.7	10.2	1
30	Boron (ppm) (B)	1.23	0.05	1.12	0.04	0.91	0.02	3.22	0.02	0.98	0	0.95	0.01
31	Cadmium (Cd)	1.2	0	0.3	0	1.6	0	1	0	0.3	0	4.1	0
32	Chromium (Cr)	20.8	5.4	12.7	0.9	7	3.6	4.7	1.8	19.5	1.9	11.3	1.2
33	Copper (Cu)	43	1	35	1	57	1	40	1	14	1	32	1
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	1.8	0.3	3.4	2.8	2.5	0.3	2.4	0.8	3.8	0.1	2.7	0.4
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	204	2	152	8	96	18	256	4	130	15	77	2
39	Total Hardness (HAR _ Total)	132	50	253	5	92	38	203	61	277	124	148	85
40	Na % (Sodium Percentage)	56	13	64	11	39	10	59	7	45	11	43	13
41	SAR (Sodium Adsorption Ratio)	1.8	0.2	0.8	0.3	0.9	0.2	2.3	0.2	1.8	0.4	1.8	0.3
42	RSC (Residual Sodium Carbonate)	0.4	0	2.9	0	2	0	1.5	0	1.3	0	0.4	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IV : Godavari

Sl. No.	Parameter	Perur		Pathagudem		Chindnar		Jagdalpur		Nowrangpur		Gandlapet	
		Godavari		Indravathi		Indravathi		Indravathi		Indravathi		Peddavagu	
(I)	(II)	(7)		(8)		(9)		(10)		(11)		(12)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	38892	0	16514	0	9949	0	1999	0	1413	1.994	27.07	0
2	Temperature (oC)	-	-	-	-	-	-	-	-	-	-	-	-
3	pH_GEN	8.3	7.4	7.9	7.1	8.6	7.3	7.9	7.1	8.2	7	8.1	7.6
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	2.6	0.2	1.5	0.1	1.5	0.2	0.8	0.2	2.5	0.2	0.6	0.3
6	Sodium (Na)	39.1	5.3	89.5	7	39	4.4	40.3	4.2	42.6	4.9	82.5	22.7
7	Calcium (Ca)	31	16	30	3	40	9	35	6	60	3	52	24
8	Magnesium (Mg)	19.1	4.3	20	2	19	4	19	3.5	32	1.4	34	12
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	18.2	0.1	22.2	0.1	21.5	0.2	28.1	0.2	24.9	0.1	0.7	0.1
11	Ammonia (NH3-N)	0.14	0.01	0.13	0.01	0.17	0.01	0.12	0.01	0.16	0.01	0.65	0.01
12	Carbonate (CO3)	0	0	0	0	19	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	171	68	205	57	231	51	165	53	115	59	348	160
14	Chloride (CL)	69	3	60	3	55	3	28	4	13	2	78	21
15	Fluoride (F)	0.28	0.02	0.16	0.05	0.16	0.05	0.18	0.02	0.15	0.04	0.77	0.49
16	Sulphate (SO4)	65.5	1.6	25.5	0.9	42	4.1	30	2.3	30.5	0.7	82	9.4
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	4.56	0.05	4.22	0.33	4.45	0.22	4.29	0.2	2.8	0.18	8.04	0.1
19	Nitrite (NO2-N)	2.71	0.01	0.2	0.01	0.4	0.01	0.16	0.02	0.24	0.01	0.08	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	28.8	12.7	38.8	14.3	28.8	13.5	25.4	13.2	24.3	15.3	20.3	14.3
22	DO (Dissolved Oxygen)	7.8	5.9	7.8	2.7	8.1	5.4	6.6	6	87	0.4	8.3	2.9
23	BOD3-27 (Biochemical Oxygen	2.3	0.4	2	0.5	3.3	0.5	2.4	0.7	2.9	0.6	2	0.7
24	Total Coliform (No. per 100 ml)	16000	110	16000	270	16000	130	16000	170	16000	140	16000	900
25	Faecal Coliform (No. per 100 ml)	2800	80	2500	70	2800	80	3000	70	5000	80	5000	260
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	2.9	0.3	8.9	3.5	2.7	1.6	4.9	1.7	7.2	1.7	2.9	2.9
30	Boron (ppm) (B)	1.23	0.01	0.73	0.09	1.88	0.02	1.44	0.01	1.01	0.04	0.85	0.03
31	Cadmium (Cd)	1.3	0	2.7	0	1.3	0	3.2	0	1.3	0	0	0
32	Chromium (Cr)	8.8	0.6	13.3	6.5	14.9	8.1	8.5	3.8	12.3	1.6	2.8	2.6
33	Copper (Cu)	62	1	39	1	36	1	48	1	47	1	9	1
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	3.1	0.4	4.4	0.6	5.3	0.6	0.6	0.6	1.1	0.4	6	2.1
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	128	8	215	2	207	10	174	4	145	6	64	10
39	Total Hardness (HAR _ Total)	129	58	93	63	171	52	137	61	283	48	264	148
40	Na % (Sodium Percentage)	56	14	73	16	62	14	55	11	55	6	46	18
41	SAR (Sodium Adsorption Ratio)	2.1	0.3	4.6	0.4	2.4	0.3	2.1	0.2	2.1	0.2	2.5	0.7
42	RSC (Residual Sodium Carbonate)	0.4	0	1.7	0	0.4	0	0.3	0	0.9	0	1.5	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IV : Godavari

Sl. No.	Parameter	Mancherial		Saigaon		Saloora		Yelli		Nanded		Purna	
		Godavari		Godavari		Manjira		Godavari		Godavari		Purna	
(I)	(II)	(13)		(14)		(15)		(16)		(17)		(18)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	3522	0	14.95	0	862.1	0	2564	0	3833	0	950	0
2	Temperature (oC)	-	-	-	-	-	-	-	-	-	-	-	-
3	pH_GEN	8.2	7.6	8	7.2	8	7.2	8.3	7.5	8.6	7.4	8.1	7.5
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	0.6	0.3	4.2	0.6	0.4	0.4	2.6	0.3	2.3	0.4	2.6	0.3
6	Sodium (Na)	58.2	25	32	21.3	88.3	26.4	160	16.7	136.5	24.4	74.4	19.5
7	Calcium (Ca)	71	19	58	31	58	29	89	24	65	21	66	27
8	Magnesium (Mg)	57	18	31	6	81	10	63.9	21	46	17	32	9
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	8.1	0.1	19.7	0.7	15.5	0.5	7.5	0	2.8	0	20.4	0.1
11	Ammonia (NH3-N)	0.23	0.01	0.12	0.01	1.23	0.01	0.25	0.01	0.29	0.01	0.76	0.01
12	Carbonate (CO3)	0	0	0	0	0	0	12.3	0	15.3	0	0	0
13	Bicarbonate (HCO3)	253	29	284	111	321	163	266	160	483	150	333	139
14	Chloride (CL)	61	22	75	37	114	47	105	19	165	23	104	23
15	Fluoride (F)	0.66	0.29	0.29	0.25	0.53	0.19	0.4	0.16	0.32	0.18	0.44	0.18
16	Sulphate (SO4)	130	5.3	109.6	7.7	112.3	8.6	259.8	5.9	130.2	7.3	87.6	8.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	8.74	0.11	20.9	1.93	7.21	1.69	16.13	0.22	12.04	0.33	17.4	1.76
19	Nitrite (NO2-N)	0.27	0.01	0.62	0.04	1.27	0.09	0.32	0.01	1.27	0.02	0.4	0.02
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	32.9	15	31.8	16	30.4	13.1	30.9	9.5	28.6	13.2	23.7	5.4
22	DO (Dissolved Oxygen)	8	4.6	6.5	2.8	8.1	6.6	9.2	4.6	9	5.5	8.5	2.6
23	BOD3-27 (Biochemical Oxygen	3	0.8	2.5	0.9	2.7	1.1	4.5	0.5	3.2	0.5	3.6	0.5
24	Total Coliform (No. per 100 ml)	16000	500	2800	2200	16000	1400	16000	260	16000	1400	16000	330
25	Faecal Coliform (No. per 100 ml)	9000	270	1100	700	3500	500	3000	210	5000	500	2800	210
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	7.5	7.5	4.5	4.5	5.8	5.8	2.6	0.5	3.6	3.6	2.3	1.9
30	Boron (ppm) (B)	0.89	0	0.43	0.02	0.22	0.05	0.8	0.05	1.51	0.03	0.81	0.03
31	Cadmium (Cd)	0	0	0.2	0.2	0	0	1.7	0	0.3	0	0.5	0.1
32	Chromium (Cr)	1.9	1.6	5.2	5.2	6.5	6.5	14.1	1.8	22.6	1.1	4.3	2.4
33	Copper (Cu)	27	1	63	1	38	1	31	1	11	1	36	1
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	1.9	0.6	0.1	0.1	2.6	2.6	5	0.3	4.4	0.8	19.4	0.4
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	94	5.9	93	39	122	45	167	0.1	70	12	123	18
39	Total Hardness (HAR _ Total)	295	156	248	168	411	181	415	165	292	163	283	123
40	Na % (Sodium Percentage)	45	22	27	18	38	24	46	17	50	25	42	19
41	SAR (Sodium Adsorption Ratio)	2	0.8	1	0.7	1.9	0.9	3.4	0.6	3.5	0.8	1.9	0.6
42	RSC (Residual Sodium Carbonate)	1	0	1	0	0	0	0	0	2.3	0	0.4	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IV : Godavari

Sl. No.	Parameter	G.R.Bridge Godavari		Dhalegaon Godavari		Pachegaon Pravara		Pratappur Pravara		Kopergaon Godavari		Nashik Godavari	
(I)	(II)	(19)		(20)		(21)		(22)		(23)		(24)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1634	0	2386	0	689.1	0	424.5	0	5925	0		
2	Temperature (oC)	-	-	-	-	-	-	-	-	-	-	-	-
3	pH_GEN	8.5	7.8	8.1	7.6	8.3	8	8.2	7.7	8.4	7.8	7.9	7.1
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	0.6	0.3	3.6	0.3	0.5	0.1	2.5	0.1	2.5	0.2	2.6	0.4
6	Sodium (Na)	38.1	16.5	33.3	21	31	18	183.8	15.2	161.6	15.1	38.8	10.8
7	Calcium (Ca)	35	17	51	31	62	23	45	14	67	31	75	13
8	Magnesium (Mg)	41	18	17	7	23	6	72	16	76	16	43	10.8
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	15.1	0	12	0.4	1.4	0.1	4.2	0.2	14.7	0.1	9.3	0
11	Ammonia (NH3-N)	0.4	0.02	0.09	0.01	0.13	0.01	0.07	0.01	0.59	0.01	1.75	0.01
12	Carbonate (CO3)	10.6	0	0	0	0	0	0	0	25.1	0	0	0
13	Bicarbonate (HCO3)	200	111	194	155	198	100	438	121	320	137	321	134
14	Chloride (CL)	64	17	91	12	42	18	213	23	**230**	**8.2**	62	15
15	Fluoride (F)	0.25	0.13	0.32	0.13	0.2	0.09	0.28	0.08	0.85	0.13	0.21	0.08
16	Sulphate (SO4)	43.8	11.6	38.5	32.9	67.9	5	138.7	4.9	206.9	9.8	44.9	7.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	8.47	0.29	10.44	1.09	11.18	1.87	22	1.28	12.13	1.46	9.33	0.39
19	Nitrite (NO2-N)	0.2	0.03	0.05	0.01	0.15	0.03	0.39	0.02	1.41	0.03	1.66	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	29.1	10	18.7	12	28.3	15	29	11.9	21.9	14.2	32.3	8.2
22	DO (Dissolved Oxygen)	7.6	5.5	7.9	5.3	8.3	6.4	7.6	5	8.7	2.6	7.5	1.8
23	BOD3-27 (Biochemical Oxygen	2.9	0.4	3.8	1.5	3.4	0.7	4	0.7	2.6	0.5	53	0.5
24	Total Coliform (No. per 100 ml)	16000	2200	16000	1700	16000	1400	16000	700	16000	500	16000	1100
25	Faecal Coliform (No. per 100 ml)	2800	220	3500	270	2200	300	3500	220	1700	260	5000	220
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	6.2	3.7	3.5	3.5	0.6	0.6	3	0.3	4.8	0.5	2.6	1.7
30	Boron (ppm) (B)	1.51	0.08	0.41	0.05	0.33	0.04	0.32	0.02	1.93	0.04	1.55	0.02
31	Cadmium (Cd)	1.6	0.9	0.4	0.4	0.1	0.1	0.1	0	0.3	0	0.1	0
32	Chromium (Cr)	38	1	2.4	2.4	11.4	11.4	13.5	2.9	18.1	2.3	25	1
33	Copper (Cu)	4.2	0	41	4	8	2.4	18	1	9	1	35	1
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	1.3	0.6	3	3	3.2	3.2	1.3	0.1	0.5	0.1	3.6	1.1
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	224	0.1	95	29	36	9	75	20.1	113	6	104	3
39	Total Hardness (HAR _ Total)	246	134	157	137	188	125	410	138	447	144	321	76
40	Na % (Sodium Percentage)	31	21	33	22	35	17	52	14	44	17	37	13
41	SAR (Sodium Adsorption Ratio)	1.2	0.6	1.2	0.7	1.2	0.6	4.2	0.5	3.3	0.5	1.2	0.4
42	RSC (Residual Sodium Carbonate)	0	0	0.5	0	0	0	1.1	0	0	0	0.7	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IV : Godavari

Sl. No.	Parameter	Kumhari		Rajegaon		Satrapur		Pauni		Ashti		Hivra	
		Wainganga		Bagh		Kanhan		Waiganga		Waiganga		Wardha	
(I)	(II)	(25)		(26)		(27)		(28)		(29)		(30)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	12537	0.272	4593	0	3462	0			19760	2.807	1129	0
2	Temperature (oC)	26	14	29	18	32	17.5	30	18	36	18	30	25
3	pH_GEN	7.8	7	7.7	6.6	8.2	7.2	8.5	7.3	8.7	7.2	8.3	7.6
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	4.6	1.4	4.9	1.3	5.7	2.1	4.4	1.4	4.2	1.5	3.2	1.1
6	Sodium (Na)	24.3	10.2	30.2	8.9	62.3	11.5	30.3	10	32.4	10	40.5	16.3
7	Calcium (Ca)	45	20	36	10	79	29	42	22	47	9	38	16
8	Magnesium (Mg)	18.7	2.6	9.2	0.5	32.1	2.3	14.3	6	13.1	1.7	20.9	4.2
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.2	0	0.5	0	0.8	0	0.3	0	1.8	0	0.6	0
11	Ammonia (NH3-N)	0.86	0.05	0.65	0.1	1.67	0.16	0.85	0.16	1.03	0.11	0.96	0.15
12	Carbonate (CO3)	0	0	0	0	0	0	6	0	7.6	0	0	0
13	Bicarbonate (HCO3)	210	83	129	44	267	112	183	109	178	48	262	97
14	Chloride (CL)	11.9	2.9	11.6	2.9	58	6.2	40.2	5.7	24.1	3.8	29.3	4.8
15	Fluoride (F)	0.57	0.11	0.24	0.1	0.89	0.27	0.7	0.24	0.54	0.19	0.55	0.29
16	Sulphate (SO4)	32.9	6.3	36.9	5.3	82.6	15.3	21	9.8	27.5	2.8	26.3	10.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	17.53	0.11	4.23	0.09	7.31	0.04	6.57	0.44	6.17	0.35	11.7	0.04
19	Nitrite (NO2-N)	0.6	0	0.25	0	0.8	0	2.65	0	0.21	0	0.22	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	76.6	10.4	23	6	30.3	10.6	21	9.8	29	1.9	20.1	6.5
22	DO (Dissolved Oxygen)	7.7	3	9.3	5	10	4	8.7	3.7	9.8	5.3	7.2	2
23	BOD3-27 (Biochemical Oxygen	20	1	40	1.1	30	1.1	30	1.2	3.6	1	60	1.6
24	Total Coliform (No. per 100 ml)	7000	110	16000	270	16000	500	16000	330	16000	110	16000	800
25	Faecal Coliform (No. per 100 ml)	3000	70	9000	170	16000	140	2800	80	2800	20	9000	140
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	4.3	1	5.5	2.4	4.9	0.2	3.8	2.6	3.2	0.2	3	0.3
30	Boron (ppm) (B)	0.91	0.05	2.94	0.04	2.14	0.03	1.1	0.04	1.35	0	1.02	0
31	Cadmium (Cd)	0.1	0.1	0.1	0	0.1	0	0.1	0.1	0.1	0	0.4	0.1
32	Chromium (Cr)	8.5	8.5	13.2	5.5	23.5	4.4	9.1	5.1	55.1	2.5	3.5	2.6
33	Copper (Cu)	16.3	1.3	6.5	4.3	12.5	1.6	3.9	3.2	2.4	1.9	3.1	3
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.2	0	0.2	0.1	0.1	0	1.3	0	1.2	0.1	0.2	0.2
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	0	0	0.1	0	0	0	0	0	0	0	0	0
39	Total Hardness (HAR _ Total)	191	64	108	35	246	94	142	87	150	37	180	67
40	Na % (Sodium Percentage)	26	12	56	19	36	16	35	19	45	15	35	24
41	SAR (Sodium Adsorption Ratio)	0.9	0.4	2	0.5	1.7	0.5	1.2	0.5	1.5	0.4	1.4	0.8
42	RSC (Residual Sodium Carbonate)	0.5	0	0.2	0	0.1	0	0.5	0	0.5	0	1.1	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	IV : Godavari											
Sl.	Parameter	Nandgaon		P.G.Bridge		Bamni		Bhatpalli		Tekra		Ramakona	
No.		Wunna		Penganga		Wardha		Peddavagu		Pranhita		Kanhan	
(I)	(II)	(31)		(32)		(33)		(34)		(35)		(36)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	7313	0	4566	0	7359	0.812	1520	3.396	104.2	11.75	683.8	0
2	Temperature (oC)	25	16	26	24.5	30	25	28	18	24	17	22	13
3	pH_GEN	8.2	7.8	8.4	7.8	8	7.5	8.3	7.5	8.7	7.7	8.3	7.4
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	3.1	1.8	4.4	2.8	26.2	2.1	4.1	1.7	4.3	2	3.8	1.6
6	Sodium (Na)	58.6	11.4	64.5	10.7	222.9	12.3	65.3	16.5	52.7	5.6	53.9	7
7	Calcium (Ca)	56	17	55	27	63	21	58	26	42	18	57	20
8	Magnesium (Mg)	25.7	5.8	28.4	5.7	77.8	6.1	25	11.2	19.4	4.7	17	1.2
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.3	0	0.3	0	0.2	0	0.3	0	0.3	0	0.9	0
11	Ammonia (NH3-N)	0.73	0.16	0.83	0.15	3.1	0.24	0.67	0.16	0.62	0.17	0.37	0.12
12	Carbonate (CO3)	0	0	4.8	0	0	0	2.5	0	17.6	0	4.6	0
13	Bicarbonate (HCO3)	277	90	239	109	264	90	338	186	226	71	248	66
14	Chloride (CL)	28.9	10	35.2	9.5	249.9	8.1	19.3	9.5	23.5	4.3	16.1	4.3
15	Fluoride (F)	0.54	0.26	0.58	0.28	0.91	0.28	1.12	0.4	0.62	0.23	1.05	0.24
16	Sulphate (SO4)	71.4	11.9	35	12.4	144.6	10.9	29.5	9.8	36.6	11.6	76.3	9.9
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	7.54	0.01	8.02	0.05	8.42	2.09	6.28	1.46	13.35	0.32	4.53	0.01
19	Nitrite (NO2-N)	1.78	0.01	2.65	0.03	4.63	0	2.36	0	0.2	0	0.92	0.02
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	40	11.1	34.4	13.1	42.8	6.6	90.3	14	45.9	6.7	23.7	9.4
22	DO (Dissolved Oxygen)	10	3.9	8.7	5.8	7.4	1.7	7.4	0	2.6	1.2	8	0
23	BOD3-27 (Biochemical Oxygen	4.8	1.4	3.5	1.6	55	1.3	10	1.2	8.9	4.4	20	1.2
24	Total Coliform (No. per 100 ml)	16000	340	16000	130	16000	300	16000	500	16000	40	5000	500
25	Faecal Coliform (No. per 100 ml)	16000	170	16000	80	16000	110	16000	130	5000	20	5000	40
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	1.6	0.3	2.2	0	2.2	0.1	2.4	0.2	2.2	0.2	1.8	1.7
30	Boron (ppm) (B)	1.45	0	1.16	0.06	1.69	0.05	1.66	0.03	1.82	0.02		
31	Cadmium (Cd)	0.1	0.1	0.2	0.1	0.1	0	0.1	0	0.2	0.1	0	0
32	Chromium (Cr)	6.1	4	6.7	1.5	9.2	4.8	10.6	3.7	2.7	2.1	2.9	1.7
33	Copper (Cu)	4.8	2.4	12.8	3	15.7	2.6	1.3	0.4	2.2	0.9	7.5	0.9
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.1	0	0.2	0.1	0.1	0.1	0.4	0	1.7	0.2	0.1	0.1
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	0	0	0	0	0	0	0	0	0	0	0	0
39	Total Hardness (HAR _ Total)	219	66	217	94	378	77	214	137	159	65	199	76
40	Na % (Sodium Percentage)	37	17	46	19	54	21	40	20	45	9	39	12
41	SAR (Sodium Adsorption Ratio)	1.7	0.5	2.2	0.5	5	0.6	2	0.6	2	0.2	1.7	0.3
42	RSC (Residual Sodium Carbonate)	0.4	0	0.2	0	0.1	0	1.4	0.3	1.6	0	0.1	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	IV : Godavari											
Sl.	Parameter	Keolari		Sakmur		Wairagarh		Magarddara		Bhakari		Ambgaon	
No.		Waiganga		Wardha		Waiganga		Waiganga		Waiganga		Chulband	
(I)	(II)	(37)		(38)		(39)		(40)		(41)		(42)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1841	0	2747	0.403	1088	0	-	-	260.9	0	53.66	0
2	Temperature (oC)	29	9	27	15	29	22	28	15	26.5	18	24	19
3	pH_GEN	8.7	7.6	8.6	7.6	7.6	6.6	8.1	7.6	8.2	7.6	8	6.8
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	7.7	1.2	7.7	2.7	3.5	1.4	5.9	1.3	3.5	1.3	6.2	1.6
6	Sodium (Na)	95.3	12.4	89.3	19	14.7	7.5	32.5	5.4	57.3	12.1	80.1	8.2
7	Calcium (Ca)	54	20	56	24	19	11	49	20	58	31	71	17
8	Magnesium (Mg)	17.5	4.6	28.2	4.4	4.3	0.2	13.6	4.2	15.8	8.4	21.9	2.2
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.2	0	0.2	0	0.5	0	0.6	0	0.2	0	0.5	0
11	Ammonia (NH3-N)	0.63	0.03	46	0.23	0.39	0.03	0.39	0.06	0.36	0.09	0.36	0.01
12	Carbonate (CO3)	10.1	0	10.1	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	231	108	235	133	75	41	236	82	222	153	251	66
14	Chloride (CL)	95	4.8	83.6	3.4	5.7	2.9	9.4	3.4	22.8	9	11.6	3.3
15	Fluoride (F)	0.61	0.18	0.64	0.33	0.22	0.11	0.31	0.19	0.37	0.19	0.52	0.23
16	Sulphate (SO4)	118.1	7.5	118.1	12.3	22.7	2.2	25	2.8	22.1	10.2	36	5.8
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	12.66	0.06	3.54	0.28	3.2	0.89	10.46	0.13	5.58	0.01	8.15	0.63
19	Nitrite (NO2-N)	0.67	0	0.77	0	0.75	0	0.2	0	0.35	0	0.56	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	33.4	7.7	33.4	9.2	25.7	12.3	22	7.5	21.2	5.4	14.5	3.9
22	DO (Dissolved Oxygen)	9.8	4.6	9.8	4.6	8.3	6	8.1	4.4	8.7	5.8	10	1.3
23	BOD3-27 (Biochemical Oxygen	5.1	1.3	30	1.2	2.4	1.6	30	1.4	3.5	1.4	7.3	3.9
24	Total Coliform (No. per 100 ml)	16000	90	16000	40	16000	1300						
25	Faecal Coliform (No. per 100 ml)	16000	20	16000	20	3000	140						
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	3.5	2	2.3	0	1.5	0.5	6.5	6.2	1.7	0.9	5.1	1.4
30	Boron (ppm) (B)	1.14	0	1.17	0.02	0.84	0.01	1.2	0.01	1.42	0.04	1.21	0.03
31	Cadmium (Cd)	0.2	0	0.1	0	0.2	0	0.1	0	0.4	0.1	0.1	0
32	Chromium (Cr)	7.1	3	2.4	0.9	5.4	2	4	3.1	2.8	1.9	16.8	7.1
33	Copper (Cu)	8.2	7.5	4.5	1.9	2.1	0.2	21.2	16.5	4.6	4.2	2	0.4
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.1	0	0.1	0.1	1.6	0.1	0.3	0.1	0.2	0.1	0.8	0
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	0.1	0	0	0	0	0	0.1	0	0	0	0	0
39	Total Hardness (HAR _ Total)	199	94	237	87	65	30	158	69	204	132	269	56
40	Na % (Sodium Percentage)	63	13	52	20	41	28	43	14	40	13	64	19
41	SAR (Sodium Adsorption Ratio)	3.9	0.4	3	0.7	0.9	0.5	1.5	0.3	1.8	0.4	3.6	0.4
42	RSC (Residual Sodium Carbonate)	0.5	0	0.4	0	0.4	0	2.1	0	0.1	0	0.5	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	IV : Godavari											
Sl.	Parameter	Mahalgaon		Patansaongi		Kokiwada		Mungoli		Sakhra		Patala	
No.		Waiganga		Chandrabadha		Kanhan		Penganga		Waiganga		Wardha	
(I)	(II)	(43)		(44)		(45)		(46)		(47)		(48)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	135.1	2.659	212.7	0	4.043	0	15.27	3.204	9.069	1.169	39.64	0
2	Temperature (oC)	27	20	29	19	27	13	27	22	25	19	28	23
3	pH_GEN	8.3	7.2	8.2	7.7	8.2	6.9	8.3	7.6	8.4	7.2	8.3	7.7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	4.7	1.5	5.2	2.5	1.9	1.4	3	1.8	4.3	2	5.4	2.4
6	Sodium (Na)	29.2	8.4	45.5	17.6	51.9	11.2	49.3	11.9	39.2	10.3	46.5	12.7
7	Calcium (Ca)	42	17	79	27	65	12	59	21	55	16	51	18
8	Magnesium (Mg)	10.2	3	44	9.2	22.4	3.7	28.4	5.8	13.9	4	23.3	4.9
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.3	0	0.3	0	0.3	0	0.6	0	0.3	0	0.7	0
11	Ammonia (NH3-N)	0.83	0.14	0.72	0.17	0.83	0.13	0.82	0.15	0.54	0.07	0.76	0.16
12	Carbonate (CO3)	0	0	0	0	0	0	3.4	0	6.3	0	0	0
13	Bicarbonate (HCO3)	193	67	360	136	264	51	266	116	207	100	237	97
14	Chloride (CL)	12.7	3.3	59	14.5	24.3	1.4	29	8.6	41.1	7.6	29.4	6.7
15	Fluoride (F)	0.45	0.16	0.57	0.29	0.54	0.17	0.67	0.29	0.42	0.17	0.55	0.29
16	Sulphate (SO4)	33	5.2	59	16.3	30	16.7	42.4	24.6	25.1	9.7	32.1	8.9
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	6.38	0.36	9.68	0.68	4.48	0.2	10.95	0.03	7.6	0.08	4.39	0.48
19	Nitrite (NO2-N)	0.36	0	0.41	0	0.32	0	0.31	0.01	2.75	0.01	0.22	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	17.9	6.3	24	2.9	22.6	6.9	100	8.9	19.8	2	18.8	4.8
22	DO (Dissolved Oxygen)	10.4	5.4	10.8	2.8	8.7	6.2	7.2	3.7	8.3	5.4	7.7	4.6
23	BOD3-27 (Biochemical Oxygen	2.2	1.2	30	1.4	3.1	1.8	55	1	6	1.2	3.9	1.1
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	6.5	0	2.3	0	2.2	2.2	5.3	0.4	9.6	0.1	5.3	0.7
30	Boron (ppm) (B)	1.19	0.03	1.18	0.01	-	-	0.46	0.03	0.71	0.05	1.08	0.04
31	Cadmium (Cd)	0.1	0	0.1	0	0	0	0	0	0.1	0	0	0
32	Chromium (Cr)	5.1	5.1	5.9	4.6	2.1	2.1	6.9	1.1	18.1	1.4	8.1	6.4
33	Copper (Cu)	12.8	5.1	2.4	1.5	0	0	9.9	3	2.5	1.4	5.5	3.3
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	1.4	0.1	0.2	0.1	0	0	0.3	0.2	0.3	0	0.1	0
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	0	0	0	0	0	0	0	0	0	0	0	0
39	Total Hardness (HAR _ Total)	147	55	305	107	238	45	231	84	196	76	193	73
40	Na % (Sodium Percentage)	37	16	27	11	38	11	39	16	39	18	37	21
41	SAR (Sodium Adsorption Ratio)	1.2	0.4	1.2	0.4	1.7	0.4	1.7	0.5	1.2	0.5	1.6	0.6
42	RSC (Residual Sodium Carbonate)	0.3	0	0.3	0	0.3	0	0.4	0	0.5	0	0.5	0

Source: Water Quality Year Book (Godavari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	IV : Godavari		
Sl. No.	Parameter	Lodhikhed Wardha	
(I)	(II)	(49)	
		Maximum	Minimum
1	Q(Cumecs) in cubic m/s	303.5	0
2	Temperature (oC)	22	16
3	pH_GEN	8.3	7.7
4	Specific Conductance	-	-
5	Potassium (K)	3.5	1.5
6	Sodium (Na)	62.4	10
7	Calcium (Ca)	70	28
8	Magnesium (Mg)	29.9	6.3
9	Aluminium (Al)	-	-
10	Iron (Fe)	0.5	0
11	Ammonia (NH3-N)	0.44	0.1
12	Carbonate (CO3)	5.7	0
13	Bicarbonate (HCO3)	281	114
14	Chloride (CL)	31.2	10.5
15	Fluoride (F)	0.47	0.24
16	Sulphate (SO4)	30.3	13.9
17	Sulphite (SO3)	-	-
18	Nitrate (NO3-N)	8.74	0.04
19	Nitrite (NO2-N)	0.22	0.01
20	Phosphate (PO4)	-	-
21	Silica (Sio2)	29.7	16.3
22	DO (Dissolved Oxygen)	8.2	4.8
23	BOD3-27 (Biochemical Oxygen	50	1.1
24	Total Coliform (No. per 100 ml)	-	-
25	Faecal Coliform (No. per 100 ml)	-	-
26	Total plate count (No. per 100 ml)	-	-
27	Phytoplankton (No. per ml)	-	-
28	Zooplankton (No. per Litre)	-	-
29	Arsenic (ppm) (As)	1.8	0.9
30	Boron (ppm) (B)	1.19	0.02
31	Cadmium (Cd)	0.7	0
32	Chromium (Cr)	3.2	0.9
33	Copper (Cu)	8	1.5
34	Cyanide (Cn)	-	-
35	Lead (Pb)	0.2	0.2
36	Manganese (Mn)	-	-
37	Mercury (Hg)	-	-
38	Zinc (Zn)	0	0
39	Total Hardness (HAR _ Total)	245	97
40	Na % (Sodium Percentage)	38	14
41	SAR (Sodium Adsorption Ratio)	1.8	0.4
42	RSC (Residual Sodium Carbonate)	0	0

Source: Water Quality Year Book (Godavari Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

V : Krishna

Sl. No.	Parameter	Vijayawada Krishna		Keesara Munneru		Madhira Wyra		Munugodu Eddu Vagu		Paleru Bridge Paleru		Wadenapally Krishna	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-	-	-	-	-	-	-
2	Temperature (oC)	28	18	26	15	28.9	23	28	23	24.5	21	29	24
3	pH_GEN	8.6	7.5	8.2	7.9	8	7.7	8.1	7	7.6	7.2	8.2	7.5
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	1.8	0.3	2.8	0.4	0.6	0.2	13.5	0.4	2.5	0.2	2.5	0.2
6	Sodium (Na)	125	14.1	160	76.9	167.2	66.1	271.4	79.8	140.5	26.8	123.2	24.8
7	Calcium (Ca)	53	25	88	15	54	20	137	20	93	32	71	28
8	Magnesium (Mg)	28	7	64	4	46	19	48	12	79	28	31	1.7
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	13.8	0	1.4	0.1	5.3	0.2	4.5	0	1.8	0.1	2.6	0.1
11	Ammonia (NH3-N)	0.06	0.01	0.07	0.01	0.11	0.01	0.16	0.01	0.48	0.01	0.12	0.01
12	Carbonate (CO3)	10.3	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	237	85	385	231	415	243	518	241	435	196	246	75
14	Chloride (CL)	122	23	167	64	181	56	230	55	169.5	106	85	29
15	Fluoride (F)	0.81	0.17	1.12	0.73	1.07	0.74	1.45	0.52	1.34	0.91	0.7	0.21
16	Sulphate (SO4)	118.4	10.7	168	10.1	122	14.3	393	4	151	26.3	102.4	36.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	5.83	0.71	9.92	0.86	9.83	0.83	12.85	1.82	12.1	0.98	6.03	0.59
19	Nitrite (NO2-N)	0.35	0.01	0.58	0.01	0.36	0.01	0.21	0.01	1.14	0.01	0.1	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	27	13.6	14.5	8	16.6	5.7	35	14.1	46.4	16.7	26.8	13.6
22	DO (Dissolved Oxygen)	7.4	4.4	6.4	3.7	5.4	2.5	6	3.8	8.1	2.5	7.5	5.1
23	BOD3-27 (Biochemical Oxygen	3	0.6	3.6	0.6	2.7	0.4	2.3	0.5	3	0.5	2.3	0.1
24	Total Coliform (No. per 100 ml)	16000	700	16000	1400	16000	700	16000	170	16000	260	16000	260
25	Faecal Coliform (No. per 100 ml)	9000	140	1400	170	5000	110	3000	140	3500	170	3500	140
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	4.34	1.36	0.68	0.68	6.53	1.08	6.14	0.69	7.16	2.25	3.21	2.05
30	Boron (ppm) (B)	0.65	0	1.84	0.02	1.01	0.02	2.46	0.03	2.27	0	0.7	0.03
31	Cadmium (Cd)	0.1	0.08	5.18	5.18	0.26	0.02	0.12	0.02	0.37	0.08	0.15	0
32	Chromium (Cr)	7.91	6.89	8.58	8.58	7.1	2.69	5.41	0.92	6.89	4.08	4.59	1.13
33	Copper (Cu)	13	0	13	0	25	1	31	2	15	0	17	0
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	1.33	0.47	1.87	1.87	0.93	0.48	0.36	0.17	1.33	0.41	0.43	0.28
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	80	17.4	154	0	1887	12	76	0.4	241	12	134	12
39	Total Hardness (HAR _ Total)	203	92	304	168	270	159	397	171	409	303	236	112
40	Na % (Sodium Percentage)	57	23	61	44	59	40	67	35	46	13	60	26
41	SAR (Sodium Adsorption Ratio)	3.8	0.6	4.6	2.3	4.5	2.2	7	2.1	3.3	0.6	4	0.9
42	RSC (Residual Sodium Carbonate)	0.4	0	1.7	0	1.6	0	2.8	0	0	0	0.4	0

Source: Water Quality Year Book (Krishna Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

V : Krishna

Sl. No.	Parameter	Valigonda		Dameracherla		Halia		Bawapuram		Mantralayam		T Ramapuram	
		Musi River		Musi River		Halia		Tungabhadra		Tungabhadra		Hagari	
(I)	(II)	(7)		(8)		(9)		(10)		(11)		(12)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-	-	-	-	-	-	-
2	Temperature (oC)	28	23	29	25	29.5	24.5	28.4	20.4	35.5	21	26	22
3	pH_GEN	8	7.3	8	7.5	8.4	7.7	8.4	7.7	8.4	7.7	8.1	7.6
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	10.2	1.4	5.4	0.3	5.3	0.4	1	0.2	0.7	0.3	1.1	0.2
6	Sodium (Na)	439.7	131.6	187.3	78.4	218.7	84.5	305	37.7	215	18	411.8	94.9
7	Calcium (Ca)	131	38	108	19	56	23	68	25	68	23	72	17
8	Magnesium (Mg)	97	29	70	39	45	23	50.7	7	38.1	2	72	12
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	1.6	0	1	0.1	1.2	0.1	4.6	0.1	8.6	0	33.4	0.2
11	Ammonia (NH3-N)	3.28	0.01	0.05	0.01	0.1	0.01	0.1	0.01	0.14	0.01	0.23	0.01
12	Carbonate (CO3)	0	0	0	0	9.2	0	2	0	9.1	0	0	0
13	Bicarbonate (HCO3)	627	213	364	255	482	131	245	62	277	106	370	125
14	Chloride (CL)	468	180	246	132	191	76	283	34	198	23	336.4	83
15	Fluoride (F)	1.92	0.9	1.16	0.54	1.56	0.55	0.8	0.33	1.26	0.12	1.18	0.28
16	Sulphate (SO4)	180	80.2	189.1	25.2	140	5.7	294	40.1	212.8	6.1	543.1	40.3
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	21.42	0.43	9.33	0.13	9.13	0.14	5.6	0.2	6.73	0.14	10.59	0.56
19	Nitrite (NO2-N)	2.91	0	0.1	0.01	0.1	0	0.46	0.01	0.76	0	0.27	0.03
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	40.9	12.1	37.8	21	51.8	18.2	25.2	8.3	26.1	8.9	26.4	4.6
22	DO (Dissolved Oxygen)	5.7	3.5	6.5	4.9	7.6	3.9	7.5	3.8	9.8	4	7	3.6
23	BOD3-27 (Biochemical Oxygen	2.3	0.1	2.9	0.7	2.9	0.2	2.7	0.3	4.4	0.3	3	0.5
24	Total Coliform (No. per 100 ml)	16000	300	9000	170	9000	800	16000	1700	16000	330	16000	2200
25	Faecal Coliform (No. per 100 ml)	5000	90	2200	140	2200	220	2800	210	3500	140	2200	330
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	9.77	6.25	8.79	0.26	8.43	0.37	2.67	0.69	3.01	0.37	3.88	3.88
30	Boron (ppm) (B)	1.55	0.01	0.87	0.01	0.95	0.01	0.98	0.02	0.89	0.01	0.85	0
31	Cadmium (Cd)	6.53	0.09	0.32	0.02	0.65	0.01	1.26	0.02	1.37	0	0.04	0.04
32	Chromium (Cr)	48.73	6.5	29.4	2.3	5.64	3.25	6.41	2.25	7.59	2.19	6.59	6.59
33	Copper (Cu)	30	2	11	0	42	0	15	0	15	0	57	0
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	6.53	0.09	2.79	0.58	4.38	1.17	1.04	0.28	1.9	0.82	0.92	0.92
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	98	0.02	204	0.02	144	0.02	93	1.08	120	0.02	90	22
39	Total Hardness (HAR _ Total)	548	301	437	270	315	191	282	107	266	91	363	138
40	Na % (Sodium Percentage)	65	38	49	31	61	37	86	37	70	30	75	54
41	SAR (Sodium Adsorption Ratio)	8.5	2.9	3.9	1.8	5.6	2.1	12.6	1.5	6.6	0.8	10.4	3.5
42	RSC (Residual Sodium Carbonate)	1.3	0	0.1	0	2.1	0	1.9	0	0.4	0	0	0

Source: Water Quality Year Book (Krishna Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	V : Krishna											
Sl.	Parameter	Kellodu		Marol		Haralahalli		Byaladahalli		Kuppelur		Honnalli	
No.		Vedavathi		Varada		Tungabhadra		Haridra		Kumudavathi		Tungabhadra	
(I)	(II)	(13)		(14)		(15)		(16)		(17)		(18)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1118	0	1659	0	5691	0	372.4	0	647.8	0	5870	4.645
2	Temperature (oC)	26.5	26	26	22	26	25	26.8	25.3	25	24.5	28	20
3	pH_GEN	8.3	7.8	7.9	7.2	8.4	7.2	8.2	7.6	8.1	7.6	7.8	7.1
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	5	1.6	1.9	1	4.5	1.4	6.3	1.8	6.7	1.8	3.8	1.1
6	Sodium (Na)	44.3	10	9.6	4.4	42.2	5.4	133.3	42.6	66.6	11.3	14.8	0.4
7	Calcium (Ca)	29	11	20	6	23	6	37	11	43	2	24	6
8	Magnesium (Mg)	13.1	3.9	11.2	1.9	15.8	3.8	28.2	10.3	39.4	11.5	13	1
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	2.5	0	1.1	0	1	0	1.1	0	2.6	0	1.1	0
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	0	0	20.7	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	168	38	71	16	106	27	311	190	308	90	118	21
14	Chloride (CL)	36.2	11.7	22.7	5.7	38.3	11.7	96.2	38	117.2	28.8	23.4	9.6
15	Fluoride (F)	0.34	0.04	0.17	0	0.3	0	1.08	0.1	0.3	0.1	0.97	0
16	Sulphate (SO4)	31.9	5.6	15.8	4.5	28	3.2	73.3	18.1	34.2	13.6	13.2	1.1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	1.3	0.7	1.19	0.34	1.08	0.04	1.22	0.31	2.48	1.18	2.48	0.1
19	Nitrite (NO2-N)	0.14	0.01	0.54	0.01	0.51	0	0.48	0.01	0.08	0.01	0.63	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	18.1	7	13.5	6.4	22.3	3.1	17.6	10.1	16.8	7.4	21.2	5.1
22	DO (Dissolved Oxygen)	7.2	6.5	7.5	6.2	8.9	5.3	6.8	5.8	6.8	3.2	7.8	5.3
23	BOD3-27 (Biochemical Oxygen	2.2	0.8	13.5	1	3.2	0.4	2.8	1.5	6.4	1	15.4	0.9
24	Total Coliform (No. per 100 ml)	22000	1300	54000	45	11000	230	28000	1100	54000	230	160000	230
25	Faecal Coliform (No. per 100 ml)	5400	330	3300	0	1400	40	2200	330	2400	45	5400	0
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	2.1	1.6	1.7	1.7	3.2	1	1.5	0.8	1.9	1.7	9.6	4.3
30	Boron (ppm) (B)	0.17	0.08	0.11	0.03	0.16	0.01	0.28	0.15	0.22	0.08	0.17	0.03
31	Cadmium (Cd)	0.1	0	0.1	0.1	0	0	0.7	0	0.1	0	0.2	0
32	Chromium (Cr)	5.2	4.1	3.6	3.6	1.9	1.5	4.2	0.7	6.2	4.3	7.1	2.3
33	Copper (Cu)	4	3.1	1.1	1.1	4.8	0.6	4	1.8	2.9	2.2	6.6	1.2
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.2	0	0.1	0.1	0.1	0.1	0.3	0	0.2	0	0.2	0.1
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	15.2	9.1	15.4	15.4	14.6	8.7	14.9	8	18.7	9.8	15.6	7.9
39	Total Hardness (HAR _ Total)	120	50	76	24	119	31	207	120	272	60	97	24
40	Na % (Sodium Percentage)	44	27	33	19	46	14	67	38	40	18	34	1
41	SAR (Sodium Adsorption Ratio)	1.8	0.6	0.7	0.4	1.8	0.3	5	1.5	1.8	0.5	0.8	0
42	RSC (Residual Sodium Carbonate)	0.5	0	0	0	0	0	2.4	0	0.3	0	0	0

Source: Water Quality Year Book (Krishna Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	V : Krishna											
Sl.	Parameter	Hariharapura		Shimoga		Holehonnur		Lakkavalli		Yadgir		Malkhed	
No.		Tunga		Tunga		Bhadra		Bhadra		Bhima		Kagna	
(I)	(II)	(19)		(20)		(21)		(22)		(23)		(24)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1338	6.844	4195	0	901.2	11.29	642.6	3.156	-	-	-	-
2	Temperature (oC)	30	24	24.5	22	24.5	22.5	26.5	21	23.6	23	29	24
3	pH_GEN	7.7	6.9	7.7	7.1	8.2	7.2	7.7	7	8.7	7.4	8.3	7.5
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	2	0.5	12.9	0.7	5.2	1.2	2.3	1	1.5	0.3	2.6	0.4
6	Sodium (Na)	5.5	2.4	15.2	2.9	15.8	3.6	15.2	2.9	122.3	38.2	108.8	31.7
7	Calcium (Ca)	12	3	12	3	31	6	11	1	45	35	49	27
8	Magnesium (Mg)	4.9	0	1.9	0	16.8	1	3.9	0.9	40	6	47	19
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.7	0	1	0	1.9	0	0.9	0	5.6	0.1	3	0.1
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	8.7	0	2	0
13	Bicarbonate (HCO3)	32	11	33	11	282	32	41	16	238	125	342	208
14	Chloride (CL)	11.7	4.6	14.2	5.7	31.2	7.5	15.3	3.9	210	37	90	29
15	Fluoride (F)	0.49	0	0.11	0	0.87	0.02	0.91	0	0.51	0.15	0.57	0.2
16	Sulphate (SO4)	6.7	0.3	6.8	1.4	25.3	0.5	9.3	1	118	46	104.5	7.1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	4.16	0.03	0.49	0.1	7.59	0.13	9.12	0.06	9.47	0.48	12.2	0.93
19	Nitrite (NO2-N)	0.46	0	0.04	0	0.3	0	0.07	0	0.68	0.01	0.39	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	18.4	3.7	21.2	8.2	52.6	5	28.7	6.3	31.2	12.6	31.1	17.2
22	DO (Dissolved Oxygen)	8.9	5.7	7	4.5	7.3	3.3	9.4	4.3	7.3	3.8	6.6	4.7
23	BOD3-27 (Biochemical Oxygen	1.6	0.2	3.5	1	1.9	0.1	1.8	0.2	2.7	1.6	2.8	1.1
24	Total Coliform (No. per 100 ml)	35000	140	54000	330	160000	230	9200	230	16000	1700	9000	330
25	Faecal Coliform (No. per 100 ml)	1300	0	3300	33	7000	20	2400	40	2800	260	1700	140
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	2.2	0.9	5.7	2	4.2	1.7	4.3	0.5	0.98	0.98	5.88	2.15
30	Boron (ppm) (B)	0.23	0	0.18	0.02	0.24	0	0.22	0	0.35	0.01	0.4	0.02
31	Cadmium (Cd)	0.1	0.1	0.2	0	0.1	0	0.1	0.1	0.06	0.01	0.05	0.01
32	Chromium (Cr)	9.1	1	6.1	1.1	1.4	1	11.3	1	3.04	1.38	8.15	1.51
33	Copper (Cu)	1.1	0.2	2.2	0.8	3.6	0.8	2.4	0.1	20	3.78	15	0
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.2	0.1	0.1	0	0.2	0.1	0.5	0.1	3.12	0.29	1.14	0.41
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	14.8	10.2	15	9.5	17.3	9.9	14.2	9.5	90	0.03	101	0.02
39	Total Hardness (HAR _ Total)	42	14	34	14	117	35	36	7	258	133	275	163
40	Na % (Sodium Percentage)	37	14	68	15	26	8	77	17	54	29	59	21
41	SAR (Sodium Adsorption Ratio)	0.6	0.2	1.8	0.3	0.7	0.2	2.5	0.3	3.6	1.2	3.7	0.8
42	RSC (Residual Sodium Carbonate)	0	0	0.3	0	3.8	0	0.2	0	0	0	1.2	0

Source: Water Quality Year Book (Krishna Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	V : Krishna											
Sl.	Parameter	Deongaon Bridge		Wadakbal		Takli		Sarati		Phulgaon		Mirawadi	
No.		Bhima		Sina		Bhima		Nira		Bhima		Mula	
(I)	(II)	(25)		(26)		(27)		(28)		(29)		(30)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	424	0	6086	0	2437	0	1661	0	4478	0
2	Temperature (oC)	23	23	27.5	27	30	26	29.5	27.5	28	22.5	27	25
3	pH_GEN	8.3	7.6	8.2	7.6	8.2	7.4	8.2	8.1	8.1	7.7	7.9	7.2
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	0.7	0.2	2.1	0.7	20.9	0.7	2.1	1.3	7.5	0.1	16	0.8
6	Sodium (Na)	134.8	21.9	63.8	11.7	109.7	13.1	67.9	7.1	33.9	3.8	45.7	5.7
7	Calcium (Ca)	71	23	58	32	68	26	58	26	54	15	62	17
8	Magnesium (Mg)	59	2	26.8	18.6	53.5	11.5	32.7	10.1	23.8	7	25.9	9.4
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	10.2	0	0.7	0.1	0.5	0.1	0.9	0	1.2	0	1.7	0
11	Ammonia (NH3-N)	0.12	0	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	22.6	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	317	147	193	161	403	126	298	126	225	67	266	77
14	Chloride (CL)	344	29	95.9	15.7	175.6	22.3	96.3	10.2	44.4	5.1	61.3	8.3
15	Fluoride (F)	0.3	0.1	0.22	0.12	0.31	0.13	0.26	0.09	0.28	0.06	0.53	0.05
16	Sulphate (SO4)	232.5	25	83.6	49.2	192.6	29.6	114.7	13.8	27.8	10	64.8	7.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	10.8	0.48	3.08	1.74	2.74	0.55	4.95	1.42	4	0.83	8.82	0.72
19	Nitrite (NO2-N)	0.15	0.01	0.05	0.03	0.06	0.02	0.07	0.02	0.07	0.01	0.09	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	26.4	12.2	7	2.6	26.7	1.9	11.3	5.3	7.3	2.2	12	1.8
22	DO (Dissolved Oxygen)	7.5	5.5	-	-	8.6	6.3	8.7	8	7.8	6.1	4.3	4.3
23	BOD3-27 (Biochemical Oxygen	2.7	0.3	3.7	1.2	3.5	0.5	1.3	0.5	1.6	0.7	3.4	0.9
24	Total Coliform (No. per 100 ml)	16000	1400	90000	11000	90000	5000	30000	5000	160000	17000	90000	13000
25	Faecal Coliform (No. per 100 ml)	3000	210	17000	2300	28000	800	7000	3000	14000	7000	24000	2300
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	5.51	0.49	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	1.2	0.02	0.3	0.16	0.42	0.1	0.44	0.08	0.26	0.01	0.24	0.01
31	Cadmium (Cd)	3.25	0.02	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	26.36	1.6	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	51	0	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	4.08	0.14	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	122	0.02	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	413	137	255	157	393	115	281	108	233	77	257	82
40	Na % (Sodium Percentage)	50	18	35	14	41	20	34	12	30	10	33	13
41	SAR (Sodium Adsorption Ratio)	3.4	0.7	1.7	0.4	2.4	0.5	1.8	0.3	1.1	0.2	1.4	0.3
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0	0	0	0	0	0	0.6	0

Source: Water Quality Year Book (Krishna Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	V : Krishna											
Sl.	Parameter	Pargaon		Dhond		Huvinhedigi		Deosugur		Cholachguda		Gokak Falls	
No.		Bhima		Bhima		Krishna		Krishna		Malaprabha		Ghataprabha	
(I)	(II)	(31)		(32)		(33)		(34)		(35)		(36)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-	-	-	2724	0	4912	0
2	Temperature (oC)	27	26	23.5	19	29	23	26	24	25.5	21	24.5	22
3	pH_GEN	8.2	7.5	8.2	7.7	8.4	7.7	8.4	7.5	8	7.7	8	7.3
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	21.8	0.7	357	99	2.3	0.2	2.5	0.3	3.2	2	5	0.9
6	Sodium (Na)	55.3	10.1	118.6	7.1	196	17.4	218	20.3	109	20.6	54	5.4
7	Calcium (Ca)	64	23	70	23	65	20	63	20	60	15	57	11
8	Magnesium (Mg)	26.5	9.8	41.4	9.1	62	7	62	2	36.1	2.8	12.2	1
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.8	0	2	0	18.5	0.1	6.2	0.2	0.6	0	0.9	0
11	Ammonia (NH3-N)	-	-	-	-	0.26	0	3.28	0.01	-	-	-	-
12	Carbonate (CO3)	0	0	0	0	18.8	0	2	0	0	0	0	0
13	Bicarbonate (HCO3)	320	104	357	99	384	100	289	116	216	75	184	48
14	Chloride (CL)	72.1	16.4	159.4	10.9	270	27	349	24	160.5	17.4	54.7	11.7
15	Fluoride (F)	0.45	0.05	0.58	0.07	1.07	0.1	0.93	0.17	0.29	0.02	0.25	0.02
16	Sulphate (SO4)	89.9	16.5	206.8	16.5	189	7.1	209	13.4	58.5	24.5	22	4.8
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	8.97	0.99	11.04	1.24	10.1	0.96	9.87	0.9	2.98	1.01	7.59	0.15
19	Nitrite (NO2-N)	0.06	0.03	0.1	0.02	0.11	0.01	2.91	0.01	0.11	0.01	0.33	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	12	1.2	26.1	2.1	35.8	10.4	26.1	8.1	33.8	8.1	25.5	3.1
22	DO (Dissolved Oxygen)	-	-	-	-	8.7	4.3	6.8	3.1	7.7	7.5	6.3	6
23	BOD3-27 (Biochemical Oxygen	3.9	1.4	2.1	1.4	3.38	1.36	3	0.6	1.5	0.7	1.3	1
24	Total Coliform (No. per 100 ml)	160000	3000	35000	2600	16000	260	16000	170	160000	1700	35000	490
25	Faecal Coliform (No. per 100 ml)	30000	2200	9000	2200	2200	210	9000	140	3300	700	2100	230
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	3.38	1.36	2.85	0.66	3.05	0.98	2.13	0.71
30	Boron (ppm) (B)	0.27	0.07	0.47	0.09	0.43	0.03	0.99	0.05	0.34	0.1	0.19	0.01
31	Cadmium (Cd)	-	-	-	-	0.05	0.02	0.27	0.02	0.68	0.04	0.07	0.04
32	Chromium (Cr)	-	-	-	-	5.12	1.47	19.86	1.29	5.53	1.57	1.17	0.78
33	Copper (Cu)	-	-	-	-	32	2	17	0	3.16	1.82	4.43	1.27
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	3.69	0.98	3.34	0.39	0.45	0.04	0.2	0.16
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	90	0.01	118	0.05	14.9	8.8	14.4	10
39	Total Hardness (HAR _ Total)	270	97	347	95	338	102	354	133	244	50	166	53
40	Na % (Sodium Percentage)	34	18	43	14	61	22	62	18	59	27	44	17
41	SAR (Sodium Adsorption Ratio)	1.7	0.4	3	0.3	5.1	0.7	5.6	0.6	3.1	0.8	1.8	0.3
42	RSC (Residual Sodium Carbonate)	0.8	0	0.3	0	0.7	0	0.6	0	0.2	0	0	0

Source: Water Quality Year Book (Krishna Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	V : Krishna											
Sl.	Parameter	Terwad		Kurundwad		Arjunwad		Samdoli		Karad		Warunji	
No.		Panchganga		Krishna		Krishna		Varna		Krishna		Krishna	
(I)	(II)	(37)		(38)		(39)		(40)		(41)		(42)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	4788	0	7742	0	5607	0	2317	0	6139	0	6003	0
2	Temperature (oC)	29	24.3	29	25	26.5	23	26	19.5	25	20	23.5	20
3	pH_GEN	7.9	7.1	8.1	7.4	8.2	6.9	8.1	6.8	8.2	6.6	8	7.1
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	13.7	0.4	208	47	5.6	0.5	3.1	0.5	2.7	0.3	1.5	0.3
6	Sodium (Na)	34.2	6.3	27.9	7.2	39.6	9.4	29.2	6.2	13.8	4.2	9.3	3.7
7	Calcium (Ca)	29	6	46	9	57	11	41	7	51	5	26	5
8	Magnesium (Mg)	15	5	22	4.6	29.7	5.6	19.3	3.8	25.1	3.6	17.1	2.3
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	3	0	1.3	0	0.7	0.1	0.9	0.1	1.3	0.1	0.6	0.1
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	139	40	208	47	269	64	188	34	259	34	142	32
14	Chloride (CL)	44.4	8.3	44.3	9.8	51.7	16	38.8	8.2	22.7	6.6	12.3	6.1
15	Fluoride (F)	0.1	0.05	0.14	0.05	0.21	0.06	0.12	0.05	0.2	0.05	0.12	-0.03
16	Sulphate (SO4)	31.8	4.8	44.9	5.7	51.6	6	38.8	6	14.6	3	5.7	1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	5.77	0.3	5.13	0.51	3.89	0.66	5.7	0.3	3.94	0.2	1.96	0.21
19	Nitrite (NO2-N)	0.03	0.01	0.04	0	0.06	0.02	0.06	0.01	0.05	0.01	0.04	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	11.1	1	11.5	1.5	14	1.4	10.8	1.3	14.2	1.1	11.3	1.3
22	DO (Dissolved Oxygen)	6.5	4	7.5	5.2	9.5	6.7	7.2	5.9	8.8	5.5	9.2	7.9
23	BOD3-27 (Biochemical Oxygen	2.3	0.5	0.9	0.5	1.3	0.5	0.7	0.5	1.1	0.6	1	0.7
24	Total Coliform (No. per 100 ml)	50000	1700	28000	3000	160000	5000	50000	1100	90000	8000	50000	14000
25	Faecal Coliform (No. per 100 ml)	13000	200	13000	800	90000	400	24000	400	50000	2300	24000	2200
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.22	0.02	0.22	0.03	0.24	0.02	0.15	0.01	0.22	0.01	0.13	0.02
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	135	35	208	41	266	56	182	36	231	37	136	25
40	Na % (Sodium Percentage)	36	22	33	19	34	17	39	19	35	12	40	12
41	SAR (Sodium Adsorption Ratio)	1.3	0.5	1.1	0.5	1.1	0.4	0.9	0.4	0.7	0.3	0.7	0.3
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0	0	0	0	0.1	0	0	0

Source: Water Quality Year Book (Krishna Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VI : Cauvery

Sl. No.	Parameter	Gopurajapuram Cauvery		Annavasal Cauvery		Nallathur Nandalar		Menangudi Cauvery		Porakudi Cauvery		Peralam Cauvery	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	28.74	0	8.582	0	66.62	0	12.13	0	56.83	0	4.97	0
2	Temperature (oC)	27.5	24.5	27.5	25.5	27	24	29	26	27	25	26.5	25
3	pH_GEN	7.9	7.5	8.4	7.6	8	7.1	7.9	7.7	8.4	7.8	8.4	7.5
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	4.4	2.3	4.8	2.6	6.9	2.1	3.7	2.1	4.5	2.4	5	1.7
6	Sodium (Na)	28.4	15	37.7	13	110.5	25.8	48.2	17.6	35.9	21.6	40.6	14.3
7	Calcium (Ca)	25	15	34	16	31	15	34	15	24	16	32	9
8	Magnesium (Mg)	10.2	4.6	16.8	6.5	23.6	11.1	19.6	8.3	12.3	9.3	18.7	7.4
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	1	0	0.1	0	1	0	0.6	0	0.3	0.1	0.7	0
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	14.3	0	0	0	0	0	14.4	0	14.3	0
13	Bicarbonate (HCO3)	117	80	150	77	202	110	193	98	143	81	159	75
14	Chloride (CL)	34.3	28.3	50.9	22.6	140.9	36.2	62.2	24.5	45.7	28.3	52.8	20.8
15	Fluoride (F)	0.29	0.18	0.4	0.16	0.49	0.21	0.41	0.19	0.36	0.21	0.45	0.18
16	Sulphate (SO4)	20.4	5.1	21.8	13.1	52.6	8.6	22.5	5.9	22.7	14.8	20.3	8.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	0.2	0.01	0.48	0.03	0.83	0.03	1	0.17	0.39	0.01	0.47	0.03
19	Nitrite (NO2-N)	0.06	0	0.07	0.01	0.07	0.01	0.07	0.01	0.05	0.01	0.06	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	3.9	0	9.9	0.3	12.5	0	17.6	0	3.6	0	12.5	0
22	DO (Dissolved Oxygen)	-	-	-	-	-	-	-	-	-	-	-	-
23	BOD3-27 (Biochemical Oxygen	3.4	0.6	4.5	1.4	4	1.2	5.3	2	4.8	0.6	2.6	1.8
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	4.9	4.9	1.7	1.7	4.2	0.5	2.4	2.4	3.3	3.3	2.9	2.9
30	Boron (ppm) (B)	0.27	0.05	0.69	0.09	0.86	0.03	0.18	0.03	0.34	0.04	0.17	0
31	Cadmium (Cd)	0	0	0	0	13.5	0.8	0	0	7.1	7.1	1.6	1.6
32	Chromium (Cr)	3.1	3.1	10.6	10.6	8.9	0.1	6.5	6.5	0.1	0.1	0	0
33	Copper (Cu)	0.1	0.1	0.1	0.1	9.4	1.7	0.1	0.1	3.5	3.5	1	1
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.2	0.2	0.9	0.9	0.9	0	0.2	0.2	0.2	0.2	0.2	0.2
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	2	2	0.3	0.3	8.8	0.2	0.7	0.7	0.2	0.2	1.4	1.4
39	Total Hardness (HAR _ Total)	102	57	155	73	161	85	167	73	111	84	159	54
40	Na % (Sodium Percentage)	44	24	37	27	59	38	45	29	42	35	44	26
41	SAR (Sodium Adsorption Ratio)	1.3	0.6	1.3	0.7	3.8	1.2	1.7	0.8	1.5	1	1.5	0.7
42	RSC (Residual Sodium Carbonate)	0.2	0	0.1	0	0.6	0	0.5	0	0.3	0	0.2	0

Source: Water Quality Year Book (Cauvery Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VI : Cauvery

Sl. No.	Parameter	Thengudi		varanavasi		Musiri		Nallamaranpatty		Elunuthimangalam		ALANDURAI	
		Cauvery		Marudaiyar		Cauvery		Amaravathi		Cauvery		Noyyal	
(I)	(II)	(7)		(8)		(9)		(10)		(11)		(12)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	71.74	0	30.79	0	1269	0	31.81	0	45.83	0	86.33	0
2	Temperature (oC)	28.5	26	28.5	27	27.5	26	30	26	9.6	7.9	25	24
3	pH_GEN	8.1	7.6	8.3	7.8	9.2	8.3	8.5	7.5	28	24	8.1	7.1
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	5.1	2.6	20.5	4.1	21.3	2.7	5.8	1.2	41.5	7.5	1.9	1
6	Sodium (Na)	57.5	26.3	147	19	93.2	18.5	32.5	14.8	560	87	17.5	7.8
7	Calcium (Ca)	41	18	169	27	56	27	61	23	238	58	24	6
8	Magnesium (Mg)	24.3	7.6	32	6.8	24.4	4.8	13.6	2.9	84	5.8	4.9	0
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.6	0	0.3	0	0.1	0	0.3	0	0.3	0	0.2	0.1
11	Ammonia (NH3-N)	-	-	0.14	0.12	0.99	0	0.5	0.18	3.44	0	0.26	0.06
12	Carbonate (CO3)	0	0	24.1	0	24.1	0	14.5	0	147	14.2	0	0
13	Bicarbonate (HCO3)	227	108	284	63	196	88	206	59	524	135	96	14
14	Chloride (CL)	74.7	34.3	190.5	24.5	122.1	28.6	43.5	19.1	238	58	22.9	11.4
15	Fluoride (F)	0.47	0.23	0.65	0.19	0.47	0.2	0.71	0.15	1.05	0.01	0.43	0.02
16	Sulphate (SO4)	34.8	19.1	401.8	23.5	32.3	14.2	30.8	10.4	412.6	15.8	8.6	1.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	0.66	0.08	12.8	3.49	10.13	0.7	6.17	0.45	39.8	1.7	3.56	0.29
19	Nitrite (NO2-N)	0.12	0.01	0.8	0.03	0.18	0	0.1	0	4	0	0.14	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	20	0	21.3	2.1	17.9	10.9	20.9	1.6	42.7	1.6	20	6.4
22	DO (Dissolved Oxygen)	7.2	4	-	-	9.7	6.2	9.1	7.4	8.9	3.8		
23	BOD3-27 (Biochemical Oxygen	3.4	1.6	2.6	1.8	3.4	0.4	7.8	0.8	37.7	3.8	1.6	0.4
24	Total Coliform (No. per 100 ml)	-	-	160000	22000	17000	980	92000	1700	1600000	2000	160000	4000
25	Faecal Coliform (No. per 100 ml)	-	-	28000	1100	3300	78	3200	450	79000	200	24000	680
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	2.1	2.1	5.9	2	9.5	0.5	4.6	1.5	8.4	1.5	4.9	0.1
30	Boron (ppm) (B)	0.43	0.02	0.11	0.03	0.14	0.04	0.12	0.01	0.56	0.12	0.04	0
31	Cadmium (Cd)	16.3	16.3	0.4	0	0.1	0	0.5	0	0.8	0	0.1	0
32	Chromium (Cr)	0.1	0.1	3.8	2.1	2	0.2	2.1	0.1	5.1	1.4	3.9	0.1
33	Copper (Cu)	1.6	1.6	5.5	2.4	4.4	2.4	4.6	2.6	12	3.1	6.8	2.5
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.4	0.4	1.2	0.5	2.6	0.5	1.3	0.3	0.8	0.3	1.5	0.7
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	3.8	3.8	0	0	0	0	0	0	0	0	0	0
39	Total Hardness (HAR _ Total)	198	86	557	97	175	96	208	84	833	194	76	20
40	Na % (Sodium Percentage)	54	36	46	22	53	29	31	25	72	44	48	29
41	SAR (Sodium Adsorption Ratio)	2.4	1.1	3.4	0.8	3.1	0.8	1	0.7	10.5	2.7	1	0.6
42	RSC (Residual Sodium Carbonate)	0.7	0	0	0	0.5	0	0	0	0.3	0	0.1	0

Source: Water Quality Year Book (Cauvery Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VI : Cauvery

Sl. No.	Parameter	Kodumudi Cauvery		Savandapur Bhavani		Thengumarahada Moyyar		Gandhavayal Gandhyar		Odandhurai Kallar		Nellithurai Bhavani	
(I)	(II)	(13)		(14)		(15)		(16)		(17)		(18)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1983	0	432.6	0	305.2	1.104	56.04	0	54.1	0	1491	0
2	Temperature (oC)	30	26.5	30	25	26	22	25	23	25	18	27	25
3	pH_GEN	8.8	7.9	8.4	7.8	8.1	7.1	8.1	7.4	8	7.2	7.9	6.9
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	6.8	2.4	5.9	0.1	5.1	0.9	3.8	0.9	1.00	1	2.6	0.7
6	Sodium (Na)	90	14.8	34	13.2	15.1	6.8	13.3	8.4	24.8	8.6	9.9	8.1
7	Calcium (Ca)	58	21	66	18	21	11	37	8	27	8	11	5
8	Magnesium (Mg)	20.6	3.9	14.7	5.8	5.9	1	6.8	1.9	8.8	1.9	2.9	1
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.2	0	0.7	0	0.7	0	0.2	0	0.3	0.1	0.4	0
11	Ammonia (NH3-N)	2.08	0	1.48	0.03	0.19	0	0.15	0	0.13	0	0.2	0.07
12	Carbonate (CO3)	33.7	0	19.3	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	220	77	220	62	64	33	101	29	96	34	44	19
14	Chloride (CL)	**116.4**	**19.1**	46.9	17.1	22.9	10.4	24.8	13.9	35.8	12.2	15.2	11.3
15	Fluoride (F)	0.46	0.16	0.43	0.1	0.47	0.07	0.89	0.05	0.77	0.03	0.54	0.05
16	Sulphate (SO4)	32.4	10.4	30.8	8.8	8.3	3.5	12.8	4.8	24.8	5.2	8.4	1.8
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	13.5	0.27	8.6	0.9	6.4	0.39	3.8	0.68	3.9	0.65	0.82	0.2
19	Nitrite (NO2-N)	0.24	0	0.39	0	0.17	0	0.06	0	0.1	0	0.07	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	16.2	10.1	26.8	6.2	29.5	4.9	34.5	9.1	27.7	2.3	16.6	6.6
22	DO (Dissolved Oxygen)	6.8	6	11.3	6.2	7.4	7	-	-	-	-	-	-
23	BOD3-27 (Biochemical Oxygen	3.8	0.8	3.8	0.6	1	0.6	-	-	1.4	0.4	2	0.8
24	Total Coliform (No. per 100 ml)	160000	780	160000	780	54000	1700	170000	2700	160000	7000	160000	13000
25	Faecal Coliform (No. per 100 ml)	3300	20	4900	400	11000	200	54000	1100	24000	610	4900	3900
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	4.2	0.4	5.6	0.3	5.1	0.2	3.5	1.1	4.9	0.9	0.4	0.4
30	Boron (ppm) (B)	0.09	0.02	0.12	0.01	0.1	0	0.11	0.02	0.08	0.01	0.06	0.02
31	Cadmium (Cd)	0.1	0	0.1	0	0.1	0	0.6	0	0.9	0	0.1	0.1
32	Chromium (Cr)	13.9	4.6	3.5	0.1	1.8	0.1	5.3	0.2	1.7	0.1	0	0
33	Copper (Cu)	5.5	1.7	2.6	2.5	3.1	2.7	4.4	2.6	7.9	3.8	3.7	3.7
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	1.6	0.3	1.9	0.3	1.3	0.4	0.9	0.7	1.7	0.1	3.1	3.1
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	0	0	0	0	0	0	0	0	0	0	0	0
39	Total Hardness (HAR _ Total)	177	72	196	68	65	32	104	36	89	36	36	16
40	Na % (Sodium Percentage)	52	27	30	20	42	23	43	21	40	26	49	35
41	SAR (Sodium Adsorption Ratio)	3	0.8	1.1	0.7	1	0.4	0.9	0.5	1.2	0.6	0.9	0.7
42	RSC (Residual Sodium Carbonate)	0.7	0	0.2	0	0	0	0	0	0	0	0	0

Source: Water Quality Year Book (Cauvery Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	VI : Cauvery											
Sl.	Parameter	Urachikottai		Thevur		Sevanur		Kudlur		Biligundulu		T. Bekuppe	
No.		Cauvery		Sarabnga		Chhittar		Palar		Cauvery		Arkavathi	
(I)	(II)	(19)		(20)		(21)		(22)		(23)		(24)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1994	0	10.13	0	19.59	0	35.75	0	6692	5.278	196.2	0.573
2	Temperature (oC)	32	26.5	26	22	30	26	26	24	32	28	28	20
3	pH_GEN	8.8	7.1	8.3	7.9	8.2	7.8	8.6	7.9	8.9	7.7	8.3	7.4
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	6.5	1.3	13.9	5.2	12.1	5.7	5.3	1.6	4.4	2.2	22.9	9.8
6	Sodium (Na)	39.4	13.4	66.5	32.4	47.8	26.5	83	19	85.7	14.2	216.5	72.5
7	Calcium (Ca)	51	16	93	42	96	37	36.7	9.2	56	24	100	34
8	Magnesium (Mg)	23.5	1.9	18.4	1.9	23.3	7.8	11.6	7.8	24.5	4.9	77	20.2
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.9	0	0.9	0.1	0.2	0	0.5	0.2	0.5	0	0.8	0
11	Ammonia (NH3-N)	0.21	0.03	0.09	0.03	0.18	0	0.12	0.09	0.22	0	-	-
12	Carbonate (CO3)	19.3	0	4.8	0	0	0	28.9	0	19.3	0	31.8	0
13	Bicarbonate (HCO3)	188	53	348	101	318	199	269	82	225	72	623	285
14	Chloride (CL)	51.5	19.1	85.7	41.9	62.6	34.5	48.7	13.3	113.9	24.5	205.9	118.6
15	Fluoride (F)	0.44	0.03	0.95	0.3	0.65	0.01	0.92	0.5	0.58	0.07	1.18	0.06
16	Sulphate (SO4)	26.4	8.1	72.5	27.9	33.9	20.1	26.7	12.8	19	4.1	74	10.6
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	9.21	0.5	13.5	1.8	14.1	1.32	8.1	0.7	8.5	0.52	11.32	0.29
19	Nitrite (NO2-N)	0.33	0	1.25	0	0.25	0	0.15	0.01	0.16	0	6.4	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	29.4	7.8	29.5	1.5	40	1.5	40	17.8	31.1	4.2	73.9	17.5
22	DO (Dissolved Oxygen)	7.2	6.8	-	-	-	-	6.8	6.8	6.9	5	3.8	1.3
23	BOD3-27 (Biochemical Oxygen	5.8	0.6	-	-	-	-	1.4	0.6	3.8	0.8	30	7.4
24	Total Coliform (No. per 100 ml)	160000	1400	160000	4100	92000	4100	220000	17000	13000	180	280000	2000
25	Faecal Coliform (No. per 100 ml)	17000	200	28000	200	13000	200	32000	400	1800	0	54000	470
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	4.4	0.7	4.1	4.1	3.6	3.6	4.2	4.2	5.4	0.2	1.7	0.8
30	Boron (ppm) (B)	0.14	0.03	0.15	0.05	0.19	0.01	0.16	0.1	0.17	0.05	0.33	0.07
31	Cadmium (Cd)	0.1	0	0	0	0	0	0	0	0.1	0	0.1	0.1
32	Chromium (Cr)	11.1	4.5	2.1	2.1	5.3	5.3	13.9	13.9	2.6	0.1	3.1	0.4
33	Copper (Cu)	3.9	3.6	2.3	2.3	2	2	1.7	1.7	3.7	3.6	8.5	3.6
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	2.4	0.3	0.5	0.5	0.4	0.4	0.3	0.3	0.6	0.3	0.6	0
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	0	0	0	0	0	0	0	0	14.8	8.2	43.8	13.7
39	Total Hardness (HAR _ Total)	178	57	300	112	272	163	256	84	228	80	483	177
40	Na % (Sodium Percentage)	36	22	36	28	29	25	30	19	45	24	70	24
41	SAR (Sodium Adsorption Ratio)	1.4	0.7	1.8	1.3	1.4	0.9	1	0.4	2.5	0.6	6.7	1.4
42	RSC (Residual Sodium Carbonate)	0.3	0	0	0	0.3	0	0.3	0	0.6	0	5.3	0

Source: Water Quality Year Book (Cauvery Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	VI : Cauvery											
Sl.	Parameter	Kokkedoddy		T.K.Halli		Kollegal		Bendrahalli		T.Narasipur		Muthankera	
No.		Arkavathy		Shimsa		Cauvery		Suvarnavathi		Kabini		Kabini	
(I)	(II)	(25)		(26)		(27)		(28)		(29)		(30)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	321.4	0	365.4	0	7923	0	16.05	0	3479	3.05	2357	1.078
2	Temperature (oC)	28.5	23	30	23	32.5	22	22.5	19	30	25.5	29	24
3	pH_GEN	8.6	8	8.2	7.5	8.5	7.5	8	7.1	8.3	7.5	7.7	7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	15.6	5.9	4.1	2	2.8	1.3	7.3	1.8	14.7	1.5	3.2	0.8
6	Sodium (Na)	175.5	51	61.6	25.1	39.1	8.1	104	10.8	74	11	7	2.9
7	Calcium (Ca)	143	45	73	30	37	12	69	17	53.5	6.5	11	5
8	Magnesium (Mg)	57	2.8	33.5	1.8	20.5	7.5	28.9	1	23.6	5.7	5.8	0
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.5	0	0.4	0	0.4	0	0.8	0	0.8	0	1.5	0
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	70.5	0	0	0	41.1	0	0	0	47.1	0	0	0
13	Bicarbonate (HCO3)	344	279	289	196	213	86	466	69	251	48	59	21
14	Chloride (CL)	229.3	101.9	41.9	22.7	33	15.3	73.1	15.3	60.4	2.4	17.4	4.6
15	Fluoride (F)	0.97	0.1	0.63	0.17	0.34	0.02	0.3	0.06	0.32	0.02	0.1	0
16	Sulphate (SO4)	41.8	21.5	51.8	2.1	28.4	7.5	46.1	1.5	22	5.5	8.4	1.2
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	9.44	0.1	7.59	0	17.8	0.08	4.72	0.52	3.47	0.13	0.66	0.04
19	Nitrite (NO2-N)	0.81	0.01	0.03	0.01	0.15	0	0.19	0	0.06	0	0.03	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	44	19.4	24.2	10.5	18.8	2.6	53.5	11.7	40.3	6.7	19.4	6
22	DO (Dissolved Oxygen)	8.6	6.3	7	3.3	9.5	5.5	7	4.5	7.7	3.8	9.3	5.7
23	BOD3-27 (Biochemical Oxygen	5.1	0.6	2	1	1.8	0.1	3.2	1	5.5	0.2	7.5	1
24	Total Coliform (No. per 100 ml)	24000	1100	160000	2400	35000	230	160000	1300	16000	27	22000	1300
25	Faecal Coliform (No. per 100 ml)	5400	140	3900	170	5400	78	4700	110	3900	140	3300	0
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	2.6	0.5	3.2	3.2	4	2.5	2.6	2.6	1.8	1.3	2.6	0.1
30	Boron (ppm) (B)	0.35	0.13	0.13	0	0.21	0.01	0.18	0.1	0.22	0.04	0.2	0
31	Cadmium (Cd)	0	0	0	0	0.2	0.1	0	0	0.1	0	0	0
32	Chromium (Cr)	5.5	0.2	1.1	1.1	2.5	0.5	2.5	2.5	5.5	0.4	8.5	1.8
33	Copper (Cu)	4.2	0.9	2.9	2.9	2.8	0.6	5	5	3.7	0.5	4.7	0.4
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.1	0.1	0.5	0.5	0.4	0.2	0.3	0.3	0.2	0.1	0.4	0.1
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	46	15.3	46.6	46.6	14.4	10	46.4	46.4	14.6	2.5	17.7	4.2
39	Total Hardness (HAR _ Total)	419	253	220	155	174	81	293	60	235	51	52	19
40	Na % (Sodium Percentage)	58	24	41	26	37	17	46	27	38	13	30	20
41	SAR (Sodium Adsorption Ratio)	4.7	1.2	1.9	0.9	1.4	0.4	2.6	0.6	1.6	0.4	0.5	0.3
42	RSC (Residual Sodium Carbonate)	1.3	0	1.2	0	0.2	0	1.8	0	1	0	0.1	0

Source: Water Quality Year Book (Cauvery Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VI : Cauvery

Sl. No.	Parameter	K.M.Vadi		Akkihebbal		M.H.Halli		Thimmanahalli		Sakaleshpur		Chunchunkatte	
		Lakhshmanthirtha		Hemavathi		Hemavathi		Yagachi		Hemavathi		Cauvery	
(I)	(II)	(31)		(32)		(33)		(34)		(35)		(36)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1182	0	2590	0	3445	0	1393	0.014	1426	0.136	2789	0
2	Temperature (oC)	28	23	28	23.5	26.5	18	25	22	27	21	27	22.5
3	pH_GEN	8.2	7.1	8.1	7.6	8.2	7.3	8	7.3	7.9	6.8	8.1	7.3
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	9.3	1.6	74.3	1.4	2.3	1.1	3.9	1.2	2.6	0.8	5.2	0.9
6	Sodium (Na)	48.8	3.7	21.4	6.5	20	11	37	21	8	3.1	23	8
7	Calcium (Ca)	53	8	45	14	9.7	3.9	24.4	9.5	16	4	13.8	3.2
8	Magnesium (Mg)	28.1	3.9	19.6	4.7	10.3	1	11.1	1.7	5.8	0	13	1
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.5	0	1.4	0	0.9	0	0.9	0	1	0	0.7	0
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	350	27	193	64	92	32	142	90	47	16	125	21
14	Chloride (CL)	34.1	13.1	23.4	13.5	17	11.4	32.7	15.3	13.5	7.5	15.3	7.5
15	Fluoride (F)	0.4	0.02	0.25	0.02	0.84	0.02	0.21	0.02	0.11	0	0.74	0
16	Sulphate (SO4)	26.7	2.7	18.3	2.4	13.3	2.3	22.1	0	10.4	0	27.7	7.1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	1.7	0.36	1.23	0.22	1.71	0.17	17.09	0.03	1.7	0.11	4.23	0.29
19	Nitrite (NO2-N)	0.26	0.01	0.01	0	0.01	0	0.01	0	0.14	0	0.14	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	24.4	10.3	27.6	12.3	21.5	9.4	24.8	8.8	21.9	4.9	20.3	1.4
22	DO (Dissolved Oxygen)	8.4	5.7	8.1	5	7.4	4.2	7.5	3.1	7.6	5.5	7.8	5.5
23	BOD3-27 (Biochemical Oxygen	3	1	1.6	0.8	1.5	0.4	5.5	1	4	0.8	2	1
24	Total Coliform (No. per 100 ml)	160000	700	16000	790	92000	230	16000	790	24000	490	54000	1300
25	Faecal Coliform (No. per 100 ml)	9200	170	1700	68	2100	40	11000	20	3500	170	2700	140
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	3	1.3	2.8	0.1	1.9	0.6	1.9	0.1	3.4	1.4	2.2	0.6
30	Boron (ppm) (B)	0.26	0.01	0.14	0.03	0.11	0.01	0.2	0.03	0.22	0	0.19	0
31	Cadmium (Cd)	0.7	0	0.3	0.1	0.3	0	0.7	0.1	0.2	0.1	0.1	0
32	Chromium (Cr)	19	0.5	12.7	0.6	1.7	0.3	4.6	0.5	1.7	0.5	3.6	0.3
33	Copper (Cu)	3.2	1	2	0.5	3	0.4	4.1	1.7	10.4	0.6	1.8	0.6
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.4	0	0.2	0.1	0.5	0.1	0.2	0.1	0.1	0.1	0.3	0
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	15.1	8.4	42.5	15.2	14.1	3.7	14.9	8.5	15.5	8.5	16.6	4.1
39	Total Hardness (HAR _ Total)	231	36	162	55	87	37	116	75	40	20	108	24
40	Na % (Sodium Percentage)	31	16	22	15	26	15	32	19	33	22	24	17
41	SAR (Sodium Adsorption Ratio)	1.4	0.3	0.8	0.4	0.5	0.3	1	0.5	0.6	0.3	0.6	0.3
42	RSC (Residual Sodium Carbonate)	1.2	0	0.5	0	0	0	0.4	0	0	0	0.2	0

Source: Water Quality Year Book (Cauvery Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VI : Cauvery

Sl. No.	Parameter	Odandhurai Cauvery (37)	
(I)	(II)	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	2297	2.151
2	Temperature (oC)	30	22
3	pH_GEN	8	7.2
4	Specific Conductance	-	-
5	Potassium (K)	2.1	0.6
6	Sodium (Na)	8.7	2.4
7	Calcium (Ca)	15	4
8	Magnesium (Mg)	8.7	0
9	Aluminium (Al)	-	-
10	Iron (Fe)	0.9	0
11	Ammonia (NH3-N)	-	-
12	Carbonate (CO3)	0	0
13	Bicarbonate (HCO3)	70	16
14	Chloride (CL)	17.4	2.8
15	Fluoride (F)	0.11	0
16	Sulphate (SO4)	5.8	1.9
17	Sulphite (SO3)	-	-
18	Nitrate (NO3-N)	7.43	0.04
19	Nitrite (NO2-N)	0.03	0
20	Phosphate (PO4)	-	-
21	Silica (Sio2)	15.9	5.2
22	DO (Dissolved Oxygen)	7	5.5
23	BOD3-27 (Biochemical Oxygen	2.7	1
24	Total Coliform (No. per 100 ml)	24000	230
25	Faecal Coliform (No. per 100 ml)	5400	130
26	Total plate count (No. per 100 ml)	-	-
27	Phytoplankton (No. per ml)	-	-
28	Zooplankton (No. per Litre)	-	-
29	Arsenic (ppm) (As)	4.5	4
30	Boron (ppm) (B)	0.17	0
31	Cadmium (Cd)	0.1	0.1
32	Chromium (Cr)	2.2	2.1
33	Copper (Cu)	1.6	0.5
34	Cyanide (Cn)	-	-
35	Lead (Pb)	0.3	0.1
36	Manganese (Mn)	-	-
37	Mercury (Hg)	-	-
38	Zinc (Zn)	14.6	11.7
39	Total Hardness (HAR _ Total)	64	19
40	Na % (Sodium Percentage)	29	17
41	SAR (Sodium Adsorption Ratio)	0.6	0.2
42	RSC (Residual Sodium Carbonate)	0	0

Source: Water Quality Year Book (Cauvery Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VII : Pennar

Sl. No.	Parameter	Nellore		Nandipalli		Chennur		Kamalapuram		Alladupalli		Tadipattri	
		Pennar		Sagileru		Pennar		Papaganj		Kunderu		Pennar	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	876.7	0	32.66	0	3814	0	90.6	0	3742	0	15.36	0
2	Temperature (oC)	26	26	28	28	27	24.5	26	25	26.5	20	26	26
3	pH_GEN	7.8	7.7	8.3	7.8	8.5	7.6	8.5	8.4	8.4	7.4	8.7	8.4
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	3.5	3.1	4.7	4.1	4.4	2.6	4.2	2.2	8.7	2.5	50	34
6	Sodium (Na)	57	25.1	41.9	12.3	122.5	28.4	33.6	14.5	206.5	25.4	27.3	20.5
7	Calcium (Ca)	44	27	16	14	53	28	16	14	58	25	12	11
8	Magnesium (Mg)	10.2	9.4	10.4	6.6	30.6	12	11.3	7.6	30.5	12	6.6	6.5
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.4	0	1	0.4	0.5	0	0.9	0.5	0.2	0	0.5	0.4
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	9.7	0	19	0	19.4	8.9	15	0	9.6	8.9
13	Bicarbonate (HCO3)	168	122	94	59	199	108	73	50	231	117	50	34
14	Chloride (CL)	74.3	32.4	51.4	13.2	147.1	34.3	41.9	18.9	223.2	30.5	38.1	26.4
15	Fluoride (F)	0.54	0.54	0.48	0.29	0.82	0.24	0.5	0.4	0.87	0.22	0.55	0.34
16	Sulphate (SO4)	40.2	32.9	22.1	20.7	132.5	30.6	27.3	20.1	185	35.5	21.4	14.7
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	0.36	0.1	0.62	0.14	1.08	0.39	0.43	0.08	5.15	0.57	0.3	0.24
19	Nitrite (NO2-N)	0.01	0	0.04	0.01	0.05	0.01	0.19	0.01	0.2	0.01	0.12	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	0	0	0.2	0.1	13.1	0	6.9	0	19.8	0	2.8	0
22	DO (Dissolved Oxygen)					7.6	5.7			8.2	4		
23	BOD3-27 (Biochemical Oxygen	1.4	0.4	2.4	1	3	1.1	1.2	0.8	3.6	0.8	2.6	2.6
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)					1.7	1.3			4.5	0.4		
30	Boron (ppm) (B)	0.67	0.15	0.59	0.32	0.52	0.05	0.58	0.07	0.56	0.04	0.22	0.19
31	Cadmium (Cd)	-	-	-	-	0.2	0	-	-	0.2	0	-	-
32	Chromium (Cr)	-	-	-	-	7.4	1.7	-	-	6.6	4.1	-	-
33	Copper (Cu)	-	-	-	-	8.1	0	-	-	5.3	0	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	0.9	0.7	-	-	0.3	0.2	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	10.2	0.8	-	-	6.2	0.3	-	-
39	Total Hardness (HAR _ Total)	148	111	82	63	250	121	86	69	273	117	58	55
40	Na % (Sodium Percentage)	45	32	51	28	52	32	50	30	70	32	50	43
41	SAR (Sodium Adsorption Ratio)	2	1	2	0.7	3.5	1.1	1.8	0.8	6	1	1.6	1.2
42	RSC (Residual Sodium Carbonate)	0	0	0.2	0	0	0	0.1	0	0	0	0	0

Source: Water Quality Year Book (Pennar Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VII : Pennar			
Sl. No.	Parameter	Singavaram Chitravathi	
(I)	(II)	(7)	
		Maximum	Minimum
1	Q(Cumecs) in cubic m/s	19.44	0
2	Temperature (oC)	28.5	26.5
3	pH_GEN	8.6	8.2
4	Specific Conductance	-	-
5	Potassium (K)	2.4	2.4
6	Sodium (Na)	22.2	20.6
7	Calcium (Ca)	30	21
8	Magnesium (Mg)	9.3	6.6
9	Aluminium (Al)	-	-
10	Iron (Fe)	0	0
11	Ammonia (NH3-N)	-	-
12	Carbonate (CO3)	9.6	0
13	Bicarbonate (HCO3)	99	78
14	Chloride (CL)	28.3	26.7
15	Fluoride (F)	0.24	0.23
16	Sulphate (SO4)	25.4	23.6
17	Sulphite (SO3)	-	-
18	Nitrate (NO3-N)	0.46	0.31
19	Nitrite (NO2-N)	0.02	0.01
20	Phosphate (PO4)	-	-
21	Silica (Sio2)	7.9	0.8
22	DO (Dissolved Oxygen)	-	-
23	BOD3-27 (Biochemical Oxygen	2.2	2
24	Total Coliform (No. per 100 ml)	-	-
25	Faecal Coliform (No. per 100 ml)	-	-
26	Total plate count (No. per 100 ml)	-	-
27	Phytoplankton (No. per ml)	-	-
28	Zooplankton (No. per Litre)	-	-
29	Arsenic (ppm) (As)	-	-
30	Boron (ppm) (B)	0.04	0.02
31	Cadmium (Cd)	-	-
32	Chromium (Cr)	-	-
33	Copper (Cu)	-	-
34	Cyanide (Cn)	-	-
35	Lead (Pb)	-	-
36	Manganese (Mn)	-	-
37	Mercury (Hg)	-	-
38	Zinc (Zn)	-	-
39	Total Hardness (HAR _ Total)	101	92
40	Na % (Sodium Percentage)	32	32
41	SAR (Sodium Adsorption Ratio)	1	0.9
42	RSC (Residual Sodium Carbonate)	0	0

Source: Water Quality Year Book (Pennar Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

VIII : East Flowing Rivers From Mahanadi to Pennar

Sl. No.	Parameter	Gunupur Vamsadhara		Kashinagar Vamsadhara		Purushottampur Rushikulya		Srikakulam Nagavali		Marella Gundlakamma	
(I)	(II)	(1)		(2)		(3)		(4)		(5)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	-	-	-	-	-	-
2	Temperature (oC)	29	21	29.5	1.3	30	20	32.8	24.8	-	-
3	pH_GEN	7.8	7.3	7.8	7.2	8.1	7.2	7.9	7.1	8.6	7.5
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	3.8	0.5	17.9	0.9	10.4	0.3	39.1	1.4	2.4	0.4
6	Sodium (Na)	12.3	3.7	61.4	3.9	57.1	3.3	87.8	7.8	211.6	54
7	Calcium (Ca)	35	13	36	19	48	13	45	11	88	15
8	Magnesium (Mg)	7.6	1	11.4	1.9	13.3	2.8	11.4	2.8	62	4
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	1.26	0.43
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	0.21	0.01
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	9.7	0
13	Bicarbonate (HCO3)	155	65	179	70	214	56	219	80	400	142
14	Chloride (CL)	45.6	12.2	59.6	11.1	58.4	11.5	54.8	15.3	223	67
15	Fluoride (F)	0.22	0.19	0.37	0.26	0.61	0.32	0.52	0.18	1.26	0.43
16	Sulphate (SO4)	31.5	6.9	25.7	1.7	32.7	1.1	22.5	2.6	136.4	19.1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	-	-	-	-	-	-	-	-	9.92	0.51
19	Nitrite (NO2-N)	-	-	-	-	-	-	-	-	0.78	0.02
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	6.5	6.5	7.6	7.6	7.9	7.9	7	7	18.4	15.8
22	DO (Dissolved Oxygen)	6.8	3.9	6.4	3	6.2	3.7	6.3	3.8	7.8	3.6
23	BOD3-27 (Biochemical Oxygen	2	0.7	2.3	0.5	2	0.4	1.8	0.4	3.3	0.5
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	16000	1100
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	3500	210
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	3.54	3.54
30	Boron (ppm) (B)	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.23	0.01
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	0.06	0.06
32	Chromium (Cr)	-	-	-	-	-	-	-	-	19.24	19.24
33	Copper (Cu)	-	-	-	-	-	-	-	-	46	3
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	0.58	0.58
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	104	21
39	Total Hardness (HAR _ Total)	106	49	122	55	159	57	146	43	353	83
40	Na % (Sodium Percentage)	25	8	63	7	58	7	54	18	68	37
41	SAR (Sodium Adsorption Ratio)	0.6	0.2	3.6	0.2	2.8	0.2	3.6	0.4	6.3	2.2
42	RSC (Residual Sodium Carbonate)	0.9	0	1.7	0	0.3	0	1.4	0	2.2	0

Source: Water Quality Year Book (East Flowing Rivers From Mahanadi to Pennar Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IX : East flowing rivers from Pennar to Kanyakumari

Sl. No.	Parameter	Naidupeta		Sulurpet		Chengalpet		Arcot		Kumarapalayam		Vazhavachanur	
		Swarnamukhi		Kalingi		Palar		Palar		Papagni		Ponnaiyar	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	147.7	0	61.35	0	117.6	0	5.57	0	70.71	0	24.79	0
2	Temperature (oC)	27	25	26	25	31	26	30	29	28	28	29	26.5
3	pH_GEN	8.5	8	8.3	7.8	8	7.5	8.3	7.9	8	8	8.3	7.9
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	3.5	3	3.5	2.7	5.2	3.6	13.5	8.3	4.1	4.1	12	4.4
6	Sodium (Na)	48.8	32.7	63.9	23.6	64.5	21.9	309.5	157.5	43.4	43.4	143	59.5
7	Calcium (Ca)	32	18	35	18	41	16	91	61	35	35	89	56
8	Magnesium (Mg)	15.1	12	18.7	9.3	19.5	6.6	47.7	25.5	14.8	14.8	51.9	18.9
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.5	0	0.6	0	0.3	0	0.1	0	0	0	0.1	0
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	10	0	14.3	0	0	**0**	13.3	0	0	0	9.6	0
13	Bicarbonate (HCO3)	148	115	193	105	208	61	377	185	154	154	336	122
14	Chloride (CL)	62.8	41.9	81.1	30.5	89.7	28.6	478	259	64.7	64.7	247.5	118.8
15	Fluoride (F)	0.51	0.38	0.62	0.36	0.55	0.22	2.54	0.69	0.29	0.29	0.78	0.3
16	Sulphate (SO4)	38.9	29.1	33.3	22.6	29.7	3.4	134.2	47.9	26.4	26.4	122.8	45.9
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	0.19	0.07	0.52	0.09	0.81	0.2	1.75	0.75	0.26	0.26	2.82	0.25
19	Nitrite (NO2-N)	0.13	0.02	0.12	0.01	0.41	0.01	0.97	0.19	0.03	0.03	0.04	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	2.8	0	4.5	0	18	0.1	23.4	9.2	11.3	11.3	34	9.5
22	DO (Dissolved Oxygen)	7.6	7.5	7.2	6.2	-	-	-	-	-	-	9.1	6.3
23	BOD3-27 (Biochemical Oxygen	4	1.4	4.2	1.6	2.8	0.8	4.7	1	1.8	1.8	3	0.8
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	1.6	1.6	4.6	4.6	4.1	0.4	7	7	2.4	2.4	3	3
30	Boron (ppm) (B)	0.13	0.05	0.4	0.06	0.57	0.09	0.31	0.1	0.04	0.04	0.59	0.06
31	Cadmium (Cd)	0	0	0	0	0.1	0	0.1	0.1	0	0	0.1	0.1
32	Chromium (Cr)	1.5	1.5	5.2	5.2	6.7	1.7	4	4	0.6	0.6	4.7	4.7
33	Copper (Cu)	0.1	0.1	0.3	0.3	5.5	0.1	0	0	0	0	0.1	0.1
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	0.5	0.5	0	0	0.6	0.1	0.9	0.9	13.3	13.3	0.3	0.3
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	2.9	2.9	15.3	15.3	6.2	3.7	0.3	0.3	0.8	0.8	2.9	2.9
39	Total Hardness (HAR _ Total)	142	96	167	88	184	66	426	262	150	150	438	219
40	Na % (Sodium Percentage)	42	37	50	36	43	37	62	56	38	38	47	32
41	SAR (Sodium Adsorption Ratio)	1.8	1.4	2.2	1.1	2.1	1.1	6.8	4.2	1.5	1.5	3.2	1.8
42	RSC (Residual Sodium Carbonate)	0	0	0.3	0	0.2	0	0	0	0	0	0	0

Source: Water Quality Year Book (East flowing rivers from Pennar to Kanyakumari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IX : East flowing rivers from Pennar to Kanyakumari

Sl. No.	Parameter	Gummanur		Singasadanapalli		Kudalaiyathur		Paramakudi		THENI		Ambasamudram	
		Ponnaiyar		Ponnaiyar		Vellar		Vaigai		Suruliyar		Vaigai	
(I)	(II)	(7)		(8)		(9)		(10)		(11)		(12)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	55.93	0	42.95	0	288.8	0	55.82	0	104.8	0	117.7	0
2	Temperature (oC)	29	22	24	20	-	-	29	29	27	24	25	24
3	pH_GEN	8.7	7.2	8.4	7	8.1	7.9	7.3	7.3	8.1	7.2	8.4	7.3
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	28.6	12.3	37	15.2	3.7	2.3	6.2	6.2	26	1	4.5	1
6	Sodium (Na)	170.5	94.2	155	94.4	45.8	19.6	14.1	14.1	30.7	6.1	17	7.2
7	Calcium (Ca)	142	77	134	61	31	21	32	32	41	8	46	6
8	Magnesium (Mg)	35.3	0	42.6	4.9	11.3	6.5	1.9	1.9	13.8	1	5.8	1
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	2.322	0	0.36	0	0.9	0.6	0.27	0.27	0.34	0	0.18	0.041
11	Ammonia (NH3-N)	4.68	0.02	24.5	0.07	-	-	0.18	0.18	0.28	0	0.22	0.1
12	Carbonate (CO3)	37.9	0	23.6	0	9.7	0	0	0	0	0	4.8	0
13	Bicarbonate (HCO3)	382	226	578	304	138	80	88	88	206	19	157	19
14	Chloride (CL)	232.4	135.2	220.9	123.8	59	24.8	19.1	19.1	40.5	8.7	22.6	11.4
15	Fluoride (F)	0.6	0.11	0.46	0.07	0.47	0.29	0.22	0.22	0.62	0.1	0.32	0.13
16	Sulphate (SO4)	37.4	13.3	30.8	12.7	31.1	30	7.8	7.8	12.3	1.4	25.3	4.1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	46	5.14	30	1.68	0.28	0.2	4.17	4.17	4.83	0.6	2.2	0.81
19	Nitrite (NO2-N)	3.8	0	9.71	0	0.09	0.08	0.24	0.24	0.16	0	0.08	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	41.8	1.1	42.7	7.8	2.6	0	34.3	34.3	21.1	5.8	23.9	16.8
22	DO (Dissolved Oxygen)	5.2	4.4	0	0			5.6	5.6	13.8	4.7	9.4	6.8
23	BOD3-27 (Biochemical Oxygen	27.7	5.1	191.2	19.7	2	1.6			2.4	0.4	3.6	0.6
24	Total Coliform (No. per 100 ml)	1600000	7800	16000000	14000	-	-	17000	17000	92000	3900	160000	35000
25	Faecal Coliform (No. per 100 ml)	210000	450	9200000	1800	-	-	2600	2600	4900	1100	11000	2200
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	6.95	0.18	3.27	0.38	2.2	2.2	-	-	3.83	0.37	4.65	4.65
30	Boron (ppm) (B)	0.38	0.13	0.39	0.11	0.56	0.14	-	-	0.14	0.04	0.09	0.02
31	Cadmium (Cd)	0.1	0	0.07	0.02	0	0	-	-	0.11	0.01	0.01	0.01
32	Chromium (Cr)	8.13	4.67	11.69	4.44	7.1	7.1	-	-	5.55	4.59	3.39	3.39
33	Copper (Cu)	12.13	7.75	5.85	2.56	0	0	-	-	7.75	3.37	8.08	8.08
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	1.02	0.06	3.67	0.75	0.2	0.2	-	-	2.6	0.47	0.59	0.59
36	Manganese (Mn)	-	-	-	-	-	-	-	-				
37	Mercury (Hg)	-	-	-	-	-	-	-	-				
38	Zinc (Zn)	0.03	0.01	0.03	0.01	0.9	0.9	-	-	0.01	0.01	0.02	0.02
39	Total Hardness (HAR _ Total)	380	236	435	232	125	80	88	88	160	24	140	20
40	Na % (Sodium Percentage)	55	44	49	39	44	34	24	24	46	24	43	20
41	SAR (Sodium Adsorption Ratio)	4.6	2.7	3.7	2.4	1.8	1	0.7	0.7	1.1	0.4	0.8	0.6
42	RSC (Residual Sodium Carbonate)	0.1	0	2.5	0	0.1	0	0	0	0.2	0	0	0

Source: Water Quality Year Book (East flowing rivers from Pennar to Kanyakumari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

IX : East flowing rivers from Pennar to Kanyakumari			
Sl. No.	Parameter	Murappanadu Tambraparani	
(I)	(II)	(13)	
		Maximum	Minimum
1	Q(Cumecs) in cubic m/s	731.2	0
2	Temperature (oC)	30	27.5
3	pH_GEN	8	7
4	Specific Conductance	-	-
5	Potassium (K)	3.8	0.7
6	Sodium (Na)	26	7.4
7	Calcium (Ca)	29	6
8	Magnesium (Mg)	8.7	1
9	Aluminium (Al)	-	-
10	Iron (Fe)	0.108	0
11	Ammonia (NH3-N)	0.37	0
12	Carbonate (CO3)	0	**0**
13	Bicarbonate (HCO3)	118	10
14	Chloride (CL)	29	6
15	Fluoride (F)	0.33	0.05
16	Sulphate (SO4)	14.8	2.6
17	Sulphite (SO3)	-	-
18	Nitrate (NO3-N)	5.5	0.57
19	Nitrite (NO2-N)	0.26	0
20	Phosphate (PO4)	-	-
21	Silica (Sio2)	11	4.2
22	DO (Dissolved Oxygen)	6.9	5.6
23	BOD3-27 (Biochemical Oxygen	4.2	0.6
24	Total Coliform (No. per 100 ml)	35000	1200
25	Faecal Coliform (No. per 100 ml)	2600	140
26	Total plate count (No. per 100 ml)	-	-
27	Phytoplankton (No. per ml)	-	-
28	Zooplankton (No. per Litre)	-	-
29	Arsenic (ppm) (As)	2.72	0.12
30	Boron (ppm) (B)	0.18	0
31	Cadmium (Cd)	4.6	1.81
32	Chromium (Cr)	5.13	3.67
33	Copper (Cu)	60.64	14.12
34	Cyanide (Cn)	-	-
35	Lead (Pb)	0.94	0.63
36	Manganese (Mn)	-	-
37	Mercury (Hg)	-	-
38	Zinc (Zn)	0.03	0.01
39	Total Hardness (HAR _ Total)	108	20
40	Na % (Sodium Percentage)	46	30
41	SAR (Sodium Adsorption Ratio)	1.1	0.6
42	RSC (Residual Sodium Carbonate)	0.1	0



Source: Water Quality Year Book (East flowing rivers from Pennar to Kanyakumari Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	X : Narmada											
Sl.	Parameter	Hoshangabad		Sandia		Gadarwara		Barman		Belkheri		Patan	
No.		Narmada		Narmada		Shakkar		Narmada		Sher		Hiran	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	13060	0	72593	0	592.9	0	11700	0	-	-	-	-
2	Temperature (oC)	30	20	30	20	28	19	31	18	31	19	29.5	14.5
3	pH_GEN	8.1	7.3	8.3	7.2	7.9	7.3	7.9	7.2	8	7.1	7.9	7.1
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	4.7	1	5.6	1.2	5.4	0.6	4.4	0.7	10.2	0.6	11.1	1.5
6	Sodium (Na)	12.9	4.4	21.2	3.4	21.7	3.1	22	4.4	25.6	4.5	61.3	7.2
7	Calcium (Ca)	41	18	70	18	55	15	51	19	54	22	98	17
8	Magnesium (Mg)	18	4.6	36.2	6.1	24.8	4.9	27.4	5.1	30.9	7.3	23.3	7.8
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	0.14	0.03	0.23	0.03	0.25	0.02	0.25	0.01	0.3	0.03	0.26	0.04
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	334	74	371	82	275	77	338	79	344	102	332	111
14	Chloride (CL)	14	4	11.7	1	24	2	9.8	4	15.7	7	68	3
15	Fluoride (F)	0.11	0.03	0.12	0.04	0.12	0.04	0.11	0.03	0.13	0.03	0.2	0.03
16	Sulphate (SO4)	40.3	3.7	34.5	5.1	45.9	4.1	30.1	5.2	44	6.5	50.4	5.2
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	1.07	0.04	0.87	0.07	1.05	0.08	1.12	0.09	1.45	0.11	1.03	0.09
19	Nitrite (NO2-N)	1.27	0	1.55	0.01	0.09	0	0.08	0.01	1.83	0	2.58	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	57.5	14.7	58.9	17.6	44.1	10.8	62	9.5	65.2	17.7	29.3	13.8
22	DO (Dissolved Oxygen)	7.6	4.7	6.8	4.7	7.6	2.2	7	5.2	7.6	3	7.8	1.4
23	BOD3-27 (Biochemical Oxygen	1.4	0.5	1.4	0.4	2	0.4	1.4	0.4	3.8	0.3	4.3	0.8
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	-	-	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	178	70	262	74	225	68	242	68	256	86	284	93
40	Na % (Sodium Percentage)	20	9	20	7	30	7	23	8	23	9	45	7
41	SAR (Sodium Adsorption Ratio)	0.5	0.2	0.7	0.2	0.9	0.1	0.6	0.2	0.9	0.2	2.1	0.2
42	RSC (Residual Sodium Carbonate)	1.9	0	0.9	0	0.3	0	0.7	0	0.9	0	1	0

Source: Water Quality Year Book (Narmada Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	X : Narmada											
Sl.	Parameter	Bamni		Mohgaon		Manot		Dindori		Mandla		Bhalwara	
No.		Banjar		Burhner		Narmada		Narmada		Narmada		Gaur	
(I)	(II)	(7)		(8)		(9)		(10)		(11)		(12)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	1120	0	2143	0	1914	0	-	-	-	-	-	-
2	Temperature (oC)	28.5	23	30	19	29.5	14	32	9	30	13	29	14
3	pH_GEN	7.8	7.2	8	7.1	7.9	7	7.9	7.1	7.9	7.2	8	7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	5.3	1.2	4.2	0.7	3.6	0.4	3.5	0.7	2.6	0.8	5.5	0.8
6	Sodium (Na)	11.3	3.9	18.9	3.1	20.2	2.8	16.2	5.3	12	3.5	26.7	3.6
7	Calcium (Ca)	32	16	30	15	33	14	36	23	74	18	87	21
8	Magnesium (Mg)	10.1	4.9	16.5	3.9	21.1	2.4	18.8	4.4	19	4.9	29	6.8
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	0.08	0.02	0.11	0.03	0.17	0.04	0.18	0.02	0.18	0.05	0.39	0.04
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	183	74	178	60	190	62	0.12	0.03	230	79	381	91
14	Chloride (CL)	5.9	4	18	3	14	4	9	5	10	2	27.4	5
15	Fluoride (F)	0.11	0.1	6	0.02	0.11	0.01	0.12	0.03	0.11	0.09	0.21	0.03
16	Sulphate (SO4)	12.1	5.8	28.9	5.6	25	4.4	25.4	6.4	32.1	5.4	41.8	8.1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	1.2	0.05	0.91	0.09	1.08	0.09	1.08	0.09	1	0.05	1.34	0.09
19	Nitrite (NO2-N)	0.13	0.01	0.1	0.01	1.6	0.01	1.61	0.01	0.13	0.01	1.59	0.02
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	28	12.9	37.2	9.9	38.2	13.9	48.2	16.7	41.7	14.1	53.7	14
22	DO (Dissolved Oxygen)	6.2	5.2	7.2	3.6	9.2	2.8	6.6	2.7	7.1	5.4	7.6	2.1
23	BOD3-27 (Biochemical Oxygen	1.1	0.5	1.7	0.4	2	0.5	1.8	0.8	1.6	0.5	3.2	0.6
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	-	-	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	121	62	123	54	149	58	163	100	220	66	337	85
40	Na % (Sodium Percentage)	17	11	25	10	25	8	20	9	14	9	33	8
41	SAR (Sodium Adsorption Ratio)	0.4	0.2	0.7	0.2	0.8	0.2	0.6	0.2	0.4	0.2	0.9	0.2
42	RSC (Residual Sodium Carbonate)	0.6	0	0.6	0	0.4	0	0.6	0	0.7	0	0.6	0

Source: Water Quality Year Book (Narmada Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	X : Narmada											
Sl.	Parameter	Chandwada		Garudeshwar		Mandleshwar		Kogaon		Handia		Chhidgaon	
No.		Orsang		Narmada		Narmada		Kundi		Narmada		Ganjal	
(I)	(II)	(13)		(14)		(15)		(16)		(17)		(18)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	-	-	-	-	21150	0	-	-	17572	0	-	-
2	Temperature (oC)	27	19	30	22	27	20	31	19.5	27.5	16	29	17
3	pH_GEN	8.3	7.7	8.3	7.3	7.9	7.1	8.1	7.2	8.1	7.4	8.1	7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	3	1.5	3.2	1.5	5.4	1.4	4.3	1.2	4.4	0.12	4.7	0.7
6	Sodium (Na)	59.3	25.5	50.9	19.9	57.9	6	19.6	7.6	50.6	5.1	55.1	4.6
7	Calcium (Ca)	41	18	71	29	38	26	55	20	45	18	54	23
8	Magnesium (Mg)	22.1	10.9	43.3	9.7	12.4	5.8	29.7	3.2	23.4	7.1	22.1	7.8
9	Aluminium (Al)	-	-	0.05	0.05	50.5	14.8	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	0.68	0.05	0.67	0.05	1.04	0.03	0.48	0.04	0.2	0.02	0.21	0.05
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	226	95	400	132	190	88	253	95	237	93	317	105
14	Chloride (CL)	81	34	74	27	14	4	27	5.9	14	3	21	5
15	Fluoride (F)	0.73	0.1	0.66	0.08	0.12	0.05	0.12	0.02	0.12	0.02	0.14	0.02
16	Sulphate (SO4)	15	11.8	20.4	4.8	62	6.5	92.2	5.2	42.6	5.3	44.3	5.2
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2.19	1.55	2.76	0.3	1.07	0.09	0.99	0.09	1.16	0.06	1.11	0.09
19	Nitrite (NO2-N)	0.14	0.01	0.28	0	0.69	0	1.35	0	1.34	0.01	1.21	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	40.9	28.8	35.7	21.9	50.5	14.8	55.3	15.5	63.9	15	61.8	15.8
22	DO (Dissolved Oxygen)	8.4	5.6	8.8	6	10.8	2.4	7.8	5.1	7.9	4.6	8.8	3.3
23	BOD3-27 (Biochemical Oxygen	3.5	1	2.9	1	4.1	0.4	1.6	0.5	1.6	0.6	2	0.2
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	-	-	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	195	91	359	119	127	95	237	104	211	84	218	90
40	Na % (Sodium Percentage)	39	30	32	22	52	12	23	12	34	11	38	10
41	SAR (Sodium Adsorption Ratio)	1.9	1.1	1.2	0.7	2.4	0.3	0.7	0.3	1.5	0.2	1.7	0.2
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0.6	0	0.4	0	0.7	0	1.4	0

Source: Water Quality Year Book (Narmada Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	XI : Tapi											
Sl.	Parameter	Burhanpur		Gopalkheda		Sarangkheda		Mahuwa		Gadat		Durvesh	
No.		Tapi		Tapi		Tapi		Purna		Ambika		Vaitarna	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	4389	0	595.8	0	14686	0	2813	0	3796	0	4430	0
2	Temperature (oC)	30	20	22	12	31	26	29	20	30	20	31	21
3	pH_GEN	8.2	7.3	8.4	7.4	8.4	8.2	8.5	7.3	8.5	7.5	8.3	7.6
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	3.9	1.6	6.9	2.1	3.1	1.8	8	1.2	4.1	1.1	300	0.8
6	Sodium (Na)	55.2	16.5	153.2	32.8	50.5	20.8	196.5	17.6	52.4	18.2	8810	10.1
7	Calcium (Ca)	47	23	53	24	43	28	73	21	50	19	859	11
8	Magnesium (Mg)	26.5	9	28.4	11.9	20.2	8.8	52	10.9	22.6	8	765.7	5.6
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	-	-	-	-	-	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	14.6	0	9.9	0	15.6	0	10.1	0	0	0
13	Bicarbonate (HCO3)	259	100	260	120	200	126	414	95	243	93	231	51
14	Chloride (CL)	74	24	206	44	72	31	266	28	75	26	15282	14
15	Fluoride (F)	0.76	0.2	0.7	0.29	0.4	0.25	0.91	0.21	0.88	0.26	1.38	0.24
16	Sulphate (SO4)	15	6.7	47.8	12.7	16	5.2	74.2	8.3	16.4	9	314.2	4
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2.1	0.95	2.75	0.33	2.41	0.52	5.35	0.3	2.23	0.18	1.2	0.2
19	Nitrite (NO2-N)	0.23	0.01	0.25	0.01	0.04	0.01	0.08	0	0.07	0	0.03	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	52.6	15.7	49.9	24.5	47.8	26.8	53.8	32.1	52.6	24.4	43.5	13.1
22	DO (Dissolved Oxygen)	9	4.4	8.8	5.4	8	5.4	8.8	4.4	9	6.1	8.8	3.2
23	BOD3-27 (Biochemical Oxygen	4.3	0.7	4.9	1.4	3	1	3.1	1.3	3.2	1.1	2.7	1
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	-	-	-	-	-	-	-	-	-	-	-	-
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	216	95	248	111	191	115	391	99	207	84	5079	51
40	Na % (Sodium Percentage)	36	23	59	30	38	25	52	28	39	25	78	20
41	SAR (Sodium Adsorption Ratio)	1.7	0.7	4.5	1.2	1.6	0.8	4.3	0.8	1.7	0.8	54	0.5
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0	0	0	0	0	0	0	0

Source: Water Quality Year Book (Tapi Basin), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

XI : TAPI

Sl. No.	Parameter	Pingalwada Dhadhar		Motinaroli Kim	
(I)	(II)	(7)		(8)	
		Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	787.8	0	1126	0
2	Temperature (oC)	8.2	7.2	28	19
3	pH_GEN	26	11	8.2	7.2
4	Specific Conductance	-	-		
5	Potassium (K)	20.1	3.4	4.1	2
6	Sodium (Na)	210.4	22.4	108.4	26.6
7	Calcium (Ca)	66	18	71	29
8	Magnesium (Mg)	39.6	7.3	33.5	7.1
9	Aluminium (Al)	-	-		
10	Iron (Fe)	-	-		
11	Ammonia (NH3-N)	-	-		
12	Carbonate (CO3)	0	0	0	0
13	Bicarbonate (HCO3)	366	90	282	115
14	Chloride (CL)	286	32	155	36
15	Fluoride (F)	1.34	0.23	1.43	0.33
16	Sulphate (SO4)	56.4	11	67.5	13.8
17	Sulphite (SO3)	-	-		
18	Nitrate (NO3-N)	1.58	0.38	2.59	0.48
19	Nitrite (NO2-N)	0.23	0.01	0.1	0.01
20	Phosphate (PO4)	-	-		
21	Silica (Sio2)	47.6	12.5	37.9	20.2
22	DO (Dissolved Oxygen)	6.8	0	9	0.8
23	BOD3-27 (Biochemical Oxygen	34.9	3.4	3.9	1.7
24	Total Coliform (No. per 100 ml)	-	-		
25	Faecal Coliform (No. per 100 ml)	-	-		
26	Total plate count (No. per 100 ml)	-	-		
27	Phytoplankton (No. per ml)	-	-		
28	Zooplankton (No. per Litre)	-	-		
29	Arsenic (ppm) (As)	-	-		
30	Boron (ppm) (B)	-	-		
31	Cadmium (Cd)	-	-		
32	Chromium (Cr)	-	-		
33	Copper (Cu)	-	-		
34	Cyanide (Cn)	-	-		
35	Lead (Pb)	-	-		
36	Manganese (Mn)	-	-		
37	Mercury (Hg)	-	-		
38	Zinc (Zn)	-	-		
39	Total Hardness (HAR _ Total)	320	83	301	103
40	Na % (Sodium Percentage)	59	34	48	35
41	SAR (Sodium Adsorption Ratio)	5.3	1.1	2.8	1.1
42	RSC (Residual Sodium Carbonate)	0.1	0	0	0

Source: Water Quality Year Book (Tapi Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

XII : West Flowing Rivers from Tapi to tadri

Sl. No.	Parameter	Badlapur		Mangaon (Seasonal)		Belne Bridge		Santeguli	
		Ulhas		Kal		Gad		Aghanashini	
(I)	(II)	(1)		(2)		(3)		(4)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	7483	1.082	1301	0	2039	0	1880	0
2	Temperature (oC)	32.5	20.6	28.5	26.5	27.5	21.5	26.5	23.5
3	pH_GEN	7.9	7.1	7.7	7.2	7.9	6.8	7.3	6.7
4	Specific Conductance	-	-	-	-	-	-	-	-
5	Potassium (K)	4.7	0.4	3.6	0.1	1.4	0.3	0.6	0.4
6	Sodium (Na)	16.7	6.2	13	3	6.7	3.2	4.4	2.9
7	Calcium (Ca)	23	7	17.1	2.5	20	1	4	3
8	Magnesium (Mg)	12.3	4	7.5	2.4	9.4	1.8	2.9	1.3
9	Aluminium (Al)	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.6	0	0.6	0.1	0.6	0	0.3	0.1
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	88	39	54	30	61	32	21	12
14	Chloride (CL)	23.8	8.9	22.2	4.1	11.4	4.6	7.8	4.7
15	Fluoride (F)	0.08	0.05	0.08	-0.03	0.46	0	0.03	0.01
16	Sulphate (SO4)	12	1	7.7	1.1	8.6	2.1	7.8	0.3
17	Sulphite (SO3)	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	1.71	0.18	1.38	0.22	0.74	0.08	0.8	0.12
19	Nitrite (NO2-N)	0.03	0	0.03	0.01	0.19	0	0.01	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-
21	Silica (Sio2)	13.7	1.1	7.1	1.7	30.5	0.5	15.6	9.2
22	DO (Dissolved Oxygen)	7.9	4.6	6.8	5.4	8.3	5.5	7.6	6.3
23	BOD3-27 (Biochemical Oxygen	1.7	0.6	1.3	0.6	1	0.8	1.1	0.6
24	Total Coliform (No. per 100 ml)	160000	5000	30000	2700	16000	790	-	-
25	Faecal Coliform (No. per 100 ml)	50000	400	8000	1700	2800	110	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	1.88	0.01	-	-
30	Boron (ppm) (B)	0.28	0.01	0.16	0.01	0.27	0.02	0	0
31	Cadmium (Cd)	-	-	-	-	0.05	0.04	-	-
32	Chromium (Cr)	-	-	-	-	1.67	0.58	-	-
33	Copper (Cu)	-	-	-	-	1.64	0.55	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	0.12	0.08	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	16.9	10.5	-	-
39	Total Hardness (HAR _ Total)	85	36	55	32	62	10	20	13
40	Na % (Sodium Percentage)	40	17	40	15	44	14	33	30
41	SAR (Sodium Adsorption Ratio)	1	0.4	1	0.2	0.5	0.2	0.4	0.4
42	RSC (Residual Sodium Carbonate)	0.1	0	0	0	0.4	0	0	0

Source: Water Quality Year Book (West Flowing Rivers from Tapi to tadri), 2019-20

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

XIII : West flowing rivers from Tadri to Kanyakumari

Sl. No.	Parameter	Haladi		Yennehole		Perumannu		Kuttyadi		Kuniyil		Karathodu	
		Haladi		Yennehole		Valapatnam		Kuttyadi		Chaliyar		Kadalundi	
(I)	(II)	(1)		(2)		(3)		(4)		(5)		(6)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	551.4	0	699	0	5210	0.418	768.9	1.913	5102	0	1269	0
2	Temperature (oC)	29.5	25.8	28.5	26	29.5	27	28	27	27	26	28.5	26.5
3	pH_GEN	6.9	6.6	6.9	6.7	7.1	6.5	6.9	6.6	7.1	6.9	6.9	6.7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	0.5	0.2	0.6	0.3	1.1	0.4	0.4	0.2	2.1	0.7	1.4	1.1
6	Sodium (Na)	6.4	1.9	3.3	2.2	3.6	2	1.9	1.4	6.7	3.3	8.5	4.5
7	Calcium (Ca)	3	2	3	1	6	3	3	1	9	3	9	4
8	Magnesium (Mg)	1.9	1	2.5	0.8	3.3	1.2	2.1	0.6	6.4	2.1	3.5	1.3
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.3	0.1	0.2	0.1	0.7	0.2	0.6	0.2	0.2	0.1	0.3	0.1
11	Ammonia (NH3-N)	-	-	-	-	-	-	-	-	-	-	-	-
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	0.5	0.2	15	10	23	13	12	8	54	16	32	21
14	Chloride (CL)	9	3.2	5.8	4	6.6	3.9	3.6	2	9.5	4.3	14.2	5.9
15	Fluoride (F)	0.02	0.01	0.03	0.01	0.07	0.02	0.02	0.01	0.08	0.02	0.12	0.04
16	Sulphate (SO4)	5.6	0.2	2.9	0.3	11	0.3	3.9	1.1	13.5	4.9	7.8	3.7
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	0.6	0.15	0.58	0.13	0.99	0.35	0.49	0.19	0.99	0.34	1.63	0.23
19	Nitrite (NO2-N)	0.02	0	0	0	0.01	0	0.01	0	0.02	0	0	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	10.9	8.2	14.2	10.3	10.9	7	7.3	6.4	13.6	7.6	10	6.2
22	DO (Dissolved Oxygen)	7.5	6.9	7.3	6.4	7.3	6.7	7.6	6.8	7.2	5.4	6.7	6
23	BOD3-27 (Biochemical Oxygen	0.8	0.4	0.7	0.5	1.3	1	1.9	0.9	1.1	0.9	0.9	0.6
24	Total Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.49	0	0	0	0.08	0	0	0	0.08	0	0.84	0
31	Cadmium (Cd)	-	-	-	-	2.4	2.4	1.6	1.6	8.3	8.3	4.1	4.1
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	4.2	4.2	3.2	3.2	11.6	11.6	3.2	3.2
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	13	13	-	-	3	3	16	16
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	0.1	0.1	-	-	0.2	0.2	0.1	0.1
38	Zinc (Zn)	-	-	-	-	28.6	28.6	5.2	5.2	14.2	14.2	11.8	11.8
39	Total Hardness (HAR _ Total)	13	10	15	8	25	15	12	9	50	18	33	19
40	Na % (Sodium Percentage)	53	24	37	31	26	17	30	20	27	17	35	27
41	SAR (Sodium Adsorption Ratio)	0.8	0.2	0.4	0.3	0.3	0.2	0.3	0.2	0.4	0.3	0.6	0.4
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0	0	0	0	0	0	0	0
S	**Source: Water Quality Year Book (West flowing rivers from Tadri to Kanyakumari Basin), 2019-20**												

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

XIII : West flowing rivers from Tadri to Kanyakumari

Sl. No.	Parameter	Kumbidi		Pulamanthole		Ambarampalayam		Muradpur		Nagothane		Pen	
		Bharathapuzha		Pulanthodu		Aliyar		Vashishti		Amba		Bhogeshwari	
(I)	(II)	(7)		(8)		(9)		(10)		(11)		(12)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	5752	0	3098	0	39.56	0	1649	0	1567	0	343.9	0
2	Temperature (oC)	30	26	32	26.5	25.5	23	28	26	7.9	7.1	34	22.4
3	pH_GEN	7.9	7	7.3	6.9	8.3	7	7.6	7	32	23.5	7.8	6.6
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	2.8	1.5	2.8	1.2	6.8	1.1	1.1	0.1	4.2	0.1	4.6	0.1
6	Sodium (Na)	18.9	7.2	5.8	3.6	15.5	1.9	8.7	3.8	9.2	4.2	11.7	3.8
7	Calcium (Ca)	20	7	6	3	41.3	5.9	9	2	13	6	14	8
8	Magnesium (Mg)	11.2	3.3	3.8	1.7	15.5	1.9	8.7	3.2	9.2	4.2	8.8	3.2
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	0.3	0.2	0.3	0.1	0.38	0.02	0.6	0	0.5	0	0.7	0
11	Ammonia (NH3-N)	-	-	-	-	0.5	0						
12	Carbonate (CO3)	0	0	0	0	0	0	0	0	0	0	0	0
13	Bicarbonate (HCO3)	100	33	28	13	196	38	47	24	73	37	61	39
14	Chloride (CL)	41	10.2	10.1	4.7	53.3	7.6	11.6	5.5	16.7	4.9	15.2	5.8
15	Fluoride (F)	0.3	0.1	0.07	0.03	0.46	0.13	0.05	-0.03	0.06	0.05	0.07	0.05
16	Sulphate (SO4)	22.1	4	11.4	0.5	20.5	5	4.3	1	6.5	1	6.6	1.1
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	0.94	0.35	1.16	0.33	0.11	0	1	0.06	1.06	0.21	1.25	0.2
19	Nitrite (NO2-N)	0.01	0	0.01	0	9.6	0.1	0.02	0	0.01	0	0.06	0
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	11.1	9.6	13	7.2	31.9	1.5	8.5	0.7	10.2	0.7	12	0.9
22	DO (Dissolved Oxygen)	7	6.1	1	0.8	7.9	6.2	7.8	6.3				
23	BOD3-27 (Biochemical Oxygen	1.2	1.1	7	5.7	1.6	0.4	0.7	0.5	0.9	0.4	1.7	0.5
24	Total Coliform (No. per 100 ml)	-	-	-	-	35000	370	1600000	3000	17000	5000	50000	7000
25	Faecal Coliform (No. per 100 ml)	-	-	-	-	4900	180	7000	800	5000	200	30000	2200
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	3.54	0.21	-	-	-	-	-	-
30	Boron (ppm) (B)	0.1	0	0.04	0	0.12	0.01	0.21	0.01	0.11	0.01	0.11	0
31	Cadmium (Cd)	9.2	9.2	3.3	3.3	0.1	0	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	7.84	4.57	-	-	-	-	-	-
33	Copper (Cu)	11.6	11.6	3.2	3.2	11.76	2.84	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	9	9	10	10	3.83	0.02	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	0.3	0.3	0.1	0.1	-	-	-	-	-	-	-	-
38	Zinc (Zn)	16.1	16.1	4.8	4.8	26.2	14.5	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	95	38	28	19	188	32	55	20	65	36	64	33
40	Na % (Sodium Percentage)	30	27	30	24	43	21	45	15	37	10	39	15
41	SAR (Sodium Adsorption Ratio)	0.8	0.5	0.5	0.3	1.3	0.4	0.8	0.3	0.8	0.2	0.9	0.2
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0	0	0	0	0	0	0	0

S **Source: Water Quality Year Book (West flowing rivers from Tadri to Kanyakumari Basin), 2019-20**

Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	XIV :- Mahi							
Sl.	Parameter	Mataji		Rangeli		Paderdibadi		Khanpur	
No.		Vamsadhara		Som		Mahi		Mahi	
(I)	(II)	(1)		(2)		(3)		(4)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	3112	0	2697	0	4717	0	9346	5.68
2	Temperature (oC)	32	18	33	16	36	18	32	19
3	pH_GEN	8.5	7.8	8.4	7.9	8.6	8	8.7	8.1
4	Specific Conductance	-	-	-	-	-	-	-	-
5	Potassium (K)	2	1.1	3.4	2.2	4.1	1.5	2.8	1.3
6	Sodium (Na)	27.5	9.9	51.2	25.8	60.3	26	40	15.5
7	Calcium (Ca)	57	19	58	31	61	33	47	27
8	Magnesium (Mg)	17.8	5.3	26	7.9	25.5	10.6	22.9	6.1
9	Aluminium (Al)	-	-	-	-	-	-	-	-
10	Iron (Fe)	3	0	0.5	0	0.6	0	0.6	0
11	Ammonia (NH3-N)	2.07	0.05	0.41	0.1	0.33	0.05	0.26	0.05
12	Carbonate (CO3)	10.2	0	7.8	0	13.2	0	15.6	0
13	Bicarbonate (HCO3)	181	101	230	146	247	159	173	99
14	Chloride (CL)	35.5	14.7	66.5	33.4	77.8	33.8	51.5	22.1
15	Fluoride (F)	0.47	0.16	0.98	0.2	0.94	0.27	0.56	0.17
16	Sulphate (SO4)	23.6	7.4	33.4	13	45.8	12.7	24.6	11.5
17	Sulphite (SO3)	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	6.17	0.11	2.78	0.14	3.14	0.14	2.3	0.35
19	Nitrite (NO2-N)	0.46	0.01	0.02	0.01	0.11	0.01	0.03	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-
21	Silica (Sio2)	60.9	7.9	37.5	11	47.6	10.9	49	10.3
22	DO (Dissolved Oxygen)	10.5	5.4	10	4.2	7.9	3.7	12.2	5.6
23	BOD3-27 (Biochemical Oxygen	2.7	0.9	3.9	0.7	4.3	1.2	2.4	0.8
24	Total Coliform (No. per 100 ml)	9200	68	9200	40	5400	68	16000	40
25	Faecal Coliform (No. per 100 ml)	2200	20	330	20	470	20	490	20
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.1	0.01	0.17	0.04	0.17	0.01	0.16	0.01
31	Cadmium (Cd)	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	178	88	221	118	234	138	186	104
40	Na % (Sodium Percentage)	34	14	48	24	47	26	35	24
41	SAR (Sodium Adsorption Ratio)	1.1	0.4	2.1	0.8	2.2	0.9	1.4	0.7
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0	0	0	0

Source: Water Quality Year Book (Mahi Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

	XV :- Sabarmati				
Sl.	Parameter	Derol Bridge		Voutha	
No.		Sabarmati		Sabarmati	
(I)	(II)	(1)		(2)	
		Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	187.2	3.722	1803	10.59
2	Temperature (oC)	25.3	7	30	15
3	pH_GEN	8.5	7.9	8.2	7.4
4	Specific Conductance	-	-	-	-
5	Potassium (K)	1.8	1.5	27.3	2.1
6	Sodium (Na)	37	11.2	450.9	39.3
7	Calcium (Ca)	36	22	85	20
8	Magnesium (Mg)	11.5	5.1	42.9	5.4
9	Aluminium (Al)	-	-	-	-
10	Iron (Fe)	0.8	0.1	7.1	0.2
11	Ammonia (NH3-N)	0.16	0.05	32.6	2.3
12	Carbonate (CO3)	10.2	0	0	0
13	Bicarbonate (HCO3)	135	73	534	92
14	Chloride (CL)	47.7	19.1	592	51.5
15	Fluoride (F)	0.68	0.12	0.97	0.29
16	Sulphate (SO4)	17.3	8.3	119	12
17	Sulphite (SO3)	-	-	-	-
18	Nitrate (NO3-N)	1.4	0.38	3.68	0.28
19	Nitrite (NO2-N)	0.1	0.01	0.14	0.01
20	Phosphate (PO4)	-	-	-	-
21	Silica (Sio2)	29.8	17.5	53.3	11.4
22	DO (Dissolved Oxygen)	11.5	6	196	13
23	BOD3-27 (Biochemical Oxygen	2.8	0.7	48.3	1.8
24	Total Coliform (No. per 100 ml)	16000	80	350000	4900
25	Faecal Coliform (No. per 100 ml)	220	20	40000	450
26	Total plate count (No. per 100 ml)	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-
30	Boron (ppm) (B)	0.09	0.01	0.89	0.03
31	Cadmium (Cd)	-	-	-	-
32	Chromium (Cr)	-	-	-	-
33	Copper (Cu)	-	-	-	-
34	Cyanide (Cn)	-	-	-	-
35	Lead (Pb)	-	-	-	-
36	Manganese (Mn)	-	-	-	-
37	Mercury (Hg)	-	-	-	-
38	Zinc (Zn)	-	-	-	-
39	Total Hardness (HAR _ Total)	130	76	345	91
40	Na % (Sodium Percentage)	43	24	75	47
41	SAR (Sodium Adsorption Ratio)	1.6	0.6	11.4	1.8
42	RSC (Residual Sodium Carbonate)	0	0	2	0

Source: Water Quality Year Book (Sabarmati Basin), 2019-20



Table 13 : Maximum and Minimum values of water quality parameters by site and river basin during 2019-20

XVI Basin : West Flowing River from Kutch & Saurashtra including Luni

Sl. No.	Parameter	Abu Road		Chitrasani		Kamalpur		Lowara		Ganod	
		Banas		Balram		Banas		Shetrunji		Bhadar	
(I)	(II)	(1)		(2)		(3)		(4)		(5)	
		Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	Q(Cumecs) in cubic m/s	166.2	0	17.08	0	113.8	9.23	292.5	0	2356	0
2	Temperature (oC)	33	8	26	10	30.1	30.1	26	7	32.2	18.7
3	pH_GEN	8.2	7.5	8.4	7.9	8.3	8.1	8.4	8	9.1	7.7
4	Specific Conductance	-	-	-	-	-	-	-	-	-	-
5	Potassium (K)	15.2	3.8	3.1	1.5	0.7	0.7	15.1	1.2	8.2	2.2
6	Sodium (Na)	381.9	41.8	65.6	20	15.6	10.5	1693	19	392.3	33.4
7	Calcium (Ca)	100	25	64	29	23	15	181	20	86	24
8	Magnesium (Mg)	72.3	5.8	29.3	5.9	8.4	3.6	160.7	8.3	61.5	4.8
9	Aluminium (Al)	-	-	-	-	-	-	-	-	-	-
10	Iron (Fe)	2.8	0	0.8	0	1.2	0.7	6.3	0.1	0.6	0.1
11	Ammonia (NH3-N)	0.51	0.05	0.29	0.05	0.05	0.05	51	0.15	1.24	0.25
12	Carbonate (CO3)	0	0	10.2	0	5.1	0	7.8	0	15.2	0
13	Bicarbonate (HCO3)	344	92	261	104	78	52	768	76	237	83
14	Chloride (CL)	633.2	54	99.8	25.8	22.6	13.5	2514	24.9	627	46.5
15	Fluoride (F)	0.81	0.14	0.79	0.06	0.18	0.18	0.58	0.21	0.63	0.11
16	Sulphate (SO4)	152.9	20	47.3	15	11.8	7.8	459.2	12	163.4	18.8
17	Sulphite (SO3)	-	-	-	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	9.24	0.61	2.04	0.28	1.98	1.65	10.59	0.44	7.75	0.19
19	Nitrite (NO2-N)	0.21	0.01	0.02	0.01	0.02	0.01	0.1	0.01	0.56	0.01
20	Phosphate (PO4)	-	-	-	-	-	-	-	-	-	-
21	Silica (Sio2)	50.1	8.1	43.8	15.2	35.1	6.3	52	10.5	52.5	9.4
22	DO (Dissolved Oxygen)	8.8	5.4	11.3	5.2	9	8.1	10.7	6.6	10.2	6.3
23	BOD3-27 (Biochemical Oxygen	5	1	1.1	0.4	2.8	2.4	2.3	0.8	6	1.2
24	Total Coliform (No. per 100 ml)	1700	68	3500	45	3500	230	9000	45	2400	30
25	Faecal Coliform (No. per 100 ml)	230	20	270	20	1100	130	1100	18	170	0
26	Total plate count (No. per 100 ml)	-	-	-	-	-	-	-	-	-	-
27	Phytoplankton (No. per ml)	-	-	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	-	-	-	-	-	-	-	-	-	-
29	Arsenic (ppm) (As)	-	-	-	-	-	-	-	-	-	-
30	Boron (ppm) (B)	0.33	0.01	0.15	0.03	0.04	0.01	2.84	0.03	0.68	0.01
31	Cadmium (Cd)	-	-	-	-	-	-	-	-	-	-
32	Chromium (Cr)	-	-	-	-	-	-	-	-	-	-
33	Copper (Cu)	-	-	-	-	-	-	-	-	-	-
34	Cyanide (Cn)	-	-	-	-	-	-	-	-	-	-
35	Lead (Pb)	-	-	-	-	-	-	-	-	-	-
36	Manganese (Mn)	-	-	-	-	-	-	-	-	-	-
37	Mercury (Hg)	-	-	-	-	-	-	-	-	-	-
38	Zinc (Zn)	-	-	-	-	-	-	-	-	-	-
39	Total Hardness (HAR _ Total)	524	105	268	97	92	53	1123	86	471	102
40	Na % (Sodium Percentage)	63	45	44	29	30	27	87	32	68	40
41	SAR (Sodium Adsorption Ratio)	7.3	1.8	2	0.9	0.7	0.6	23.8	0.9	8.1	1.4
42	RSC (Residual Sodium Carbonate)	0	0	0	0	0	0	0	0	0	0

Source: Water Quality Year Book (West Flowing River from Kutch & Saurashtra including Luni Basin), 2019-20

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
I	**Basin : Mahanadi**										
i)	**JHARKHAND**										
1	**Simdega**	3639.71	145.66	151.84	41.49	16.52	12.00	51.49	30.35	3.17	33.52
	Sub Total	**3639.71**	**145.66**	**151.84**	**41.49**	**16.52**	**12.00**	**51.49**	**30.35**	**3.17**	**33.52**
ii)	**ODISHA**										
1	**Anugul**	6129.61	2060.53	1420.55	420.20	174.80	178.16	376.50	270.88	89.67	360.55
2	**Balangir**	6332.43	6332.43	5417.77	620.00	690.00	660.00	1790.00	1657.77	253.25	1911.02
3	**Bargarh**	5583.76	5583.76	4685.65	230.00	700.00	410.00	850.00	2495.65	929.05	3424.70
4	**Boudh**	3006.39	3006.39	2024.94	350.00	360.00	420.00	360.00	534.94	105.64	640.58
5	**Cuttack**	3802.97	3683.62	3233.31	290.58	842.70	348.70	639.29	1112.04	227.36	1339.40
6	**Deogarh**	2726.66	271.58	170.79	78.69	17.93	16.93	11.95	45.29	5.43	50.72
7	**Dhenkanal**	4310.65	660.17	510.06	88.83	82.70	98.02	143.96	96.56	13.47	110.04
8	**Ganjam**	8197.71	499.49	370.22	34.12	98.10	52.40	67.02	118.57	45.20	163.77
9	**Jagatsinghapur**	1678.55	1678.55	1717.66	80.00	500.00	230.00	120.00	787.66	344.64	1132.30
10	**Jajapur**	2792.19	41.71	39.92	2.39	11.50	4.48	4.33	17.21	2.31	19.53
11	**Jharsuguda**	2036.85	2036.85	1700.72	260.00	380.00	200.00	340.00	520.72	2.53	523.25
12	**Kalahandi**	7633.06	6570.09	5009.53	860.74	731.63	559.48	1127.57	1730.11	341.52	2071.62
13	**Kandhamal**	7770.03	5807.13	3274.35	1360.22	859.48	239.16	560.53	254.95	21.18	276.13
14	**Kendrapara**	2388.95	1292.70	1237.17	21.64	243.50	102.81	183.98	685.23	110.38	795.61
15	**Khordha**	2654.72	2462.32	2534.71	333.91	649.27	519.41	250.43	781.69	90.93	872.63
16	**Nabarangpur**	5236.39	1655.37	1270.28	287.68	139.10	196.00	167.55	479.96	9.47	489.44
17	**Nayagarh**	3755.00	3458.66	2285.89	350.01	460.54	303.96	294.75	876.64	277.05	1153.69
18	**Nuapada**	3728.43	3728.43	2449.64	360.00	370.00	220.00	430.00	1069.64	75.04	1144.68
19	**Puri**	3433.02	3433.02	2791.50	120.00	640.00	470.00	560.00	1001.50	282.10	1283.60
20	**Rayagada**	7126.04	104.47	83.88	14.81	31.81	7.04	11.58	18.65	0.92	19.57
21	**Sambalpur**	6479.54	5266.85	3296.09	861.61	406.42	487.71	593.38	946.97	180.02	1126.99
22	**Sonepur**	2271.97	2271.97	1854.30	130.00	280.00	220.00	280.00	944.30	355.23	1299.53
23	**Sundargarh**	9353.52	3941.17	3008.45	661.53	514.06	349.73	610.97	872.17	40.45	912.62
	Sub Total	**108428.44**	**65847.26**	**50387.39**	**7816.96**	**9183.54**	**6293.99**	**9773.79**	**17319.11**	**3802.85**	**21121.96**
iii)	**MADHYA PRADESH**										
1	**Anuppur**	3637.40	121.78	125.440	25.595	20.903	9.021	18.592	51.330	12.371	63.700
2	**Balaghat**	8897.36	0.10	0.104	0.057	0.006	0.006	0.004	0.031	0.006	0.038
3	**Dindori**	5543.20	27.29	17.671	1.251	1.937	1.520	3.613	9.349	4.180	13.529
4	**Mandla**	7201.48	2.50	3.352	2.059	0.193	0.158	0.191	0.750	0.361	1.111
	Sub Total	**25279.44**	**151.67**	**146.5665**	**28.9623**	**23.0391**	**10.7045**	**22.4002**	**61.4604**	**16.9171**	**78.3775**

Cont....

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
iv)	**CHHATISGARH**										
1	**Bastar**	10152.59	347.86	133.07	29.14	15.60	22.02	8.34	57.97	2.29	60.26
2	**Bilaspur**	8022.86	7190.01	5214.47	1960.26	357.17	578.54	317.44	2001.07	249.06	2250.13
3	**Dhamtari**	3915.57	3903.65	4069.50	2038.73	338.56	217.38	38.45	1436.38	658.01	2094.39
4	**Durg**	8287.60	8256.76	2311.36	0.00	400.63	323.81	136.35	1450.56	351.58	1802.14
5	**Jashpur**	5583.19	3918.09	4531.59	1613.77	548.65	357.80	289.99	1721.37	82.52	1803.90
6	**Janjgir-Champa**	3723.65	3723.65	4466.74	890.81	397.56	486.18	119.57	2572.62	120.81	2693.43
7	**Kabirdham**	4061.73	3465.32	3794.06	1616.11	228.18	278.95	87.22	1583.61	693.02	2276.63
8	**Korba**	6333.50	6333.17	7145.07	4729.82	568.56	389.46	180.29	1276.93	68.88	1345.81
9	**Korea**	6383.21	2478.01	2320.59	1543.11	142.54	129.71	128.44	376.79	41.75	418.54
10	**Mahasamund**	4559.96	4559.96	4963.01	1408.93	435.68	350.38	86.16	2681.86	342.58	3024.44
11	**Raigarh**	6819.11	6818.53	6527.18	2076.65	718.52	701.01	503.31	2527.69	271.23	2798.92
12	**Raipur**	11995.63	11995.63	2914.37	29.40	479.94	579.68	212.36	1612.99	340.66	1953.65
13	**Rajnandgaon**	7764.54	5467.60	5649.26	1824.53	484.57	504.52	236.60	2599.04	882.87	3481.91
14	**Surguja**	15125.37	2477.40	822.20	392.51	50.43	75.95	48.38	254.92	37.61	292.53
15	**Kanker**	6567.07	2278.90	2232.26	965.00	173.92	280.17	90.94	722.24	54.12	776.36
	Sub Total	**109295.58**	**73214.54**	**57094.74**	**21118.77**	**5340.52**	**5275.55**	**2483.85**	**22876.06**	**4196.98**	**27073.04**
v)	**MAHARASHTRA**										
1	**Gadchirol**	13966.06	298.56	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
2	**Gondiya**	5273.77	23.83	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
	Sub Total	**19239.83**	**322.39**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**
	Grand Total	**265883.00**	**139681.52**	**107780.54**	**29006.18**	**14563.61**	**11592.24**	**12331.53**	**40286.98**	**8019.92**	**48306.90**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
II	**Basin : Subernarekha**										
i)	**JHARKHAND**										
1	**Bokaro**	2688.22	17.01	18.286	4.694	4.308	1.287	6.270	1.728	0.438	2.166
2	**Khunti**	2603.07	1297.28	1301.172	226.931	189.454	88.535	510.496	285.758	56.176	341.933
3	**West Singhbhum**	6941.29	2687.33	2198.126	551.056	404.337	211.141	702.389	329.203	182.828	512.031
4	**EAST SINGHBUM**	3433.65	3119.28	5057.283	1134.156	1771.757	514.107	833.516	803.746	105.034	908.780
5	**Ramgarh**	1259.52	136.64	151.878	45.863	30.848	5.233	46.920	23.013	6.000	29.013
6	**Ranchi**	4743.84	2802.26	2937.664	588.258	341.540	193.595	1134.629	679.642	886.191	1565.833
7	**Saraikela Kharsawan**	2546.17	2536.09	2362.918	647.148	378.854	192.993	625.663	518.260	12.072	530.332
	Sub Total	**24215.76**	**12595.89**	**14027.33**	**3198.11**	**3121.10**	**1206.89**	**3859.88**	**2641.35**	**1248.74**	**3890.09**
ii)	**ODISHA**										
1	**Baleshwar**	3733.69	2644.77	2480.28	120.42	453.35	318.76	269.17	1318.58	241.98	1560.57
2	**Mayurbhanj**	10035.64	7146.63	4976.96	505.61	676.52	712.12	769.09	2313.62	66.54	2380.16
	Sub Total	**13769.33**	**9791.40**	**7457.25**	**626.03**	**1129.86**	**1030.88**	**1038.27**	**3632.20**	**308.52**	**3940.72**
iii)	**WEST BENGAL**										
1	**Pashchim Medinipur**	9021.98	2387.68	1648.143	217.292	322.539	13.312	79.065	1015.936	1237.433	2253.369
2	**Purba Medinipur**	3893.57	85.26	117.656	3.184	26.517	0.254	0.103	87.599	73.117	160.716
3	**Puruliya**	6003.10	931.92	971.252	116.504	171.760	16.198	179.945	486.844	83.682	570.526
	Sub Total	**18918.65**	**3404.86**	**3515.60**	**571.73**	**630.58**	**36.10**	**365.32**	**1911.87**	**1449.94**	**3361.81**
	Grand Total	**56903.74**	**25792.15**	**25000.17**	**4395.86**	**4881.54**	**2273.88**	**5263.47**	**8185.42**	**3007.20**	**11192.63**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
III	**Basin : Brahamani and Baitarni**										
i)	**JHARKHAND**										
1	**Gumla**	5149.51	4312.74	4474.940	1133.488	532.988	410.017	873.610	1524.837	643.899	2168.736
2	**Khunti**	2603.07	1305.80	1309.718	228.421	190.698	89.116	513.848	287.634	56.545	344.179
3	**Latehar**	4092.97	11.85	11.103	5.646	1.150	0.554	2.774	0.979	0.866	1.844
4	**Lohardaga**	1439.38	911.85	973.192	280.990	172.743	90.141	253.147	176.171	129.919	306.089
5	**West Singhbhum**	6941.29	4253.95	3479.556	872.302	640.051	334.228	1111.858	521.116	289.411	810.527
6	**Ranchi**	4743.84	1150.39	1205.976	241.493	140.210	79.475	465.790	279.008	363.801	642.809
7	**Simdega**	3639.71	3494.05	3642.492	995.250	396.261	287.783	1235.235	727.963	76.136	804.099
	Sub Total	**28609.77**	**15440.63**	**15096.98**	**3757.59**	**2074.10**	**1291.31**	**4456.26**	**3517.71**	**1560.58**	**5078.28**
ii)	**CHHATISGARH**										
1	**Jashpur**	5583.19	1205.37	1394.11	496.46	168.79	110.07	89.21	529.57	25.39	554.95
2	**Surguja**	15125.37	158.79	52.70	25.16	3.23	4.87	3.10	16.34	2.41	18.75
	Sub Total	**20708.56**	**1364.16**	**1446.81**	**521.62**	**172.02**	**114.94**	**92.31**	**545.91**	**27.80**	**573.70**
iii)	**ODISHA**										
1	**Anugul**	6129.61	4069.08	2805.25	829.80	345.20	351.84	743.50	534.92	177.09	712.01
2	**Baleshwar**	3733.69	1081.10	1013.86	49.22	185.31	130.30	110.03	539.00	98.91	637.91
3	**Bhadrak**	2390.28	2390.28	2353.80	10.00	460.00	230.00	190.00	1463.80	161.25	1625.05
4	**Cuttack**	3802.97	119.34	104.75	9.41	27.30	11.30	20.71	36.03	7.37	43.39
5	**Deogarh**	2706.30	2434.72	1542.66	710.72	161.94	152.94	107.96	409.10	49.00	458.10
6	**Dhenkanal**	4310.65	3650.47	2820.45	491.17	457.30	541.98	796.04	533.96	74.50	608.45
7	**Jajapur**	2792.19	2750.48	2632.30	157.61	758.50	295.52	285.67	1135.01	152.64	1287.64
8	**Kendrapara**	2388.95	1096.25	1049.16	18.36	206.50	87.19	156.02	581.10	93.60	674.70
9	**Kendujhar**	7996.91	7996.91	6468.40	1320.00	1360.00	590.00	1250.00	1948.40	70.65	2019.05
10	**Mayurbhanj**	10035.64	2889.01	2011.93	204.39	273.48	287.88	310.91	935.27	26.90	962.17
11	**Sambalpur**	6479.54	1212.69	758.92	198.39	93.58	112.29	136.62	218.04	41.45	259.49
12	**Sundargarh**	9353.52	5412.35	4131.46	908.47	705.94	480.27	839.03	1197.74	55.55	1253.29
	Sub Total	**62120.25**	**35102.68**	**27728.28**	**5074.78**	**5130.11**	**3180.78**	**4324.85**	**10017.76**	**757.14**	**10774.90**
	Grand Total	**111438.58**	**51907.47**	**44272.07**	**9353.99**	**7376.23**	**4587.04**	**8873.43**	**14081.37**	**2345.51**	**16426.88**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
IV	**Basin : Godavari**										
i)	**ANDHRA PRADESH**										
1	**East Godavari**	10571.11	5889.31	7133.98	2598.90	1351.60	239.60	563.66	2380.22	1330.37	3710.58
2	**VISAKHAPATANAM**	11115.36	3614.27	2126.22	387.93	502.73	65.17	283.36	887.03	321.05	1208.08
3	**West Godavari**	7582.74	1682.39	1887.38	294.87	381.66	78.19	121.73	1010.92	534.62	1545.54
	Sub Total	**29269.21**	**11185.97**	**12650.47**	**4328.27**	**2480.38**	**471.49**	**984.06**	**4386.27**	**2076.78**	**6463.05**

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(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
ii)	**TELANGANA**										
1	**Adilabad**	15526.99	15526.99	3971.31	1724.72	150.21	83.57	27.9	1985	201	2186
2	**Karimnagar**	11539.77	11530.94	2138.702	3.178	314.060	115.122	570.143	1136.200	661.473	1797.673
3	**Khammam**	15646.02	9996.76	2863.168	393.027	496.093	165.675	274.006	1534.366	460.498	1994.864
4	**Medak**	9489.96	9128.93	2666.092	559.724	330.384	133.385	735.772	906.827	353.731	1260.558
5	**Nizamabad**	7674.38	7674.38	4181.060	866.260	865.630	158.020	299.710	1991.440	1080.010	3071.450
6	**RANGAREDDI**	7358.88	505.32	344.307	19.927	65.009	17.909	109.143	132.319	12.900	145.219
7	**Warangal**	12447.42	6248.20	1076.474	71.530	123.840	52.902	97.748	730.453	240.126	970.579
	Sub Total	**79683.42**	**60611.52**	**17241.11**	**3638.37**	**2345.23**	**726.58**	**2114.42**	**8416.51**	**3009.84**	**11426.35**
iii)	**KARNATAKA**										
1	**Bidar**	5293.88	4469.12	4573.607	233.904	359.454	373.806	523.601	3082.843	730.744	3813.586
2	**Gulbarga**	10687.27	0.18	0.184	0.006	0.013	0.006	0.012	0.147	0.034	0.181
	Sub Total	**15981.15**	**4469.30**	**4573.79**	**233.91**	**359.47**	**373.81**	**523.61**	**3082.99**	**730.78**	**3813.77**
iv)	**MADHYA PRADESH**										
1	**Balaghat**	8897.36	6686.72	6947.985	3795.862	433.330	397.136	238.261	2083.396	433.045	2516.441
2	**Betul**	9690.38	2129.74	2214.931	867.671	167.509	149.452	89.703	940.596	449.296	1389.892
3	**Chhindwara**	11361.38	7972.16	8314.479	3349.760	547.641	577.371	299.670	3540.037	1608.869	5148.906
4	**Mandla**	7201.48	709.24	950.934	584.213	54.715	44.837	54.297	212.871	102.298	315.169
5	**Seoni**	8422.70	6269.58	6516.196	2445.581	459.006	411.977	320.361	2879.271	1546.214	4425.485
	Sub Total	**45573.30**	**23767.44**	**24944.53**	**11043.09**	**1662.20**	**1580.77**	**1002.29**	**9656.17**	**4139.72**	**13795.89**
v)	**CHHATISGARH**										
1	**Bastar**	10152.59	9804.73	3750.82	821.28	439.82	620.67	234.98	1634.07	64.40	1698.47
2	**Bijapur**	8511.40	8511.40	6552.96	4939.19	252.74	530.38	176.20	654.45	0.42	654.87
3	**Dantewada**	8466.39	8466.39	3410.50	1473.36	392.78	319.65	246.63	978.08	12.01	990.09
4	**Dhamtari**	3915.57	11.93	12.44	6.23	1.03	0.66	0.12	4.39	2.01	6.40
5	**Durg**	8287.60	30.84	8.63	0.00	1.50	1.21	0.51	5.42	1.31	6.73
6	**Narayanpur**	4131.46	4131.46	6922.68	6387.72	49.37	108.09	60.10	317.40	3.00	320.40
7	**Rajnandgaon**	7764.54	2218.36	2292.07	740.26	196.60	204.70	96.00	1054.50	358.20	1412.71
8	**Kanker**	6567.07	4288.17	4200.42	1815.82	327.25	527.18	171.13	1359.03	101.83	1460.86
	Sub Total	**57796.62**	**37463.28**	**27150.51**	**16183.87**	**1661.10**	**2312.55**	**985.66**	**6007.34**	**543.20**	**6550.53**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
vi)	**MAHARASHTRA**										
1	**Ahmadnagar**	16510.41	10368.10	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
2	**Akola**	5214.95	0.23	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
3	**Amravati**	11765.11	4020.91	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
4	**Aurangabad**	9772.28	8725.44	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
5	**Bhandara**	3719.41	3719.41	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
6	**Bid**	10244.73	8798.17	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
7	**Buldana**	9409.67	3796.29	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
8	**Chandrapur**	10917.27	10917.27	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
9	**Gadchiroli**	13966.06	13667.51	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
10	**Gondiya**	5273.77	5249.95	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
11	**Hingoli**	4514.84	4514.84	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
12	**Jalgaon**	11349.74	15.66	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
13	**Jalna**	7510.09	7386.59	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
14	**Latur**	7009.52	7007.07	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
15	**Nagpur**	9564.49	9564.49	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
16	**Nanded**	10260.74	10260.74	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
17	**Nashik**	15021.09	6973.25	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
18	**Osmanabad**	7347.20	2980.50	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19	**Parbhani**	6154.98	6154.98	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
20	**Pune**	15185.75	81.25	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
21	**Thane**	9208.22	3.10	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
22	**Wardha**	6084.96	6084.96	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
23	**Washim**	5017.05	3960.73	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
24	**Yavatmal**	13069.20	13069.20	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
	Sub Total	**224091.53**	**147320.64**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**
vii)	**ODISHA**										
1	**Kalahandi**	7633.06	417.57	318.39	54.71	46.50	35.56	71.66	109.96	21.71	131.66
2	**Koraput**	8180.27	6693.33	4967.38	752.77	1276.44	760.95	679.13	1498.09	228.43	1726.53
3	**Malkangiri**	5650.92	5650.92	4239.57	1600.00	700.00	300.00	490.00	1149.57	22.74	1172.31
4	**NABARANGPUR**	5236.39	3581.02	2747.98	622.32	300.90	424.00	362.45	1038.30	20.49	1058.78
5	**Rayagada**	7126.04	871.13	699.48	123.47	265.27	58.68	96.57	155.48	7.67	163.15
	Sub Total	**33826.68**	**17213.97**	**12972.79**	**3153.27**	**2589.11**	**1579.19**	**1699.82**	**3951.40**	**301.04**	**4252.44**
viii)	**PUDUCHERRY**										
1	**Yanam**	36.94	36.94	23.910	0.000	12.530	4.500	1.080	5.800	2.040	7.840
	Sub Total	**36.94**	**36.94**	**23.910**	**0.000**	**12.530**	**4.500**	**1.080**	**5.800**	**2.040**	**7.840**
	Grand Total	**486258.85**	**302069.06**	**99557.11**	**38580.76**	**11110.02**	**7048.89**	**7310.95**	**35506.48**	**10803.39**	**46309.88**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
V	**Basin : Krishna**										
i)	**ANDHRA PRADESH**										
1	**Anantapur**	18987.72	4185.59	4216.95	434.21	695.74	133.36	1202.83	1750.81	105.65	1856.46
2	**Guntur**	11186.51	6545.38	6665.03	947.54	1227.35	368.76	638.69	3482.70	1022.05	4504.75
3	**Krishna**	8365.25	4686.80	4889.48	426.85	1075.95	229.58	487.66	2669.44	967.00	3636.44
4	**Kurnool**	17503.31	9696.79	9782.49	1887.30	1502.79	280.22	1397.30	4714.88	564.20	5279.08
5	**Prakasam**	17389.37	657.16	666.10	173.57	127.44	44.27	115.87	204.94	4.61	209.56
	Sub Total	**73432.16**	**25771.72**	**26220.05**	**3869.47**	**4629.27**	**1056.18**	**3842.36**	**12822.77**	**2663.51**	**15486.28**
ii)	**TELANGANA**										
1	**Hyderabad**	173.43	173.43	192.510	1.440	191.070	0.000	0.000	0.000	0.000	0.000
2	**Karimnagar**	11539.77	8.83	1.638	0.002	0.240	0.088	0.437	0.870	0.507	1.377
3	**Khammam**	15646.02	4864.63	1393.277	191.255	241.409	80.621	133.337	746.654	224.088	970.742
4	**Mahbubnagar**	17974.02	17974.02	5129.350	365.260	545.790	140.060	1002.080	3076.160	278.010	3354.170
5	**Medak**	9489.96	361.03	105.438	22.136	13.066	5.275	29.098	35.863	13.989	49.852
6	**Nalgonda**	13742.14	13742.14	7222.980	650.310	1220.120	324.310	1287.810	3740.430	699.780	4440.210
7	**RANGAREDDI**	7358.88	6853.56	4669.773	270.263	881.711	242.901	1480.287	1794.611	174.960	1969.571
8	**Warangal**	12447.42	6199.23	1068.037	70.970	122.870	52.488	96.982	724.728	238.244	962.972
	Sub Total	**88371.64**	**50176.87**	**19783.00**	**1571.64**	**3216.28**	**845.74**	**4030.03**	**10119.32**	**1629.58**	**11748.89**
iii)	**KARNATAKA**										
1	**Bagalkot**	6432.04	6432.04	6588.770	811.260	546.630	57.380	493.560	4679.940	1417.220	6097.160
2	**Belgaum**	13120.75	12113.73	12412.004	1758.089	1062.965	364.084	2170.856	7056.011	2248.769	9304.779
3	**Bellary**	8311.09	8311.09	8131.960	970.170	1637.680	289.340	1063.810	4170.960	911.900	5082.860
4	**Bidar**	5293.88	824.76	844.043	43.166	66.336	68.984	96.629	568.927	134.856	703.784
5	**Bijapur**	10261.00	10261.00	10534.710	19.770	653.690	163.930	793.400	8903.920	777.280	9681.200
6	**Chikmagalur**	7167.73	6264.50	6310.839	1765.698	628.720	1115.915	330.961	2469.545	479.303	2948.848
7	**Chitradurga**	8360.22	8360.22	7707.020	737.190	808.530	1216.690	1171.040	3773.570	655.310	4428.880
8	**DAKSHIN KANNAD**	4578.68	1.09	1.136	0.306	0.308	0.145	0.027	0.350	0.026	0.376
9	**DAVANGERE**	5875.62	5875.62	5975.970	899.180	597.080	324.810	722.960	3431.940	739.660	4171.600
10	**Dharwad**	4202.26	2780.03	2827.020	233.099	190.058	42.498	332.068	2029.296	906.160	2935.456
11	**Gadag**	4563.79	4563.79	4657.150	326.140	233.920	38.780	315.890	3742.420	1315.990	5058.410
12	**Gulbarga**	10687.27	10687.08	10941.005	353.154	764.806	364.024	727.467	8731.555	1997.744	10729.299
13	**Hassan**	6789.18	1384.62	1351.344	119.869	226.124	110.228	190.770	704.353	154.374	858.727
14	**Haveri**	4743.98	4623.62	4728.471	462.500	382.785	170.443	231.007	3481.735	550.977	4032.712
15	**Koppal**	5468.71	5468.71	5524.950	294.510	732.700	206.200	385.550	3905.990	941.770	4847.760
16	**Raichur**	8276.99	8276.99	8358.430	181.670	425.750	442.120	3014.490	4294.400	757.150	5051.550
17	**Shimoga**	8361.30	5694.09	5773.454	1885.397	694.762	1407.243	245.523	1540.529	170.714	1711.244
18	**Tumkur**	10543.89	3897.56	3935.878	166.997	582.762	591.915	868.713	1725.490	276.758	2002.248
19	**Udupi**	3841.79	3.06	2.839	0.797	0.430	0.727	0.106	0.779	0.084	0.863
20	**UTTAR KANNAD**	10048.65	664.06	677.154	537.660	33.643	18.425	13.976	73.450	7.443	80.893
21	**Yadgir**	5163.02	5163.02	5160.880	337.730	606.790	148.770	933.400	3134.190	750.190	3884.380
	Sub Total	**152091.84**	**111650.68**	**112445.03**	**11904.35**	**10876.47**	**7142.65**	**14102.20**	**68419.35**	**15193.68**	**83613.03**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
iv)	**MAHARASHTRA**										
1	**Ahmadnagar**	16510.41	6130.16	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
2	**Bid**	10244.73	1446.56	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
3	**Kolhapur**	7500.31	7237.44	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
4	**Latur**	7009.52	2.45	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
5	**Osmanabad**	7347.20	4366.70	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
6	**Pune**	15185.75	14790.56	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
7	**Raigarh**	6942.67	2.53	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
8	**Ratnagiri**	8050.94	14.49	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
9	**Sangli**	8349.99	8346.19	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
10	**Satara**	10223.37	10187.31	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
11	**Sindhudurg**	4966.78	124.14	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
12	**Solapur**	14495.87	14495.87	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
13	**Thane**	9208.22	2.55	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
	Sub Total	**126035.76**	**67146.95**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**	**N.A**
	Grand Total	**439931.40**	**254746.22**	**158448.08**	**17345.46**	**18722.02**	**9044.58**	**21974.59**	**91361.44**	**19486.77**	**110848.20**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
Note : (1)Totals may not tally due to rounding off.											
Note : (2) N.A.: Not availabe data.											
Note : (3)Estimated on the basis of the percentage of the area of each district, within the basin, to the district as a whole.											
VI	**Basin : Cauvery**										
i)	**KARNATAKA**										
1	**BENGALURU URBAN**	2175.82	987.82	987.0391	22.9496	591.2111	78.1378	144.5306	150.2101	14.4780	164.6881
2	**Bangalore Rural**	2294.62	978.92	979.1632	48.3014	247.7014	90.4680	164.1232	428.5692	12.0860	440.6552
3	**Chamarajanagar**	5688.19	5688.19	5699.0100	2756.1000	460.6100	351.2800	591.1400	1539.8800	396.6900	1936.5700
4	**CHIKBALLAPUR**	4188.56	6.40	6.1807	0.7595	1.0244	1.0203	0.3310	3.0455	0.3448	3.3904
5	**Chikmagalur**	7167.73	751.01	756.5653	211.6780	75.3731	133.7797	39.6768	296.0577	57.4605	353.5182
6	**Hassan**	6789.18	4941.78	4823.0174	427.8177	807.0487	393.4103	680.8688	2513.8719	550.9695	3064.8414
7	**Kodagu**	4115.60	2898.68	2893.1511	947.9872	389.5497	304.1163	90.2439	1161.2539	167.1199	1328.3738
8	**Mandya**	4942.61	4942.61	4982.4400	247.6500	862.8100	776.3200	1131.3200	1964.3400	602.2500	2566.5900
9	**Mysore**	6319.07	6319.07	6763.8200	628.5100	1202.9700	740.8600	456.0200	3735.4600	1135.1700	4870.6300
10	**Ramanagara**	3511.62	3511.62	3559.1200	699.4600	523.2200	297.9000	428.8000	1609.7400	113.5000	1723.2400
11	**Tumkur**	10543.89	3992.00	4031.2465	171.0437	596.8829	606.2573	889.7626	1767.3000	283.4637	2050.7637
	Sub Total	**57736.89**	**35018.10**	**35480.75**	**6162.26**	**5727.21**	**3773.55**	**4308.91**	**15508.83**	**3211.94**	**18720.77**
ii)	**KERALA**										
1	**Idukki**	5106.26	385.72	329.5963	149.8785	20.6817	1.7238	2.1060	155.2062	50.2377	205.4440
2	**Kannur**	2957.80	1.16	1.1652	0.1911	0.1848	0.0264	0.0275	0.7353	0.1279	0.8632
3	**Kozhikode**	2347.84	4.42	4.4173	0.7791	0.7447	0.0448	0.0534	2.7952	0.8070	3.6022
4	**Malappuram**	3599.11	1.90	1.8764	0.5459	0.3176	0.0313	0.0643	0.9173	0.3554	1.2727
5	**Palakkad**	4542.91	619.06	609.9204	185.6767	87.4864	26.0220	28.8741	281.8612	89.2361	371.0972
6	**Wayanad**	2141.18	1936.14	1925.7232	712.4233	144.2353	10.2902	33.3031	1025.4711	499.6467	1525.1178
	Sub Total	**20695.10**	**2948.40**	**2872.70**	**1049.49**	**253.65**	**38.14**	**64.43**	**1466.99**	**640.41**	**2107.40**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
iii)	**TAMIL NADU**										
1	**Ariyalur**	1970.10	1623.55	1593.78	6.09	337.50	202.46	276.83	770.90	121.54	892.44
2	**Coimbatore**	4708.71	2569.37	2577.29	610.44	444.97	63.04	561.13	897.71	31.02	928.74
3	**Cuddalore**	3725.96	604.91	597.09	2.30	119.43	32.44	96.97	345.96	168.52	514.48
4	**Dharmapuri**	4529.54	1906.74	1893.37	691.11	284.90	49.72	263.73	603.90	237.07	840.97
5	**Dindigul**	6164.99	4429.05	4502.08	998.05	743.15	145.64	1042.41	1572.83	20.86	1593.68
6	**Erode**	5802.54	5802.54	5722.64	2275.11	596.88	40.96	1371.57	1438.12	68.78	1506.90
7	**Karur**	2928.71	2928.71	2895.57	61.87	404.44	782.75	892.19	754.32	23.45	777.77
8	**Krishnagiri**	5142.53	1909.10	1909.37	757.19	244.82	76.19	217.46	613.71	169.67	783.37
9	**Nagapattinam**	2516.24	2516.20	2715.79	46.33	811.75	90.37	290.00	1477.35	1101.36	2578.71
10	**Namakkal**	3434.37	3074.96	3014.81	393.14	566.78	135.75	594.06	1325.08	491.10	1816.18
11	**Perambalur**	1768.81	625.19	621.15	57.55	110.73	19.38	81.28	352.22	22.76	374.98
12	**Pudukkottai**	4740.11	734.16	722.26	36.45	227.75	49.93	210.09	198.05	6.95	204.99
13	**Salem**	5247.41	3027.08	3002.79	725.02	591.71	76.70	428.03	1181.33	447.25	1628.59
14	**Thanjavur**	3438.78	2221.95	2194.68	21.90	542.10	123.18	349.00	1158.49	591.52	1750.01
15	**The Nilgiris**	2572.79	2213.40	2189.36	1226.61	115.11	93.17	123.44	631.04	0.47	631.51
16	**Thiruvarur**	2302.70	2300.40	2095.00	24.50	373.97	40.42	95.52	1560.59	1374.03	2934.62
17	**Tiruchirappalli**	4564.08	4032.11	3890.54	324.87	864.80	124.90	1245.94	1330.03	103.40	1433.42
18	**Tiruppur**	5266.55	4983.33	4916.19	455.78	677.84	56.02	2054.16	1672.39	16.64	1689.04
	Sub Total	**70824.92**	**47502.75**	**47053.75**	**8714.30**	**8058.64**	**2203.01**	**10193.79**	**17884.00**	**4996.39**	**22880.40**
iv)	**PONDICHERY**										
1	**Karaikal**	154.98	154.98	160.120	0.000	56.690	29.700	32.780	40.950	13.840	54.790
	Sub Total	**154.98**	**154.98**	**160.120**	**0.000**	**56.690**	**29.700**	**32.780**	**40.950**	**13.840**	**54.790**
	Grand Total	**149411.89**	**85624.23**	**85567.32**	**15926.05**	**14096.20**	**6044.40**	**14599.90**	**34900.77**	**8862.58**	**43763.35**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
VII	**Basin : Pennar**										
i)	**ANDHRA PRADESH**										
1	**Anantapur**	18987.72	14802.13	14913.05	1535.57	2460.45	471.61	4253.77	6191.65	373.63	6565.28
2	**Chittoor**	14957.01	4929.17	4993.10	1489.65	1032.07	364.89	913.74	1192.74	193.29	1386.04
3	**Kurnool**	17503.31	7747.18	7815.65	1507.84	1200.64	223.88	1116.37	3766.92	450.76	4217.68
4	**Prakasam**	17389.37	945.21	958.07	249.66	183.31	63.68	166.66	294.77	6.63	301.41
5	**SPSR Nellore**	13090.71	4151.44	4146.78	862.27	1253.81	389.03	538.65	1103.01	40.48	1143.49
6	**YSR Cudappah**	14969.72	14877.73	15264.62	4978.83	4014.92	598.13	2335.39	3337.35	350.17	3687.53
	Sub Total	**96897.84**	**47452.86**	**48091.26**	**10623.82**	**10145.20**	**2111.22**	**9324.57**	**15886.45**	**1414.97**	**17301.42**
ii)	**KARNATAKA**										
1	**Bangalore Rural**	2294.62	380.08	380.174	18.754	96.174	35.126	63.723	166.398	4.693	171.091
2	**Chikballapur**	4188.56	3367.63	3252.215	399.623	539.046	536.875	174.148	1602.522	181.456	1783.978
3	**Kolar**	3968.44	388.52	367.101	20.187	73.860	51.716	59.226	162.112	7.643	169.755
4	**Tumkur**	10543.89	2654.33	2680.425	113.729	396.875	403.108	591.614	1175.100	188.479	1363.578
	Sub Total	**20995.51**	**6790.56**	**6679.92**	**552.29**	**1105.95**	**1026.82**	**888.71**	**3106.13**	**382.27**	**3488.40**
	Grand Total	**117893.35**	**54243.42**	**54771.18**	**11176.11**	**11251.15**	**3138.05**	**10213.28**	**18992.58**	**1797.24**	**20789.82**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
VIII	**Basin : East Flowing Rivers from Mahanadi to Pennar**										
i)	**ANDHRA PRADESH**										
1	**East Godavari**	10571.11	4681.80	5671.27	2066.04	1074.47	190.48	448.09	1892.19	1057.59	2949.79
2	**Guntur**	11186.51	4641.13	4725.97	671.87	870.27	261.47	452.88	2469.47	724.71	3194.18
3	**Krishna**	8365.25	3678.45	3837.52	335.01	844.46	180.19	382.74	2095.12	758.95	2854.07
4	**Kurnool**	17503.31	59.34	59.86	11.55	9.20	1.71	8.55	28.85	3.45	32.31
5	**Prakasam**	17389.37	15786.99	16001.82	4169.80	3061.62	1063.54	2783.51	4923.35	110.81	5034.16
6	**SPSR Nellore**	13090.71	2848.33	2845.13	591.61	860.25	266.92	369.57	756.78	27.77	784.55
7	**Srikakulam**	5730.80	5730.80	5837.00	686.41	1509.49	90.11	488.85	3062.14	1438.44	4500.58
8	**Visakhapattanam**	11115.36	7501.09	7531.89	2977.16	1629.62	302.21	727.57	1895.34	397.49	2292.83
9	**Vizianagaram**	5821.45	5821.45	6539.00	1193.03	1546.10	200.43	871.46	2727.98	987.36	3715.34
10	**West Godavari**	7582.74	5900.34	6619.26	1034.15	1338.53	274.24	426.93	3545.42	1874.96	5420.38
	Sub Total	**108356.61**	**56649.72**	**59668.72**	**13736.63**	**12744.00**	**2831.29**	**6960.15**	**23396.65**	**7381.54**	**30778.19**
ii)	**TELANGANA**										
1	**Khammam**	15646.02	784.64	224.728	30.848	38.938	13.004	21.507	120.432	36.144	156.576
	Sub Total	**15646.02**	**784.64**	**224.728**	**30.848**	**38.938**	**13.004**	**21.507**	**120.432**	**36.144**	**156.576**
iii)	**ODISHA**										
1	**Gajapati**	3928.20	3928.20	3090.89	580.00	1470.00	240.00	260.00	540.89	92.60	633.49
2	**Ganjam**	8197.71	7698.21	5705.84	525.88	1511.90	807.60	1032.98	1827.48	696.57	2524.06
3	**Kalahandi**	7633.06	645.40	492.10	84.55	71.87	54.96	110.76	169.95	33.55	203.50
4	**Kandhamal**	7770.03	1962.90	1106.78	459.78	290.52	80.84	189.47	86.18	7.16	93.34
5	**Khordha**	2654.72	192.40	198.06	26.09	50.73	40.59	19.57	61.08	7.11	68.18
6	**Koraput**	8180.27	1486.94	1103.52	167.23	283.56	169.05	150.87	332.81	50.75	383.55
7	**Nayagarh**	3755.00	296.34	195.86	29.99	39.46	26.04	25.25	75.11	23.74	98.85
8	**Rayagada**	7126.04	6150.44	4938.51	871.72	1872.91	414.28	681.84	1097.74	54.16	1151.90
	Sub Total	**49245.03**	**22360.83**	**16831.55**	**2745.24**	**5590.96**	**1833.36**	**2470.74**	**4191.24**	**965.63**	**5156.87**
	Grand Total	**173247.66**	**79795.19**	**76725.00**	**16512.72**	**18373.90**	**4677.66**	**9452.40**	**27708.32**	**8383.32**	**36091.64**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
IX	**Basin : East Flowing Rivers from Pennar to Kanyakumari**										
i)	**ANDHRA PRADESH**										
1	**Chittoor**	14957.01	10027.85	10157.91	3030.53	2099.63	742.34	1858.91	2426.50	393.24	2819.74
2	**SPSR Nellore**	13090.71	6090.94	6084.10	1265.11	1839.58	570.78	790.30	1618.32	59.38	1677.71
3	**YSR Cudappah**	14969.72	92.00	94.39	30.79	24.83	3.70	14.44	20.64	2.17	22.80
	Sub Total	**43017.44**	**16210.79**	**16336.40**	**4326.43**	**3964.04**	**1316.82**	**2663.65**	**4065.46**	**454.79**	**4520.25**
ii)	**KARNATAKA**										
1	**BENGALURU URBAN**	2175.82	1188.00	1187.061	27.600	711.019	93.972	173.819	180.650	17.412	198.062
2	**Bangalore Rural**	2294.62	935.62	935.852	46.165	236.745	86.466	156.864	409.613	11.551	421.164
3	**CHIKBALLAPUR**	4188.56	814.53	786.614	96.657	130.379	129.854	42.121	387.603	43.889	431.491
4	**Kolar**	3968.44	3579.91	3382.550	186.012	680.559	476.523	545.722	1493.734	70.427	1564.161
	Sub Total	**12627.44**	**6518.06**	**6292.08**	**356.43**	**1758.70**	**786.82**	**918.53**	**2471.60**	**143.28**	**2614.88**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
iii)	**KERALA**										
1	**Idukki**	5106.26	38.13	32.582	14.816	2.044	0.170	0.208	15.343	4.966	20.309
2	**Kollam**	2556.16	11.68	11.368	3.721	1.631	0.134	0.192	5.691	0.778	6.469
3	**Pathanamthitta**	2709.55	4.92	4.817	2.818	0.399	0.046	0.103	1.451	0.463	1.914
4	**Thiruvananthapuram**	2246.81	4.33	4.216	0.961	0.677	0.010	0.072	2.498	0.510	3.008
	Sub Total	**12618.78**	**59.06**	**52.98**	**22.32**	**4.75**	**0.36**	**0.57**	**24.98**	**6.72**	**31.70**
iv)	**TAMIL NADU**										
1	**Ariyalur**	1970.10	346.55	340.20	1.30	72.04	43.22	59.09	164.55	25.94	190.49
2	**Chennai**	128.00	128.00	170.98	3.00	167.98	0.00	0.00	0.00	0.00	0.00
3	**Cuddalore**	3725.96	3121.05	3080.72	11.85	616.23	167.37	500.30	1784.96	869.49	2654.45
4	**Dharmapuri**	4529.54	2622.80	2604.40	950.66	391.90	68.40	362.76	830.69	326.11	1156.80
5	**Dindigul**	6164.99	1735.94	1764.56	391.18	291.28	57.08	408.56	616.46	8.17	624.64
6	**KANCHIPURAM**	4475.20	4475.19	4432.09	238.60	1627.99	416.81	1094.15	1054.55	191.37	1245.92
7	**Kanniyakumari**	1746.80	70.81	67.78	21.95	13.57	0.34	2.23	29.69	1.65	31.34
8	**Krishnagiri**	5142.53	3233.43	3233.89	1282.45	414.65	129.05	368.31	1039.43	287.36	1326.80
9	**Madurai**	3767.70	3767.63	3741.66	484.72	886.59	168.04	1175.93	1026.38	19.28	1045.66
10	**Namakkal**	3434.37	359.41	352.38	45.95	66.25	15.87	69.43	154.88	57.40	212.28
11	**Perambalur**	1768.81	1143.62	1136.24	105.26	202.56	35.45	148.67	644.29	41.64	685.93
12	**Pudukkottai**	4740.11	4005.95	3941.03	198.90	1242.72	272.42	1146.35	1080.63	37.91	1118.55
13	**Ramanathapuram**	4040.52	4040.51	4089.56	44.88	911.04	347.33	1005.57	1780.75	0.00	1780.75
14	**Salem**	5247.41	2220.33	2202.51	531.80	434.01	56.25	313.95	866.50	328.06	1194.55
15	**Sivaganga**	4325.62	4325.62	4189.00	165.33	1273.05	253.98	1450.44	1046.20	0.04	1046.24
16	**Thanjavur**	3438.78	1216.83	1201.89	12.00	296.88	67.46	191.13	634.43	323.94	958.37
17	**Theni**	2909.55	2907.60	3240.13	1347.23	368.20	43.27	387.03	1094.40	50.70	1145.09
18	**Thiruvallur**	3377.77	3377.77	3422.43	197.36	1235.62	215.17	813.42	960.86	549.90	1510.76
19	**Thoothukkudi**	4763.91	4763.91	4707.24	110.12	963.62	815.04	777.90	2040.56	7.73	2048.29
20	**Tiruchirappalli**	4564.08	531.97	513.29	42.86	114.10	16.48	164.38	175.47	13.64	189.12
21	**Tirunelveli**	6998.99	6982.02	6742.11	1274.48	1328.87	481.61	2078.25	1578.90	72.78	1651.69
22	**Tiruvannamalai**	6187.67	6187.67	6312.05	1528.10	1170.85	134.46	1392.20	2086.44	1061.81	3148.25
23	**Vellore**	6056.53	6056.53	5920.18	1622.86	1011.88	125.41	1634.54	1525.49	337.33	1862.82
24	**VILLUPURAM**	7211.86	7211.85	7222.02	716.97	1927.66	199.40	964.86	3413.14	1214.21	4627.34
25	**Virudhunagar**	4487.16	4487.15	4243.22	264.66	750.36	126.94	1883.20	1218.07	19.79	1237.86
	Sub Total	**105203.96**	**79320.14**	**78871.56**	**11594.47**	**17779.87**	**4256.84**	**18392.66**	**26847.72**	**5846.25**	**32693.97**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
v)	**PUDUCHERRY**										
1	**Puducherry**	301.19	301.19	293.780	3.930	124.700	22.640	43.250	99.260	92.180	191.440
	Sub Total	**301.19**	**301.19**	**293.780**	**3.930**	**124.700**	**22.640**	**43.250**	**99.260**	**92.180**	**191.440**
	Grand Total	**173768.81**	**102409.24**	**101846.80**	**16303.58**	**23632.06**	**6383.47**	**22018.66**	**33509.03**	**6543.21**	**40052.24**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
X	**Basin : Narmada**										
i)	**GUJARAT**										
1	**Bharuch**	5083.67	1849.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Dohad**	3458.35	60.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Narmada**	2719.36	2321.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Panch Mahals**	5095.62	137.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Surat**	4174.64	168.82	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Vadodara**	7234.95	3788.50	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**27766.59**	**8326.35**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**MADHYA PRADESH**										
1	**Alirajpur**	3217.78	3001.03	3568.830	1132.383	707.109	121.523	44.328	1563.487	354.888	1918.375
2	**Anuppur**	3637.40	517.37	532.918	108.737	88.802	38.323	78.987	218.069	52.555	270.624
3	**Balaghat**	8897.36	2210.54	2296.911	1254.861	143.253	131.288	78.766	688.743	143.159	831.902
4	**Barwani**	5234.28	3841.08	3888.177	1343.403	748.413	87.135	28.825	1680.401	581.921	2262.322
5	**Betul**	9690.38	3712.61	3861.116	1512.544	292.005	260.528	156.372	1639.668	783.223	2422.891
6	**Bhopal**	2618.98	3.33	3.533	0.561	0.483	0.485	0.057	1.948	1.799	3.747
7	**Burhanpur**	3084.12	368.60	409.628	241.427	27.365	14.582	3.748	122.506	37.883	160.389
8	**Chhindwara**	11361.38	3389.22	3534.751	1424.090	232.819	245.459	127.400	1504.983	683.981	2188.964
9	**Damoh**	7068.37	417.79	430.643	157.885	54.082	26.300	3.606	188.771	142.607	331.377
10	**Dewas**	6700.19	3740.87	3915.558	1152.546	281.054	212.939	6.063	2262.956	2029.437	4292.393
11	**Dhar**	7842.30	4756.36	4970.521	727.576	823.458	356.998	32.915	3029.574	2119.501	5149.075
12	**Dindori**	5543.20	4598.04	2977.337	210.857	326.397	256.106	608.772	1575.205	704.206	2279.411
13	**Khandwa**	7169.74	6469.19	6998.311	2754.901	867.742	496.513	108.618	2770.538	1671.855	4442.392
14	**Harda**	3192.55	3127.44	3238.371	1013.294	254.423	126.163	7.974	1836.516	1787.633	3624.149
15	**Hoshangabad**	6456.42	6456.42	6686.890	2561.300	471.710	387.660	76.700	3189.520	3687.640	6877.160

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
16	**Indore**	3765.95	1013.68	1031.181	140.528	138.501	58.103	19.415	674.634	652.971	1327.605
17	**Jabalpur**	4911.29	4619.32	4888.581	730.263	708.922	647.033	273.258	2529.105	1841.251	4370.356
18	**Jhabua**	3302.18	7.92	7.029	0.260	1.616	0.536	0.053	4.564	1.778	6.341
19	**Katni**	4867.17	1093.93	1108.258	224.820	162.668	154.781	71.340	494.649	265.397	760.047
20	**Mandla**	7201.48	6371.63	8542.945	5248.419	491.550	402.808	487.790	1912.379	919.016	2831.395
21	**Narsinghpur**	4947.28	4818.19	5002.482	1326.305	265.029	338.442	62.126	3010.580	1673.815	4684.395
22	**Raisen**	8172.10	4494.04	4667.464	1834.945	243.655	184.027	23.009	2381.829	1593.836	3975.664
23	**Sagar**	9858.18	371.79	385.722	112.362	26.889	31.454	6.677	208.340	153.747	362.087
24	**Sehore**	6317.41	3143.66	3266.209	858.825	260.245	162.239	8.579	1976.322	1883.809	3860.131
25	**Seoni**	8422.70	2153.12	2237.814	839.869	157.634	141.483	110.019	988.809	531.006	1519.815
26	**Umaria**	4411.61	0.47	0.480	0.252	0.047	0.036	0.038	0.107	0.044	0.151
27	**Khargone**	7757.16	7397.29	7806.779	2354.191	785.620	699.977	99.757	3867.233	2734.318	6601.552
	Sub Total	**165648.96**	**82094.93**	**86258.44**	**29267.41**	**8561.49**	**5582.92**	**2525.19**	**40321.43**	**27033.28**	**67354.71**
iii)	**CHHATISGARH**										
1	**Bilaspur**	8022.86	0.71	0.51	0.19	0.04	0.06	0.03	0.20	0.02	0.22
2	**Kabirdham**	4061.73	596.41	652.99	278.14	39.27	48.01	15.01	272.55	119.28	391.83
3	**Rajnandgaon**	7764.54	78.58	81.19	26.22	6.96	7.25	3.40	37.35	12.69	50.04
	Sub Total	**19849.13**	**675.70**	**734.69**	**304.56**	**46.27**	**55.32**	**18.44**	**310.10**	**131.99**	**442.09**
iv)	**MAHARASHTRA**										
1	**Dhule**	6925.51	7.95	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Nandurbar**	5684.20	1572.12	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**12609.71**	**1580.07**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**225874.39**	**92677.05**	**86993.14**	**29571.97**	**8607.76**	**5638.24**	**2543.63**	**40631.54**	**27165.27**	**67796.80**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
XI	**Basin : Tapi**										
i)	**GUJARAT**										
1	**Narmada**	2719.36	398.16	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bharuch**	5083.67	1034.35	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Surat**	4174.64	2654.37	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Tapi**	3040.24	1686.10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**The Dangs**	1700.82	25.75	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**16718.73**	**5798.73**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**MADHYA PRADESH**										
1	**Harda**	3192.55	65.11	67.419	21.096	5.297	2.627	0.166	38.234	37.217	75.451
2	**Burhanpur**	3084.12	2715.52	3017.782	1778.623	201.605	107.428	27.612	902.514	279.087	1181.601
3	**Betul**	9690.38	3848.03	4001.953	1567.715	302.656	270.031	162.076	1699.476	811.791	2511.267
4	**Khandwa**	7169.74	700.55	757.849	298.329	93.968	53.767	11.762	300.022	181.045	481.068
5	**Khargone**	7757.16	359.87	379.791	114.529	38.220	34.053	4.853	188.137	133.022	321.158
6	**Barwani**	5234.28	1393.21	1410.293	487.270	271.459	31.605	10.455	609.503	211.070	820.574
	Sub Total	**36128.23**	**9082.29**	**9635.09**	**4267.56**	**913.20**	**499.51**	**216.92**	**3737.89**	**1653.23**	**5391.12**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
iii)	**MAHARASHTRA**										
1	**Washim**	5017.05	1056.31	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Nashik**	15021.09	5959.21	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Nandurbar**	5684.20	4111.38	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Jalna**	7510.09	123.51	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Jalgaon**	11349.74	11334.09	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Dhule**	6925.51	6864.04	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Buldana**	9409.67	5613.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Aurangabad**	9772.28	1046.84	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Akola**	5214.95	5214.73	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Amravati**	11765.11	7744.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**87669.69**	**49067.70**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**140516.65**	**63948.72**	**9635.09**	**4267.56**	**913.20**	**499.51**	**216.92**	**3737.89**	**1653.23**	**5391.12**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
XII	**Basin : West Flowing Rivers from Tapi to Tadri**										
i)	**DADRA & NAGAR HAVELI**										
1	**HAVELI**	477.07	477.07	488.820	203.510	38.380	13.890	44.950	188.090	44.880	232.970
	Sub Total	**477.07**	**477.07**	**488.820**	**203.510**	**38.380**	**13.890**	**44.950**	**188.090**	**44.880**	**232.970**
ii)	**DAMAN & DIU**										
1	**Daman**	70.98	70.98	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**70.98**	**70.98**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
iii)	**GOA**										
1	**North Goa**	1650.18	1650.18	1422.08	319.11	181.20	170.43	98.67	652.67	116.26	768.93
2	**South Goa**	1917.11	1917.11	2189.05	935.62	190.17	373.75	50.87	638.64	112.00	750.64
	Sub Total	**3567.29**	**3567.29**	**3611.13**	**1254.73**	**371.37**	**544.18**	**149.54**	**1291.31**	**228.26**	**1519.57**
iv)	**GUJARAT**										
1	**Navsari**	2146.71	2146.71	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Surat**	4174.64	1351.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Tapi**	3040.24	1354.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**The Dangs**	1700.82	1675.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Valsad**	2894.91	2894.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**13957.32**	**9422.26**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
v)	**KARNATAKA**										
1	**Belgaum**	13120.75	1007.02	1031.816	146.151	88.365	30.266	180.464	586.569	186.941	773.511
2	**Dharwad**	4202.26	1422.24	1446.280	119.252	97.232	21.742	169.883	1038.171	463.584	1501.755
3	**Haveri**	4743.98	120.36	123.089	12.040	9.965	4.437	6.013	90.635	14.343	104.978
4	**Shimoga**	8361.30	15.01	15.219	4.970	1.831	3.710	0.647	4.061	0.450	4.511
5	**Uttar Kannad**	10048.65	8350.89	8515.553	6761.348	423.077	231.704	175.758	923.666	93.601	1017.267
	Sub Total	**40476.94**	**10915.52**	**11131.96**	**7043.76**	**620.47**	**291.86**	**532.77**	**2643.10**	**758.92**	**3402.02**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
vi)	**MAHARASHTRA**										
1	**Ahmadnagar**	16510.41	12.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Dhule**	6925.51	53.52	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Kolhapur**	7500.31	262.87	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Mumbai**	144.60	144.60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Mumbai (Suburban)**	438.28	438.28	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Nandurbar**	5684.20	0.69	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Nashik**	15021.09	2088.62	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Pune**	15185.75	313.94	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Raigarh**	6942.67	6940.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Ratnagiri**	8050.94	8036.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Sangli**	8349.99	3.80	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Satara**	10223.37	36.06	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Sindhudurg**	4966.78	4842.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
14	**Thane**	9208.22	9202.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**115152.12**	**32375.79**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**173701.72**	**56828.91**	**15231.91**	**8502.00**	**1030.22**	**849.93**	**727.26**	**4122.50**	**1032.06**	**5154.56**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
XIII	**Basin : West Flowing Rivers from Tadri to Kanyakumari**										
i)	**KARNATAKA**										
1	**Chikmagalur**	7167.73	152.22	153.346	42.904	15.277	27.115	8.042	60.007	11.647	71.654
2	**Dakshin Kannad**	4578.68	4577.59	4772.674	1284.454	1295.502	611.005	113.643	1468.070	111.024	1579.094
3	**Hassan**	6789.18	462.78	451.658	40.064	75.577	36.841	63.761	235.415	51.596	287.011
4	**Kodagu**	4115.60	1216.92	1214.599	397.983	163.540	127.674	37.886	487.516	70.160	557.676
5	**Shimoga**	8361.30	2652.20	2689.166	878.183	323.607	655.467	114.360	717.550	79.516	797.065
6	**Udupi**	3841.79	3838.73	3561.621	1000.223	539.410	911.903	132.594	977.491	105.056	1082.547
7	**Uttar Kannad**	10048.65	1033.70	1054.083	836.941	52.370	28.681	21.756	114.334	11.586	125.921
	Sub Total	**44902.93**	**13934.14**	**13897.15**	**4480.75**	**2465.28**	**2398.69**	**492.04**	**4060.38**	**440.58**	**4500.97**
ii)	**KERALA**										
1	**Alappuzha**	1454.48	1454.48	1410.11	0.00	379.93	150.20	42.72	837.26	263.92	1101.18
2	**Ernakulam**	2454.58	2454.57	3058.25	706.17	571.71	151.53	145.90	1482.94	163.00	1645.94
3	**Idukki**	5106.26	4682.42	4001.11	1819.44	251.06	20.93	25.57	1884.12	609.86	2493.97
4	**Kannur**	2957.80	2956.64	2969.95	487.15	471.13	67.26	70.15	1874.26	325.94	2200.21
5	**Kasaragod**	1964.67	1964.67	1991.66	56.25	344.49	91.64	39.33	1459.95	119.10	1579.05
6	**Kollam**	2556.16	2544.48	2476.51	810.66	355.29	29.09	41.77	1239.71	169.58	1409.29
7	**Kottayam**	2258.83	2258.83	2204.42	81.41	366.76	65.43	65.14	1625.68	445.23	2070.91
8	**Kozhikode**	2347.84	2343.42	2341.99	413.08	394.86	23.77	28.33	1481.96	427.88	1909.85
9	**Malappuram**	3599.11	3597.21	3552.58	1033.62	601.25	59.17	121.82	1736.72	672.93	2409.66
10	**Palakkad**	4542.91	3923.85	3865.92	1176.89	554.52	164.94	183.02	1786.55	565.61	2352.16
11	**Pathanamthitta**	2709.55	2704.62	2647.94	1549.32	219.11	25.07	56.66	797.79	254.57	1052.35
12	**Thiruvananthapuram**	2246.81	2242.48	2183.59	497.65	350.43	4.94	37.05	1293.52	264.32	1557.84
13	**Thrissur**	3071.57	3071.56	3029.18	1036.19	452.22	93.81	143.86	1303.11	410.87	1713.97
14	**Wayanad**	2141.18	205.04	203.94	75.45	15.27	1.09	3.53	108.60	52.91	161.51
	Sub Total	**39411.75**	**36404.27**	**35937.16**	**9743.27**	**5328.03**	**948.86**	**1004.83**	**18912.17**	**4745.73**	**23657.90**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
iii)	**TAMIL NADU**										
1	**Coimbatore**	4708.71	2139.34	2145.93	508.27	370.50	52.48	467.21	747.47	25.83	773.29
2	**Kanniyakumari**	1746.80	1675.98	1604.21	519.59	321.17	8.06	52.67	702.72	39.05	741.77
3	**The Nilgiris**	2572.79	359.39	355.49	199.16	18.69	15.13	20.04	102.46	0.08	102.54
4	**Theni**	2909.55	1.95	2.17	0.90	0.25	0.03	0.26	0.73	0.03	0.77
5	**Tirunelveli**	6998.99	16.96	16.38	3.10	3.23	1.17	5.05	3.84	0.18	4.01
6	**Tirupur**	5266.55	283.22	279.40	25.90	38.52	3.18	116.75	95.05	0.95	95.99
7	**Virudhunagar**	4487.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub Total	**28690.55**	**4476.84**	**4403.59**	**1256.93**	**752.36**	**80.06**	**661.98**	**1652.26**	**66.11**	**1718.37**
iv)	**PUDUCHERRY**										
1	**Mahe**	9.90	9.90	8.700	0.000	2.580	0.320	0.180	5.620	0.010	5.630
	Sub Total	**9.90**	**9.90**	**8.700**	**0.000**	**2.580**	**0.320**	**0.180**	**5.620**	**0.010**	**5.630**
	Grand Total	**113015.13**	**54825.15**	**54246.60**	**15480.95**	**8548.25**	**3427.92**	**2159.03**	**24630.44**	**5252.44**	**29882.87**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
XIV	**Basin : Mahi**										
i)	**GUJARAT**										
1	**Anand**	2806.43	996.53	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bharuch**	5083.67	2199.42	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Dohad**	3458.35	3397.99	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Kheda**	3843.53	518.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Panch Mahals**	5095.62	4889.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Sabar Kantha**	7140.29	26.43	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Vadodara**	7234.95	3446.45	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**34662.84**	**15474.34**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**MADHYA PRADESH**										
1	**Alirajpur**	3217.78	216.75	257.760	81.787	51.071	8.777	3.202	112.923	25.632	138.555
2	**Dhar**	7842.30	1505.16	1572.932	230.243	260.585	112.973	10.416	958.715	670.721	1629.436
3	**Jhabua**	3302.18	3294.25	2923.532	108.309	671.982	222.923	22.077	1898.241	739.360	2637.601
4	**Neemuch**	4001.43	29.18	28.700	6.885	6.482	1.910	0.115	13.307	10.099	23.405
5	**Ratlam**	4639.98	1820.86	1907.230	134.756	276.929	163.109	7.197	1325.239	956.199	2281.438
	Sub Total	**23003.67**	**6866.20**	**6690.15**	**561.98**	**1267.05**	**509.69**	**43.01**	**4308.42**	**2402.01**	**6710.43**
iii)	**RAJASTHAN**										
1	**Banswara**	4332.72	4332.72	4535.890	912.990	623.830	360.920	361.950	2276.200	1141.220	3417.420
2	**Chittorgarh**	7500.49	133.03	133.158	21.595	20.742	27.367	6.138	57.317	44.161	101.478
3	**Dungarpur**	3640.43	3042.56	3223.345	538.871	753.613	476.556	331.332	1122.973	516.740	1639.713
4	**Pratapgarh**	4141.45	2993.52	2976.107	873.968	279.384	417.927	78.238	1326.590	889.754	2216.345
5	**Udaipur**	11459.12	5494.69	6656.734	1906.962	2263.152	977.626	378.592	1130.401	533.625	1664.026
	Sub Total	**31074.21**	**15996.52**	**17525.23**	**4254.39**	**3940.72**	**2260.40**	**1156.25**	**5913.48**	**3125.50**	**9038.98**
	Grant Total	**88740.72**	**38337.06**	**24215.39**	**4816.37**	**5207.77**	**2770.09**	**1199.26**	**10221.90**	**5527.51**	**15749.42**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
XV	**Basin: Sabarmati**										
i)	**GUJARAT**										
1	**Ahmedabad**	7712.66	4718.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Anand**	2806.43	1785.66	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Banaskantha**	10247.55	506.28	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Bhavnagar**	8062.74	213.25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Gandhinagar**	2055.07	2055.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Kheda**	3843.53	3325.40	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Mahesana**	4244.35	2087.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Panchmahal**	5095.62	68.67	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Rajkot**	10762.12	261.22	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Sabarkantha**	7140.29	7113.86	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Surendranagar**	10116.24	4603.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**72086.60**	**26738.20**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**RAJASTHAN**										
1	**Dungarpur**	3640.43	597.87	633.395	105.889	148.087	93.644	65.108	220.667	101.540	322.207
2	**Sirohi**	4961.34	54.66	0.629	0.189	0.122	0.051	0.070	0.197	0.079	0.276
3	**Udaipur**	11459.12	3289.85	3985.603	1141.760	1355.023	585.337	226.675	676.808	319.499	996.307
	Sub Total	**20060.89**	**3942.38**	**4619.63**	**1247.84**	**1503.23**	**679.03**	**291.85**	**897.67**	**421.12**	**1318.79**
	Grant Total	**92147.49**	**30680.58**	**4619.63**	**1247.84**	**1503.23**	**679.03**	**291.85**	**897.67**	**421.12**	**1318.79**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)											
XVI	**Basin : WFR of Kutch, Saurashtra Including Luni**										
i)	**GUJARAT**										
1	**Ahmadabad**	7712.66	2994.60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Amreli**	7100.01	7100.01	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Anand**	2806.43	24.24	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Banas Kantha**	10247.55	9741.27	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Bhavnagar**	8062.74	7849.49	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Jamnagar**	10490.91	10490.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Junagadh**	8497.29	8497.29	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Kachchh**	40508.20	40508.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Mahesana**	4244.35	2156.99	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Patan**	5431.61	5431.61	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Porbandar**	2203.38	2203.38	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Rajkot**	10762.12	10500.90	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Surendranagar**	10116.24	5512.88	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**128183.49**	**113011.77**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**

Table 14 : Land Utilisation Pattern in State-wise & District-wise area covered in River Basin for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
1	2	3	4	5	6	7	8	9	10	11	12
ii)	**RAJASTHAN**										
1	**Ajmer**	8206.23	1870.76	1921.759	131.747	311.364	334.744	143.805	1000.099	329.537	1329.636
2	**Barmer**	27351.28	20773.88	21398.936	253.619	1548.254	3028.963	3850.834	12717.265	1784.966	14502.232
3	**Bhilwara**	10052.59	2.23	2.331	0.167	0.470	0.516	0.232	0.945	0.410	1.355
4	**Chittorgarh**	7500.49	36.42	36.455	5.912	5.679	7.492	1.680	15.692	12.090	27.782
5	**Jaisalmer**	37070.06	2021.38	2093.439	14.954	314.510	1206.080	99.830	458.063	152.916	610.979
6	**JALORE**	10322.33	10322.33	10566.110	236.380	1229.710	691.280	1720.360	6688.380	2744.720	9433.100
7	**Jodhpur**	22037.60	13324.02	13642.314	50.775	1345.637	784.558	2965.292	8496.052	2209.779	10705.831
8	**Nagaur**	17026.59	6096.23	6355.019	67.086	569.444	291.894	934.578	4492.017	924.628	5416.645
9	**Pali**	11890.23	11890.23	12330.790	867.970	1981.980	1330.630	1613.360	6536.850	1860.880	8397.730
10	**Rajsamand**	4485.42	364.89	368.294	21.358	103.919	139.788	25.000	78.229	36.980	115.209
11	**Sikar**	7428.38	2.75	2.866	0.226	0.206	0.196	0.371	1.867	0.673	2.540
12	**Sirohi**	4961.34	4906.68	5122.407	1540.103	988.587	414.324	499.713	1679.679	565.065	2244.744
13	**Udaipur**	11459.12	205.67	249.166	71.379	84.711	36.593	14.171	42.312	19.974	62.286
	Sub Total	**179791.66**	**71817.47**	**74918.26**	**4370.79**	**10801.70**	**16091.46**	**8939.35**	**34714.97**	**10281.69**	**44996.66**
iii)	**Daman& Diu**										
1	**Diu**	34.39	34.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**34.39**	**34.39**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grant Total	**308009.54**	**184863.63**	**74049.76**	**3259.37**	**8439.91**	**8372.15**	**12720.60**	**41257.72**	**9174.72**	**50432.44**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
I	**Basin : Mahanadi**											
i)	**JHARKHAND**											
	Simdega	3639.71	145.66	0.201	-	0.201	0.125	0.153	0.448	0.601	0.671	1.598
	Sub Total	**3639.71**	**145.66**	**0.201**	-	**0.201**	**0.125**	**0.153**	**0.448**	**0.601**	**0.671**	**1.598**
ii)	**ODISHA**											
1	**Anugul**	6129.61	2060.53	24.936	8.101	33.038	4.652	9.809	0.403	10.213	-	47.903
2	**Balangir**	6332.43	6332.43	1.970	12.960	14.930	1.760	24.090	6.470	30.560	-	47.250
3	**Bargarh**	5583.76	5583.76	1232.250	62.300	1294.550	8.230	193.310	1.470	194.780	-	1497.560
4	**Boudh**	3006.39	3006.39	168.500	35.050	203.550	5.640	10.860	0.200	11.060	-	220.250
5	**Cuttack**	3802.97	3683.62	89.132	282.022	371.155	7.875	7.778	2.567	10.345	-	389.374
6	**Deogarh**	2726.66	271.58	1.558	0.370	1.927	0.217	0.259	0.049	0.308	-	2.452
7	**Dhenkanal**	4310.65	660.17	13.231	6.575	19.805	0.750	4.290	0.113	4.403	-	24.959
8	**Ganjam**	8197.71	499.49	44.915	29.899	74.815	6.813	1.388	0.033	1.421	-	83.048
9	**Jagatsinghapur**	1678.55	1678.55	489.340	-	489.340	-	7.490	0.320	7.810	-	497.150
10	**Jajapur**	2792.19	41.71	3.033	0.005	3.039	-	0.596	0.001	0.597	-	3.635
11	**Jharsuguda**	2036.85	2036.85	4.600	2.350	6.950	0.700	20.750	2.400	23.150	-	30.800
12	**Kalahandi**	7633.06	6570.09	598.663	112.051	710.714	4.898	14.908	81.693	96.601	-	812.213
13	**Kandhamal**	7770.03	5807.13	1.569	2.960	4.529	2.795	3.572	0.321	3.894	-	11.218
14	**Kendrapara**	2388.95	1292.70	176.555	0.005	176.561	0.373	2.895	2.051	4.946	-	181.880
15	**Khordha**	2654.72	2462.32	147.523	2.439	149.962	0.315	1.243	0.176	1.419	-	151.697
16	**NABARANGPUR**	5236.39	1655.37	3.945	4.179	8.124	0.107	8.516	1.031	9.547	-	17.779
17	**Nayagarh**	3755.00	3458.66	67.921	32.569	100.490	11.090	14.406	1.170	15.575	-	127.155
18	**Nuapada**	3728.43	3728.43	80.520	10.130	90.650	2.200	35.140	2.210	37.350	-	130.200
19	**Puri**	3433.02	3433.02	490.490	75.010	565.500	-	73.440	8.290	81.730	-	647.230
20	**Rayagada**	7126.04	104.47	0.579	3.001	3.580	0.189	0.235	0.004	0.239	-	4.008
21	**Sambalpur**	6479.54	5266.85	69.905	16.167	86.072	2.495	40.870	7.421	48.291	-	136.858
22	**Sonepur**	2271.97	2271.97	707.010	26.890	733.900	-	81.700	4.150	85.850	-	819.750
23	**Sundargarh**	9353.52	3941.17	24.072	26.204	50.276	0.295	10.209	11.929	22.138	-	72.709
	Sub Total	**108428.44**	**65847.26**	**4442.22**	**751.24**	**5193.46**	**61.40**	**567.75**	**134.47**	**702.23**	**0.00**	**5957.08**
iii)	**MADHYA PRADESH**											
1	**Anuppur**	3637.40	121.78	0.170	-	0.170	0.016	0.597	0.445	1.042	0.475	1.703
2	**Balaghat**	8897.36	0.10	0.011	-	0.011	0.003	0.001	0.003	0.004	0.002	0.019
3	**Dindori**	5543.20	27.29	0.088	-	0.088	0.000	0.023	0.020	0.043	0.076	0.208
4	**Mandla**	7201.48	2.50	0.097	-	0.097	0.013	0.002	0.055	0.057	0.026	0.193
	Sub Total	**25279.44**	**151.67**	**0.37**	**0.00**	**0.37**	**0.03**	**0.62**	**0.52**	**1.15**	**0.58**	**2.12**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iv)	**CHHATISGARH**											
1	**Bastar**	10152.59	347.86	0.36	-	0.36	0.13	1.28	0.09	1.37	0.98	2.85
2	**Bilaspur**	8022.86	7190.01	514.55	-	514.55	18.25	378.74	24.98	403.72	0.09	936.60
3	**Dhamtari**	3915.57	3903.65	852.36	-	852.36	1.85	419.28	2.77	422.05	10.39	1286.65
4	**Durg**	8287.60	8256.76	472.57	-	472.57	24.67	617.69	1.70	619.40	6.08	1122.72
5	**Jashpur**	5583.19	3918.09	28.89	-	28.89	1.22	0.81	14.65	15.46	20.39	65.96
6	**Janjgir-Champa**	3723.65	3723.65	1960.77	-	1960.77	18.49	112.14	20.25	132.39	31.95	2143.60
7	**Kabirdham**	4061.73	3465.32	251.85	-	251.85	-	828.80	1.54	830.34	3.93	1086.13
8	**Korba**	6333.50	6333.17	55.20	-	55.20	4.64	5.99	6.15	12.14	19.09	91.07
9	**Korea**	6383.21	2478.01	13.68	-	13.68	0.78	4.13	3.38	7.51	9.36	31.32
10	**Mahasamund**	4559.96	4559.96	354.85	-	354.85	41.94	740.36	3.25	743.61	78.88	1219.28
11	**Raigarh**	6819.11	6818.53	212.25	-	212.25	44.82	284.34	9.44	293.78	71.26	622.11
12	**Raipur**	11995.63	11995.63	1055.61	-	1055.61	22.39	338.85	3.02	341.87	21.81	1441.68
13	**Rajnandgaon**	7764.54	5467.60	270.44	-	270.44	16.61	700.40	12.32	712.72	24.48	1024.24
14	**Surguja**	15125.37	2477.40	11.40	-	11.40	1.01	1.37	1.80	3.18	15.20	30.79
15	**Kanker**	6567.07	2278.90	15.70	-	15.70	7.64	84.91	0.70	85.60	-	108.94
	Sub Total	**109295.58**	**73214.54**	**6070.49**	**0.00**	**6070.49**	**204.43**	**4519.08**	**106.05**	**4625.13**	**313.89**	**11213.94**
v)	**MAHARASHTRA**											
1	**Gadchirol**	13966.06	298.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Gondiya**	5273.77	23.83	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**19239.83**	**322.39**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**265883.00**	**139681.52**	**10513.28**	**751.24**	**11264.51**	**265.98**	**5087.61**	**241.49**	**5329.10**	**315.14**	**17174.73**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
II	**Basin : Subernarekha**											
i)	**JHARKHAND**											
1	**Bokaro**	2688.22	17.01	-	-	-	0.037	0.005	0.087	0.092	0.027	0.156
2	**Khunti**	2603.07	1297.28	1.764	-	1.764	11.896	1.266	7.934	9.200	6.678	29.538
3	**West Singhbhum**	6941.29	2687.33	1.049	-	1.049	1.146	-	0.918	0.918	0.798	3.910
4	**East Singhbum**	3433.65	3119.28	5.551	-	5.551	8.421	4.024	4.996	9.021	1.653	24.646
5	**Ramgarh**	1259.52	136.64	-	-	-	1.446	-	1.652	1.652	0.931	4.029
6	**Ranchi**	4743.84	2802.26	-	-	-	32.383	6.716	52.432	59.148	16.038	107.569
7	**Saraikela Kharsawan**	2546.17	2536.09	0.857	-	0.857	1.375	-	0.279	0.279	1.733	4.243
	Sub Total	**24215.76**	**12595.89**	**9.22**	**0.00**	**9.22**	**56.70**	**12.01**	**68.30**	**80.31**	**27.86**	**174.09**
ii)	**ODISHA**											
1	**Baleshwar**	3733.69	2644.77	62.604	1.282	63.886	-	328.513	5.348	333.861	-	397.747
2	**Mayurbhanj**	10035.64	7146.63	68.670	79.972	148.642	21.463	108.421	6.594	115.015	-	285.121
	Sub Total	**13769.33**	**9791.40**	**131.27**	**81.25**	**212.53**	**21.46**	**436.93**	**11.94**	**448.88**	**0.00**	**682.87**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iii)	**WEST BENGAL**											
1	**Pashchim Medinipur**	9021.98	2387.68	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Purba Medinipur**	3893.57	85.26	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Puruliya**	6003.10	931.92	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**18918.65**	**3404.86**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**56903.74**	**25792.15**	**140.50**	**81.25**	**221.75**	**78.17**	**448.95**	**80.24**	**529.19**	**27.86**	**856.96**
III	**Basin : Brahamani and Baitarni**											
i)	**JHARKHAND**											
1	**Gumla**	5149.51	4312.74	1.524	-	1.524	17.068	7.839	17.437	25.276	25.594	69.463
2	**Khunti**	2603.07	1305.80	1.776	-	1.776	11.974	1.274	7.986	9.260	6.722	29.732
3	**Latehar**	4092.97	11.85	0.007	-	0.007	0.135	0.030	0.221	0.251	0.210	0.602
4	**Lohardaga**	1439.38	911.85	2.293	-	2.293	15.603	1.387	15.134	16.522	27.684	62.102
5	**West Singhbhum**	6941.29	4253.95	1.661	-	1.661	1.814	-	1.452	1.452	1.262	6.190
6	**Ranchi**	4743.84	1150.39	-	-	-	13.294	2.757	21.524	24.282	6.584	44.160
7	**Simdega**	3639.71	3494.05	4.819	-	4.819	2.995	3.677	10.752	14.429	16.089	38.332
	Sub Total	**28609.77**	**15440.63**	**12.08**	**0.00**	**12.08**	**62.88**	**16.96**	**74.51**	**91.47**	**84.15**	**250.58**
ii)	**CHATTISGARH**											
1	**Jashpur**	5583.19	1205.37	8.89	-	8.89	0.38	0.25	4.51	4.76	6.27	20.29
2	**Surguja**	15125.37	158.79	0.73	-	0.73	0.06	0.09	0.12	0.20	0.97	1.97
	Sub Total	**20708.56**	**1364.16**	**9.6190**	**0.0000**	**9.6190**	**0.4404**	**0.3361**	**4.6235**	**4.9597**	**7.2459**	**22.2650**
iii)	**ODISHA**											
1	**Anugul**	6129.61	4069.08	49.244	15.999	65.242	9.188	19.371	0.797	20.167	-	94.597
2	**Baleshwar**	3733.69	1081.10	25.591	0.524	26.115	-	134.286	2.186	136.472	-	162.587
3	**Bhadrak**	2390.28	2390.28	648.820	-	648.820	-	45.240	0.680	45.920	-	694.740
4	**Cuttack**	3802.97	119.34	2.888	9.137	12.024	0.255	0.252	0.083	0.335	-	12.615
5	**Deogarh**	2706.30	2434.72	14.071	3.338	17.408	1.961	2.339	0.441	2.780	-	22.149
6	**Dhenkanal**	4310.65	3650.47	73.159	36.355	109.515	4.150	23.720	0.627	24.347	-	138.011
7	**Jajapur**	2792.19	2750.48	200.027	0.355	200.381	-	39.274	0.069	39.343	-	239.725
8	**Kendrapara**	2388.95	1096.25	149.725	0.005	149.729	0.317	2.455	1.739	4.194	-	154.240
9	**Kendujhar**	7996.91	7996.91	8.580	64.910	73.490	0.930	104.060	21.700	125.760	-	200.180
10	**Mayurbhanj**	10035.64	2889.01	27.760	32.328	60.088	8.677	43.829	2.666	46.495	-	115.259
11	**Sambalpur**	6479.54	1212.69	16.095	3.723	19.818	0.575	9.410	1.709	11.119	-	31.512
12	**Sundargarh**	9353.52	5412.35	33.058	35.986	69.044	0.405	14.021	16.381	30.402	-	99.851
	Sub Total	**62120.25**	**35102.68**	**1249.02**	**202.66**	**1451.67**	**26.46**	**438.26**	**49.08**	**487.33**	**0.00**	**1965.47**
	Grand Total	**111438.58**	**51907.47**	**1270.72**	**202.66**	**1473.37**	**89.78**	**455.56**	**128.21**	**583.77**	**91.39**	**2238.31**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
IV	**Basin : Godavari**											
i)	**ANDHRA PRADESH**											
1	**East Godavari**	10571.11	5889.31	1822.592	-	1822.592	108.476	652.213	4.685	656.898	106.370	2694.335
2	**VISAKHAPATANAM**	11115.36	3614.27	172.371	-	172.371	94.095	108.616	27.411	136.027	85.976	488.468
3	**West Godavari**	7582.74	1682.39	117.616	-	117.616	64.205	74.114	18.704	92.818	58.665	333.303
	Sub Total	**29269.21**	**11185.97**	**2112.58**	**0.00**	**2112.58**	**266.78**	**834.94**	**50.80**	**885.74**	**251.01**	**3516.11**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**TELANGANA**											
1	**Adilabad**	15526.99	15526.99	44.910	-	44.910	12.010	427.300	5.670	432.970	12.340	502.230
2	**Karimnagar**	11539.77	11530.94	295.144	-	295.144	54.778	74.673	989.582	1064.255	1.579	1415.756
3	**Khammam**	15646.02	9996.76	343.395	-	343.395	197.098	367.968	205.046	573.014	23.385	1136.892
4	**Medak**	9489.96	9128.93	154.711	-	154.711	89.250	608.803	0.038	608.842	37.208	890.012
5	**Nizamabad**	7674.38	7674.38	648.370	-	648.370	32.100	1935.860	0.110	1935.970	60.850	2677.290
6	**RANGAREDDI**	7358.88	505.32	-	-	-	0.030	40.674	0.003	40.678	0.297	41.004
7	**Warangal**	12447.42	6248.2	38.611	-	38.611	91.790	159.109	485.488	644.597	5.753	780.750
	Sub Total	**79683.42**	**60611.52**	**1525.14**	**0.00**	**1525.14**	**477.06**	**3614.39**	**1685.94**	**5300.33**	**141.41**	**7443.93**
iii)	**KARNATAKA**											
1	**Bidar**	5293.88	4469.12	-	-	-	-	87.004	-	87.004	-	87.004
2	**Gulbarga**	10687.27	0.18	0.005	-	0.005	0.000	0.011	0.003	0.014	0.004	0.023
	Sub Total	**15981.15**	**4469.30**	**0.005**	**0.000**	**0.005**	**0.000**	**87.015**	**0.003**	**87.017**	**0.004**	**87.026**
iv)	**MADHYA PRADESH**											
1	**Balaghat**	8897.36	6686.72	716.247	-	716.247	195.190	63.257	203.186	266.443	104.674	1282.555
2	**Betul**	9690.38	2129.74	61.703	-	61.703	-	104.505	232.579	337.084	48.569	447.355
3	**Chhindwara**	11361.38	7972.16	178.524	-	178.524	33.078	353.392	1090.046	1443.438	66.541	1721.581
4	**Mandla**	7201.48	709.24	27.438	-	27.438	3.692	0.689	15.556	16.245	7.364	54.739
5	**Seoni**	8422.7	6269.58	721.135	-	721.135	74.132	212.874	390.361	603.235	164.669	1563.171
	Sub Total	**45573.30**	**23767.44**	**1705.05**	**0.00**	**1705.05**	**306.09**	**734.72**	**1931.73**	**2666.45**	**391.82**	**5069.40**
v)	**CHHATISGARH**											
1	**Bastar**	10152.59	9804.73	10.29	-	10.29	3.57	36.07	2.65	38.72	27.75	80.32
2	**Bijapur**	8511.40	8511.40	-	-	-	37.11	0.63	0.63	1.26	1.21	39.58
3	**Dantewada**	8466.39	8466.39	-	-	-	0.16	1.73	0.12	1.85	1.00	3.01
4	**Dhamtari**	3915.57	11.93	2.60	-	2.60	0.01	1.28	0.01	1.29	0.03	3.93
5	**Durg**	8287.60	30.84	1.77	-	1.77	0.09	2.31	0.01	2.31	0.02	4.19
6	**Narayanpur**	4131.46	4131.46	0.12	-	0.12	0.02	0.40	-	0.40	1.67	2.21
7	**Rajnandgaon**	7764.54	2218.36	109.72	-	109.72	6.74	284.17	5.00	289.17	9.93	415.57
8	**Kanker**	6567.07	4288.17	29.55	-	29.55	14.37	159.76	1.31	161.08	-	205.00
	Sub Total	**57796.62**	**37463.28**	**154.05**	**0.00**	**154.05**	**62.07**	**486.36**	**9.72**	**496.08**	**41.61**	**753.81**
vi)	**MAHARASHTRA**											
1	**Ahmadnagar**	16510.41	10368.10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Akola**	5214.95	0.23	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Amravati**	11765.11	4020.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Aurangabad**	9772.28	8725.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Bhandara**	3719.41	3719.41	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Bid**	10244.73	8798.17	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Buldana**	9409.67	3796.29	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Chandrapur**	10917.27	10917.27	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Gadchiroli**	13966.06	13667.51	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Gondiya**	5273.77	5249.95	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Hingoli**	4514.84	4514.84	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Jalgaon**	11349.74	15.66	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Jalna**	7510.09	7386.59	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
14	**Latur**	7009.52	7007.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
15	**Nagpur**	9564.49	9564.49	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
16	**Nanded**	10260.74	10260.74	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
17	**Nashik**	15021.09	6973.25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
18	**Osmanabad**	7347.20	2980.50	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
19	**Parbhani**	6154.98	6154.98	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
20	**Pune**	15185.75	81.25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
21	**Thane**	9208.22	3.10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
22	**Wardha**	6084.96	6084.96	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
23	**Washim**	5017.05	3960.73	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
24	**Yavatmal**	13069.20	13069.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**224091.53**	**147320.64**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
vii)	**ODISHA**											
1	**Kalahandi**	7633.06	417.57	38.049	7.122	45.170	0.311	0.947	5.192	6.140	-	51.621
2	**Koraput**	8180.27	6693.33	317.644	283.320	600.964	2.937	54.862	4.893	59.755	-	663.657
3	**Malkangiri**	5650.92	5650.92	43.600	0.760	44.360	-	6.890	0.310	7.200	-	51.560
4	NABARANGPUR	5236.39	3581.02	8.535	9.041	17.576	0.233	18.424	2.229	20.653	-	38.461
5	**Rayagada**	7126.04	871.13	4.830	25.025	29.855	1.573	1.960	0.034	1.994	-	33.422
	Sub Total	**33826.68**	**17213.97**	**412.66**	**325.27**	**737.93**	**5.05**	**83.08**	**12.66**	**95.74**	**0.00**	**838.72**
viii)	**PUDUCHERRY**											
1	**Yanam**	36.94	36.94	4.68	0.00	4.68	0.00	0.00	0.00	0.00	0.00	4.68
	Sub Total	**36.94**	**36.94**	**4.68**	**0.00**	**4.68**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.68**
	Grand Total	**486258.85**	**302069.06**	**5914.16**	**325.27**	**6239.42**	**1117.05**	**5840.50**	**3690.85**	**9531.35**	**825.85**	**17713.68**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
V	**Basin : Krishna**											
i)	**ANDHRA PRADESH**											
1	**Anantapur**	18987.72	4185.59	24.241	-	24.241	7.310	349.326	0.445	349.771	2.427	383.749
2	**Guntur**	11186.51	6545.38	1639.372	-	1639.372	20.701	888.162	88.042	976.204	85.514	2721.791
3	**Krishna**	8365.25	4686.80	1055.969	-	1055.969	121.523	742.845	31.554	774.400	64.577	2016.468
4	**Kurnool**	17503.31	9696.79	523.877	-	523.877	58.020	597.087	76.047	673.135	103.658	1358.690
5	**Prakasam**	17389.37	657.16	14.178	-	14.178	0.806	36.205	0.274	36.479	1.049	52.512
	Sub Total	**73432.16**	**25771.72**	**3257.64**	**0.00**	**3257.64**	**208.36**	**2613.63**	**196.36**	**2809.99**	**257.23**	**6533.21**
ii)	**TELANGANA**											
1	**Hyderabad**	173.43	173.43	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Karimnagar**	11539.77	8.83	0.226	-	0.226	0.042	0.057	0.758	0.815	0.001	1.084
3	**Khammam**	15646.02	4864.63	167.103	-	167.103	95.912	179.061	99.780	278.841	11.380	553.235
4	**Mahbubnagar**	17974.02	17974.02	25.100	-	25.100	173.610	338.540	699.700	1038.240	10.850	1247.800
5	**Medak**	9489.96	361.03	6.119	-	6.119	3.530	24.077	0.002	24.078	1.472	35.198
6	**Nalgonda**	13742.14	13742.14	429.940	-	429.940	112.470	1305.220	32.010	1337.230	109.090	1988.730
7	RANGAREDDI	7358.88	6853.56	-	-	-	0.410	551.656	0.047	551.702	4.023	556.136
8	**Warangal**	12447.42	6199.23	38.309	-	38.309	91.070	157.862	481.683	639.545	5.707	774.631
	Sub Total	**88371.64**	**50176.87**	**666.80**	**0.00**	**666.80**	**477.04**	**2556.47**	**1313.98**	**3870.45**	**142.52**	**5156.81**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iii)	**KARNATAKA**											
1	**Bagalkot**	6432.04	6432.04	357.770	-	357.770	-	1419.430	37.230	1456.660	1190.120	3004.550
2	**Belgaum**	13120.75	12113.73	660.124	-	660.124	3.148	1354.648	1319.490	2674.138	999.206	4336.615
3	**Bellary**	8311.09	8311.09	1173.830	-	1173.830	14.000	810.600	48.430	859.030	516.850	2563.710
4	**Bidar**	5293.88	824.76	1.359	-	1.359	0.453	33.692	18.247	51.939	0.321	54.072
5	**Bijapur**	10261.00	10261.00	1381.380	-	1381.380	9.450	1208.150	403.270	1611.420	65.320	3067.570
6	**Chikmagalur**	7167.73	6264.50	48.952	-	48.952	34.496	285.732	1.337	287.070	128.808	499.326
7	**Chitradurga**	8360.22	8360.22	-	-	-	-	1164.230	-	1164.230	-	1164.230
8	DAKSHIN KANNAD	4578.68	1.09	-	-	-	-	0.049	0.093	0.142	0.046	0.188
9	DAVANGERE	5875.62	5875.62	409.400	-	409.400	11.100	1335.460	-	1335.460	66.640	1822.600
10	**Dharwad**	4202.26	2780.03	101.767	-	101.767	-	194.378	-	194.378	66.850	362.996
11	**Gadag**	4563.79	4563.79	269.030	-	269.030	13.790	402.820	4.570	407.390	141.430	831.640
12	**Gulbarga**	10687.27	10687.08	290.005	-	290.005	16.410	655.358	157.537	812.896	219.566	1338.876
13	**Hassan**	6789.18	1384.62	8.321	-	8.321	39.896	73.067	1.340	74.407	9.125	131.749
14	**Haveri**	4743.98	4623.62	-	-	-	-	965.107	-	965.107	165.326	1130.433
15	**Koppal**	5468.71	5468.71	460.980	-	460.980	-	889.600	-	889.600	1.500	1352.080
16	**Raichur**	8276.99	8276.99	1762.220	-	1762.220	0.100	134.350	61.360	195.710	113.620	2071.650
17	**Shimoga**	8361.30	5694.09	292.315	-	292.315	357.140	290.633	48.917	339.549	71.308	1060.312
18	**Tumkur**	10543.89	3897.56	-	-	-	19.702	608.897	2.684	611.580	-	631.283
19	**Udupi**	3841.79	3.06	-	-	-	0.004	0.014	0.187	0.200	0.052	0.255
20	**UTTAR KANNAD**	10048.65	664.06	-	-	-	4.459	6.662	6.421	13.083	10.546	28.089
21	**Yadgir**	5163.02	5163.02	1445.850	-	1445.850	49.500	166.150	120.070	286.220	51.560	1833.130
	Sub Total	**152091.84**	**111650.68**	**8663.30**	**0.00**	**8663.30**	**573.65**	**11999.03**	**2231.18**	**14230.21**	**3818.19**	**27285.35**
iv)	**MAHARASHTRA**											
1	**Ahmadnagar**	16510.41	6130.16	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bid**	10244.73	1446.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Kolhapur**	7500.31	7237.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Latur**	7009.52	2.45	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Osmanabad**	7347.20	4366.70	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Pune**	15185.75	14790.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Raigarh**	6942.67	2.53	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Ratnagiri**	8050.94	14.49	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Sangli**	8349.99	8346.19	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Satara**	10223.37	10187.31	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Sindhudurg**	4966.78	124.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Solapur**	14495.87	14495.87	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Thane**	9208.22	2.55	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**126035.76**	**67146.95**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**439931.40**	**254746.22**	**12587.73**	**0.00**	**12587.73**	**1259.05**	**17169.12**	**3741.52**	**20910.65**	**4217.94**	**38975.38**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Note : (1)Totals may not tally due to rounding off.

Note : (2) Data not availabe.

Note : (3)Estimated on the basis of the percentage of the area of each district, within the basin, to the district as a whole.

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
VI	**Basin : Cauvery**											
i)	**KARNATAKA**											
1	**Bengaluru Urban**	2175.82	987.82	-	-	-	-	46.789	-	46.789	-	46.789
2	**Bangalore Rural**	2294.62	978.92	-	-	-	-	85.758	-	85.758	0.201	85.959
3	**Chamarajanagar**	5688.19	5688.19	27.910	-	27.910	4.890	545.540	19.510	565.050	-	597.850
4	CHIKBALLAPUR	4188.56	6.40	-	-	-	-	0.913	-	0.913	-	0.913
5	**Chikmagalur**	7167.73	751.01	5.869	-	5.869	4.136	34.255	0.160	34.415	15.442	59.861
6	**Hassan**	6789.18	4941.78	29.698	-	29.698	142.390	260.781	4.782	265.564	32.566	470.217
7	**Kodagu**	4115.60	2898.68	14.361	-	14.361	1.268	0.493	-	0.493	0.782	16.904
8	**Mandya**	4942.61	4942.61	580.550	-	580.550	262.240	264.930	79.420	344.350	30.090	1217.230
9	**Mysore**	6319.07	6319.07	875.900	-	875.900	74.820	181.850	67.050	248.900	12.140	1211.760
10	**Ramanagara**	3511.62	3511.62	86.170	-	86.170	3.910	300.970	-	300.970	0.600	391.650
11	**Tumkur**	10543.89	3992.00	-	-	-	20.180	623.650	2.749	626.399	-	646.579
	Sub Total	**57736.89**	**35018.10**	**1620.46**	**0.00**	**1620.46**	**513.83**	**2345.93**	**173.67**	**2519.60**	**91.82**	**4745.71**
ii)	**KERALA**											
1	**Idukki**	5106.26	385.72	-	-	-	-	-	-	-	-	-
2	**Kannur**	2957.80	1.16	-	-	-	-	-	-	-	-	-
3	**Kozhikode**	2347.84	4.42	-	-	-	-	-	-	-	-	-
4	**Malappuram**	3599.11	1.90	-	-	-	-	-	-	-	-	-
5	**Palakkad**	4542.91	619.06	-	-	-	-	-	-	-	-	-
6	**Wayanad**	2141.18	1936.14	-	-	-	-	-	-	-	-	-
	Sub Total	**20695.10**	**2948.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
iii)	**TAMIL NADU**											
1	**Ariyalur**	1970.10	1623.55	39.45	-	39.45	11.98	277.77	21.01	298.78	-	350.21
2	**Coimbatore**	4708.71	2569.37	78.65	1.70	80.35	1.07	170.57	360.39	530.96	-	612.39
3	**Cuddalore**	3725.96	604.91	75.43	-	75.43	3.74	212.66	12.16	224.82	1.12	305.10
4	**Dharmapuri**	4529.54	1906.74	1.28	0.51	1.78	2.83	5.63	308.14	313.77	-	318.39
5	**Dindigul**	6164.99	4429.05	21.12	3.01	24.13	23.32	30.18	517.64	547.82	5.80	601.08
6	**Erode**	5802.54	5802.54	228.98	1.77	230.75	0.01	247.42	503.11	750.53	-	981.29
7	**Karur**	2928.71	2928.71	52.16	-	52.16	1.27	145.06	197.40	342.46	-	395.89
8	**Krishnagiri**	5142.53	1909.10	3.59	-	3.59	27.96	95.28	157.42	252.70	-	284.25
9	**Nagapattinam**	2516.24	2516.20	1569.84	-	1569.84	-	-	-	-	3.89	1573.72
10	**Namakkal**	3434.37	3074.96	46.19	-	46.19	-	117.28	570.67	687.95	6.48	740.62
11	**Perambalur**	1768.81	625.19	-	-	-	0.51	7.86	101.20	109.05	-	109.56
12	**Pudukkottai**	4740.11	734.16	6.94	-	6.94	79.33	67.28	19.01	86.29	-	172.56
13	**Salem**	5247.41	3027.08	1.21	-	1.21	-	145.90	555.37	701.27	-	702.48
14	**Thanjavur**	3438.78	2221.95	1218.11	-	1218.11	-	356.81	4.83	361.64	-	1579.75
15	**The Nilgiris**	2572.79	2213.40	-	-	-	-	-	12.29	12.29	-	12.29
16	**Thiruvarur**	2302.70	2300.40	2036.91	3.12	2040.03	-	-	-	-	-	2040.03
17	**Tiruchirappalli**	4564.08	4032.11	245.63	-	245.63	11.94	106.89	299.09	405.98	-	663.55
18	**Tiruppur**	5266.55	4983.33	161.15	-	161.15	9.45	130.34	743.61	873.95	-	1044.55
	Sub Total	**70824.92**	**47502.75**	**5786.64**	**10.10**	**5796.74**	**173.41**	**2116.92**	**4383.34**	**6500.26**	**17.29**	**12487.71**
iv)	**PONDICHERY**											
1	**Karaikal**	154.98	154.98	36.23	0.00	36.23	0.00	7.22	0.00	7.22	0.12	43.57
	Sub Total	**154.98**	**154.98**	**36.23**	**0.00**	**36.23**	**0.00**	**7.22**	**0.00**	**7.22**	**0.12**	**43.57**
	Grand Total	**149411.89**	**85624.23**	**7443.32**	**10.10**	**7453.43**	**687.25**	**4470.07**	**4557.01**	**9027.08**	**109.23**	**17276.99**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
VII	**Basin : Penner**											
i)	**ANDHRA PRADESH**											
1	**Anantapur**	18987.72	14802.13	85.729	-	85.729	25.850	1235.374	1.575	1236.949	8.583	1357.111
2	**Chittoor**	14957.01	4929.17	3.938	-	3.938	72.918	561.939	49.723	611.662	0.191	688.709
3	**Kurnool**	17503.31	7747.18	418.547	-	418.547	46.355	477.039	60.757	537.796	82.817	1085.515
4	**Prakasam**	17389.37	945.21	20.393	-	20.393	1.159	52.074	0.394	52.468	1.508	75.529
5	**SPSR Nellore**	13090.71	4151.44	420.230	-	420.230	145.410	285.520	10.462	295.983	13.640	875.263
6	**YSR Kadapa**	14969.72	14877.73	173.139	-	173.139	36.783	1542.373	19.986	1562.360	12.075	1784.357
	Sub Total	**96897.84**	**47452.86**	**1121.98**	**0.00**	**1121.98**	**328.47**	**4154.32**	**142.90**	**4297.22**	**118.81**	**5866.48**
ii)	**KARNATAKA**											
1	**Bangalore Rural**	2294.62	380.08	-	-	-	-	33.297	-	33.297	0.078	33.375
2	CHIKBALLAPUR	4188.56	3367.63	-	-	-	-	480.249	-	480.249	-	480.249
3	**Kolar**	3968.44	388.52	-	-	-	-	22.084	-	22.084	-	22.084
4	**Tumkur**	10543.89	2654.33	-	-	-	13.418	414.673	1.828	416.501	-	429.918
	Sub Total	**20995.51**	**6790.56**	**0.00**	**0.00**	**0.00**	**13.42**	**950.30**	**1.83**	**952.13**	**0.08**	**965.63**
	Grand Total	**117893.35**	**54243.42**	**1121.98**	**0.00**	**1121.98**	**341.89**	**5104.62**	**144.73**	**5249.35**	**118.89**	**6832.11**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
VIII	**Basin : East Flowing Rivers from Mahanadi to Pennar**											
i)	**ANDHRA PRADESH**											
1	**East Godavari**	10571.11	4681.80	1448.898	-	1448.898	86.234	518.487	3.725	522.212	84.560	2141.905
2	**Guntur**	11186.51	4641.13	1162.428	-	1162.428	14.679	629.768	62.428	692.196	60.636	1929.939
3	**Krishna**	8365.25	3678.45	828.781	-	828.781	95.377	583.025	24.766	607.790	50.683	1582.632
4	**Kurnool**	17503.31	59.34	3.206	-	3.206	0.355	3.654	0.465	4.119	0.634	8.315
5	**Prakasam**	17389.37	15786.99	340.599	-	340.599	19.365	869.750	6.582	876.332	25.193	1261.489
6	**SPSR Nellore**	13090.71	2848.33	288.323	-	288.323	99.767	195.897	7.178	203.076	9.358	600.523
7	**Srikakulam**	5730.80	5730.80	1319.960	-	1319.960	581.160	183.640	205.730	389.370	69.230	2359.720
8	**VISAKHAPATANAM**	11115.36	7501.09	357.739	-	357.739	195.285	225.424	56.889	282.313	178.434	1013.772
9	**Vizianagaram**	5821.45	5821.45	502.770	-	502.770	800.450	488.550	85.140	573.690	34.250	1911.160
10	**West Godavari**	7582.74	5900.34	412.493	-	412.493	225.175	259.926	65.596	325.522	205.745	1168.935
	Sub Total	**108356.61**	**56649.72**	**6665.20**	**0.00**	**6665.20**	**2117.85**	**3958.12**	**518.50**	**4476.62**	**718.72**	**13978.39**
ii)	**TELANGANA**											
1	**Khammam**	15646.02	784.64	26.953	-	26.953	15.470	28.882	16.094	44.976	1.835	89.234
	Sub Total	**15646.02**	**784.64**	**26.953**	**-**	**26.953**	**15.470**	**28.882**	**16.094**	**44.976**	**1.835**	**89.234**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iii)	**ODISHA**											
1	**Gajapati**	3928.20	3928.20	6.740	244.640	251.380	20.430	15.090	9.800	24.890	-	296.700
2	**Ganjam**	8197.71	7698.21	692.244	460.810	1153.054	104.997	21.392	0.507	21.899	-	1279.950
3	**Kalahandi**	7633.06	645.40	58.808	11.007	69.816	0.481	1.464	8.025	9.489	-	79.786
4	**Kandhamal**	7770.03	1962.90	0.531	1.000	1.531	0.945	1.208	0.109	1.316	-	3.792
5	**Khordha**	2654.72	192.40	11.527	0.191	11.718	0.025	0.097	0.014	0.111	-	11.853
6	**Koraput**	8180.27	1486.94	70.566	62.940	133.506	0.653	12.188	1.087	13.275	-	147.433
7	**Nayagarh**	3755.00	296.34	5.819	2.791	8.610	0.950	1.234	0.100	1.335	-	10.895
8	**Rayagada**	7126.04	6150.44	34.101	176.684	210.785	11.108	13.835	0.242	14.077	-	235.970
	Sub Total	**49245.03**	**22360.83**	**880.34**	**960.06**	**1840.40**	**139.59**	**66.51**	**19.88**	**86.39**	**0.00**	**2066.38**
	Grand Total	**173247.66**	**79795.19**	**7572.49**	**960.06**	**8532.55**	**2272.91**	**4053.51**	**554.48**	**4607.99**	**720.56**	**16134.00**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
IX	**Basin : East Flowing Rivers from Pennar to Kanyakumari**											
i)	**ANDHRA PRADESH**											
1	**Chittoor**	14957.01	10027.85	8.012	-	8.012	148.343	1143.202	101.157	1244.359	0.389	1401.102
2	**SPSR Nellore**	13090.71	6090.94	616.557	-	616.557	213.343	418.912	15.350	434.262	20.012	1284.174
3	**YSR Cudappah**	14969.72	92.00	1.071	-	1.071	0.227	9.538	0.124	9.661	0.075	11.034
	Sub Total	**43017.44**	**16210.79**	**625.64**	**0.00**	**625.64**	**361.91**	**1571.65**	**116.63**	**1688.28**	**20.48**	**2696.31**
ii)	**KARNATAKA**											
1	**Bengaluru Urban**	2175.82	1188.00	-	-	-	-	56.271	-	56.271	-	56.271
2	**Bangalore Rural**	2294.62	935.62	-	-	-	-	81.965	-	81.965	0.192	82.157
3	CHIKBALLAPUR	4188.56	814.53	-	-	-	-	116.158	-	116.158	-	116.158
4	**Kolar**	3968.44	3579.91	-	-	-	-	203.486	-	203.486	-	203.486
	Sub Total	**12627.44**	**6518.06**	**0.00**	**0.00**	**0.00**	**0.00**	**457.88**	**0.00**	**457.88**	**0.19**	**458.07**
iii)	**KERALA**											
1	**Idukki**	5106.26	38.13	-	-	-	-	-	-	-	-	-
2	**Kollam**	2556.16	11.68	-	-	-	-	-	-	-	-	-
3	**Pathanamthitta**	2709.55	4.92	-	-	-	-	-	-	-	-	-
4	**Thiruvananthapuram**	2246.81	4.33	-	-	-	-	-	-	-	-	-
	Sub Total	**12618.78**	**59.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iv)	**TAMIL NADU**											
1	**Ariyalur**	1970.10	346.55	8.42	-	8.42	2.56	59.29	4.48	63.77	-	74.75
2	**Chennai**	128.00	128.00	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Cuddalore**	3725.96	3121.05	389.16	-	389.16	19.29	1097.25	62.73	1159.98	5.76	1574.20
4	**Dharmapuri**	4529.54	2622.80	1.75	0.69	2.45	3.90	7.74	423.87	431.61	-	437.95
5	**Dindigul**	6164.99	1735.94	8.28	1.18	9.46	9.14	11.83	202.89	214.72	2.28	235.59
6	**Kanchipuram**	4475.20	4475.19	2.15	-	2.15	611.53	160.42	419.01	579.43	-	1193.11
7	**Kanniyakumari**	1746.80	70.81	3.66	-	3.66	5.29	1.51	1.20	2.71	-	11.65
8	**Krishnagiri**	5142.53	3233.43	6.08	-	6.08	47.35	161.38	266.61	427.99	-	481.42
9	**Madurai**	3767.70	3767.63	31.74	-	31.74	36.79	17.62	458.03	475.65	-	544.18
10	**Namakkal**	3434.37	359.41	5.40	-	5.40	-	13.71	66.70	80.41	0.76	86.57
11	**Perambalur**	1768.81	1143.62	-	-	-	0.92	14.37	185.11	199.49	-	200.41
12	**Pudukkottai**	4740.11	4005.95	37.88	-	37.88	432.88	367.09	103.73	470.82	-	941.58
13	**Ramanathapuram**	4040.52	4040.51	-	-	-	529.98	36.59	208.19	244.78	-	774.76
14	**Salem**	5247.41	2220.33	0.89	-	0.89	-	107.01	407.36	514.37	-	515.26
15	**Sivaganga**	4325.62	4325.62	-	-	-	471.73	56.37	156.18	212.55	-	684.28
16	**Thanjavur**	3438.78	1216.83	667.08	-	667.08	-	195.40	2.65	198.05	-	865.13
17	**Theni**	2909.55	2907.60	110.67	-	110.67	17.86	144.92	378.09	523.01	-	651.53
18	**Thiruvallur**	3377.77	3377.77	1.36	-	1.36	193.64	1152.94	100.91	1253.85	-	1448.85
19	**Thoothukkudi**	4763.91	4763.91	99.87	-	99.87	77.37	9.02	166.76	175.78	-	353.02
20	**Tiruchirappalli**	4564.08	531.97	32.41	-	32.41	1.57	14.10	39.46	53.56	-	87.54
21	**Tirunelveli**	6998.99	6982.02	167.91	-	167.91	371.27	10.81	502.01	512.82	-	1052.00
22	**Tiruvannamalai**	6187.67	6187.67	1.25	-	1.25	151.15	63.66	2320.78	2384.44	-	2536.84
23	**Vellore**	6056.53	6056.53	-	-	-	17.26	209.09	846.65	1055.74	-	1073.00
24	**Viluppuram**	7211.86	7211.85	9.62	-	9.62	392.17	675.48	2083.23	2758.71	-	3160.50
25	**Virudhunagar**	4487.16	4487.15	-	-	-	182.11	1.72	269.63	271.35	-	453.46
	Sub Total	**105203.96**	**79320.14**	**1585.58**	**1.87**	**1587.45**	**3575.76**	**4589.33**	**9676.25**	**14265.59**	**8.80**	**19437.59**
v)	**PUDUCHERRY**											
1	PONDICHERRY	301.19	301.19	0.00	0.00	0.00	0.00	172.13	0.00	172.13	0.00	172.13
	Sub Total	**301.19**	**301.19**	**0.00**	**0.00**	**0.00**	**0.00**	**172.13**	**0.00**	**172.13**	**0.00**	**172.13**
	Grand Total	**173768.81**	**102409.24**	**2211.22**	**1.87**	**2213.09**	**3937.67**	**6790.99**	**9792.88**	**16583.88**	**29.46**	**22764.10**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
X	**Basin : Narmada**											
i)	**GUJARAT**											
1	**Bharuch**	5083.67	1849.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Dohad**	3458.35	60.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Narmada**	2719.36	2321.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Panch Mahals**	5095.62	137.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Surat**	4174.64	168.82	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Vadodara**	7234.95	3788.50	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**27766.59**	**8326.35**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**MADHYA PRADESH**											
1	**Alirajpur**	3217.78	3001.03	19.632	-	19.632	39.208	28.399	165.301	193.700	85.430	337.970
2	**Anuppur**	3637.40	517.37	0.724	-	0.724	0.068	2.536	1.889	4.425	2.017	7.234
3	**Balaghat**	8897.36	2210.54	236.782	-	236.782	64.527	20.912	67.171	88.083	34.604	423.996
4	**Barwani**	5234.28	3841.08	43.773	-	43.773	15.733	271.797	446.852	718.649	258.925	1037.080
5	**Betul**	9690.38	3712.61	107.562	-	107.562	-	182.175	405.436	587.611	84.666	779.840
6	**Bhopal**	2618.98	3.33	0.163	-	0.163	0.045	0.765	0.410	1.175	0.379	1.762
7	**Burhanpur**	3084.12	368.60	1.041	-	1.041	0.442	45.832	36.823	82.654	4.207	88.345
8	**Chhindwara**	11361.38	3389.22	75.896	-	75.896	14.062	150.238	463.414	613.652	28.289	731.899
9	**Damoh**	7068.37	417.79	14.892	-	14.892	8.388	28.153	34.292	62.444	34.880	120.604
10	**Dewas**	6700.19	3740.87	75.463	-	75.463	88.500	1147.560	781.557	1929.118	108.566	2201.646
11	**Dhar**	7842.30	4756.36	194.978	-	194.978	198.938	1163.905	661.292	1825.197	408.697	2627.810
12	**Dindori**	5543.20	4598.04	14.773	-	14.773	0.075	3.957	3.310	7.266	12.849	34.963
13	**East Nimar (Khandwa)**	7169.74	6469.19	186.964	-	186.964	20.283	375.163	1138.050	1513.214	233.215	1953.676
14	**Harda**	3192.55	3127.44	1031.329	-	1031.329	2.106	262.289	283.233	545.523	217.894	1796.851
15	**Hoshangabad**	6456.42	6456.42	1824.830	-	1824.830	23.610	1743.150	1202.850	2946.000	192.550	4986.990
16	**Indore**	3765.95	1013.68	1.270	-	1.270	14.939	512.128	37.178	549.306	40.569	606.084
17	**Jabalpur**	4911.29	4619.32	532.183	-	532.183	7.355	1493.266	402.688	1895.954	231.376	2666.867
18	**Jhabua**	3302.18	7.92	0.406	-	0.406	0.390	0.081	0.461	0.542	0.602	1.940
19	**Katni**	4867.17	1093.93	42.562	-	42.562	3.904	143.422	148.389	291.811	137.138	475.415
20	**Mandla**	7201.48	6371.63	246.496	-	246.496	33.170	6.193	139.749	145.942	66.154	491.762
21	**Narsinghpur**	4947.28	4818.19	86.483	-	86.483	0.058	2259.863	360.930	2620.793	187.477	2894.812
22	**Raisen**	8172.10	4494.04	673.432	-	673.432	28.877	1311.015	213.827	1524.842	256.540	2483.691
23	**Sagar**	9858.18	371.79	5.085	-	5.085	7.063	28.251	79.539	107.790	28.660	148.598
24	**Sehore**	6317.41	3143.66	529.506	-	529.506	-	698.736	634.046	1332.782	202.685	2064.972
25	**Seoni**	8422.70	2153.12	247.655	-	247.655	25.458	73.106	134.059	207.165	56.551	536.829
26	**Umaria**	4411.61	0.47	0.002	-	0.002	0.000	0.018	0.008	0.025	0.014	0.041
27	**West Nimar (Khargone)**	7757.16	7397.29	877.787	-	877.787	53.021	895.381	2073.153	2968.534	806.676	4706.017
	Sub Total	**165648.96**	**82094.93**	**7071.67**	**0.00**	**7071.67**	**650.22**	**12848.29**	**9915.91**	**22764.20**	**3721.61**	**34207.69**
iii)	**CHHATISGARH**											
1	**Bilaspur**	8022.86	0.71	0.05	-	0.05	0.00	0.04	0.00	0.04	0.00	0.09
2	**Kabirdham**	4061.73	596.41	43.35	-	43.35	-	142.64	0.27	142.91	0.68	186.93
3	**Rajnandgaon**	7764.54	78.58	3.89	-	3.89	0.24	10.07	0.18	10.24	0.35	14.72
	Sub Total	**19849.13**	**675.70**	**47.28**	**0.00**	**47.28**	**0.24**	**152.75**	**0.45**	**153.19**	**1.03**	**201.74**
iv)	**MAHARASHTRA**											
1	**Dhule**	6925.51	7.95	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Nandurbar**	5684.20	1572.12	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**12609.71**	**1580.07**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**225874.39**	**92677.05**	**7118.95**	**0.00**	**7118.95**	**650.46**	**13001.04**	**9916.35**	**22917.39**	**3722.64**	**34409.44**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
XI	**Basin : Tapi**											
i)	**GUJARAT**											
1	**Narmada**	2719.36	398.16	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bharuch**	5083.67	1034.35	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Surat**	4174.64	2654.37	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Tapi**	3040.24	1686.10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**The Dangs**	1700.82	25.75	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**16718.73**	**5798.73**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**MADHYA PRADESH**											
1	**Harda**	3192.55	65.11	21.471	-	21.471	0.044	5.461	5.897	11.357	4.536	37.409
2	**Burhanpur**	3084.12	2715.52	7.669	-	7.669	3.258	337.648	271.277	608.926	30.993	650.845
3	**Betul**	9690.38	3848.03	111.485	-	111.485	-	188.820	420.225	609.045	87.755	808.285
4	**East Nimar (Khandwa)**	7169.74	700.55	20.246	-	20.246	2.197	40.627	123.240	163.866	25.255	211.564
5	**West Nimar (Khargone)**	7757.16	359.87	42.703	-	42.703	2.579	43.559	100.857	144.416	39.244	228.943
6	**Barwani**	5234.28	1393.21	15.877	-	15.877	5.707	98.584	162.079	260.663	93.916	376.163
	Sub Total	**36128.23**	**9082.29**	**219.45**	**0.00**	**219.45**	**13.78**	**714.70**	**1083.57**	**1798.27**	**281.70**	**2313.21**
iii)	**MAHARASHTRA**											
1	**Washim**	5017.05	1056.31	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Nashik**	15021.09	5959.21	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Nandurbar**	5684.20	4111.38	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Jalna**	7510.09	123.51	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Jalgaon**	11349.74	11334.09	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Dhule**	6925.51	6864.04	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Buldana**	9409.67	5613.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Aurangabad**	9772.28	1046.84	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Akola**	5214.95	5214.73	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Amravati**	11765.11	7744.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**87669.69**	**49067.70**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**140516.65**	**63948.72**	**219.45**	**0.00**	**219.45**	**13.78**	**714.70**	**1083.57**	**1798.27**	**281.70**	**2313.21**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
XII	**Basin : West Flowing Rivers from Tapi to Tadri**											
i)	**DADRA & NAGAR HAVELI**											
1	**Dadra and Nagar Haveli**	477.07	477.07	21.050	-	21.050	-	2.360	19.390	21.750	35.170	77.970
	Sub Total	**477.07**	**477.07**	**21.050**	**-**	**21.050**	**-**	**2.360**	**19.390**	**21.750**	**35.170**	**77.970**
ii)	**DAMAN & DIU**											
1	**Daman**	70.98	70.98	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**70.98**	**70.98**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
iii)	**GOA**											
1	**North Goa**	1650.18	1650.18	36.89	-	36.89	86.82	17.80	9.30	27.10	5.96	156.77
2	**South Goa**	1917.11	1917.11	40.78	-	40.78	97.98	26.68	14.52	41.20	11.49	191.45
	Sub Total	**3567.29**	**3567.29**	**77.67**	**-**	**77.67**	**184.80**	**44.48**	**23.82**	**68.30**	**17.45**	**348.22**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iv)	**GUJARAT**											
1	**Navsari**	2146.71	2146.71	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Surat**	4174.64	1351.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Tapi**	3040.24	1354.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**The Dangs**	1700.82	1675.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Valsad**	2894.91	2894.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**13957.32**	**9422.26**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
v)	**KARNATAKA**											
1	**Belgaum**	13120.75	1007.02	54.876	-	54.876	0.262	112.612	109.690	222.302	83.064	360.505
2	**Dharwad**	4202.26	1422.24	52.063	-	52.063	-	99.442	-	99.442	34.200	185.706
3	**Haveri**	4743.98	120.36	-	-	-	-	25.123	-	25.123	4.304	29.427
4	**Shimoga**	8361.30	15.01	0.771	-	0.771	0.941	0.766	0.129	0.895	0.188	2.795
5	UTTAR KANNAD	10048.65	8350.89	-	-	-	56.079	83.778	80.753	164.530	132.627	353.236
	Sub Total	**40476.94**	**10915.52**	**107.71**	**0.00**	**107.71**	**57.28**	**321.72**	**190.57**	**512.29**	**254.38**	**931.67**
vi)	**MAHARASHTRA**											
1	**Ahmadnagar**	16510.41	12.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Dhule**	6925.51	53.52	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Kolhapur**	7500.31	262.87	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Mumbai**	144.60	144.60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Mumbai (Suburban)**	438.28	438.28	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Nandurbar**	5684.20	0.69	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Nashik**	15021.09	2088.62	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Pune**	15185.75	313.94	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Raigarh**	6942.67	6940.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Ratnagiri**	8050.94	8036.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Sangli**	8349.99	3.80	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Satara**	10223.37	36.06	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Sindhudurg**	4966.78	4842.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
14	**Thane**	9208.22	9202.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**115152.12**	**32375.79**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**173701.72**	**56828.91**	**206.43**	**0.00**	**206.43**	**242.08**	**368.56**	**233.78**	**602.34**	**307.00**	**1357.86**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
XIII	**Basin : West Flowing Rivers from Tadri to Kanyakumari**											
i)	**KARNATAKA**											
1	**Chikmagalur**	7167.73	152.22	1.189	-	1.189	0.838	6.943	0.032	6.975	3.130	12.133
2	**Dakshin Kannad**	4578.68	4577.59	-	-	-	-	205.491	391.587	597.078	192.574	789.652
3	**Hassan**	6789.18	462.78	2.781	-	2.781	13.334	24.421	0.448	24.869	3.050	44.034
4	**Kodagu**	4115.60	1216.92	6.029	-	6.029	0.532	0.207	-	0.207	0.328	7.096
5	**Shimoga**	8361.30	2652.20	136.155	-	136.155	166.349	135.371	22.784	158.156	33.214	493.873
6	**Udupi**	3841.79	3838.73	-	-	-	4.626	16.946	233.983	250.930	64.908	320.465
7	**UTTAR KANNAD**	10048.65	1033.70	-	-	-	6.942	10.370	9.996	20.366	16.417	43.725
	Sub Total	**44902.93**	**13934.14**	**146.15**	**0.00**	**146.15**	**192.62**	**399.75**	**658.83**	**1058.58**	**313.62**	**1710.98**

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**KERALA**											
1	**Alappuzha**	1454.48	1454.48	-	-	-	-	-	-	-	-	-
2	**Ernakulam**	2454.58	2454.57	-	-	-	-	-	-	-	-	-
3	**Idukki**	5106.26	4682.42	-	-	-	-	-	-	-	-	-
4	**Kannur**	2957.80	2956.64	-	-	-	-	-	-	-	-	-
5	**Kasaragod**	1964.67	1964.67	-	-	-	-	-	-	-	-	-
6	**Kollam**	2556.16	2544.48	-	-	-	-	-	-	-	-	-
7	**Kottayam**	2258.83	2258.83	-	-	-	-	-	-	-	-	-
8	**Kozhikode**	2347.84	2343.42	-	-	-	-	-	-	-	-	-
9	**Malappuram**	3599.11	3597.21	-	-	-	-	-	-	-	-	-
10	**Palakkad**	4542.91	3923.85	-	-	-	-	-	-	-	-	-
11	**Pathanamthitta**	2709.55	2704.62	-	-	-	-	-	-	-	-	-
12	**Thiruvananthapuram**	2246.81	2242.48	-	-	-	-	-	-	-	-	-
13	**Thrissur**	3071.57	3071.56	-	-	-	-	-	-	-	-	-
14	**Wayanad**	2141.18	205.04	-	-	-	-	-	-	-	-	-
	Sub Total	**39411.75**	**36404.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
iii)	**TAMIL NADU**											
1	**Coimbatore**	4708.71	2139.34	65.49	1.42	66.91	0.90	142.02	300.08	442.10	-	509.90
2	**Kanniyakumari**	1746.80	1675.98	86.53	-	86.53	125.20	35.70	28.38	64.08	-	275.82
3	**The Nilgiris**	2572.79	359.39	-	-	-	-	-	1.99	1.99	-	1.99
4	**Theni**	2909.55	1.95	0.07	-	0.07	0.01	0.10	0.25	0.35	-	0.44
5	**Tirunelveli**	6998.99	16.96	0.41	-	0.41	0.90	0.03	1.22	1.25	-	2.56
6	**Tiruppur**	5266.55	283.22	9.16	-	9.16	0.54	7.41	42.26	49.67	-	59.37
7	**Virudhunagar**	4487.16	0.00	-	-	-	-	-	-	-	-	-
	Sub Total	**28690.55**	**4476.84**	**161.66**	**1.42**	**163.08**	**127.55**	**185.25**	**374.19**	**559.44**	**0.00**	**850.07**
iv)	**PONDICHERY**											
1	**Mahe**	9.90	9.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26
	Sub Total	**9.90**	**9.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.26**	**0.26**
	Grand Total	**113015.13**	**54825.15**	**307.82**	**1.42**	**309.23**	**320.17**	**585.00**	**1033.02**	**1618.02**	**313.88**	**2561.30**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
XIV	**Basin : Mahi**											
i)	**GUJARAT**											
1	**Anand**	2806.43	996.53	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bharuch**	5083.67	2199.42	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Dohad**	3458.35	3397.99	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Kheda**	3843.53	518.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Panch Mahals**	5095.62	4889.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Sabar Kantha**	7140.29	26.43	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Vadodara**	7234.95	3446.45	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**34662.84**	**15474.34**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**MADHYA PRADESH**											
1	**Alirajpur**	3217.78	216.75	1.418	-	1.418	2.832	2.051	11.939	13.990	6.170	24.410
2	**Dhar**	7842.30	1505.16	61.701	-	61.701	62.954	368.320	209.267	577.587	129.333	831.576
3	**Jhabua**	3302.18	3294.25	168.873	-	168.873	162.279	33.749	191.848	225.597	250.198	806.947
4	**Neemuch**	4001.43	29.18	0.504	-	0.504	0.165	2.471	6.259	8.730	0.348	9.747
5	**Ratlam**	4639.98	1820.86	25.896	-	25.896	44.497	410.829	353.378	764.207	112.815	947.416
	Sub Total	**23003.67**	**6866.20**	**258.39**	**0.00**	**258.39**	**272.73**	**817.42**	**772.69**	**1590.11**	**498.86**	**2620.10**
iii)	**RAJASTHAN**											
1	**Banswara**	4332.72	4332.72	652.38	-	652.38	45.48	38.89	162.44	201.33	199.71	1098.90
2	CHITTORGARH	7500.49	133.03	2.09	-	2.09	0.33	23.41	20.13	43.53	1.40	47.35
3	**Dungarpur**	3640.43	3042.56	69.71	-	69.71	17.83	62.57	250.51	313.08	15.75	416.37
4	**Pratapgarh**	4141.45	2993.52	66.86	-	66.86	2.68	161.64	623.61	785.26	35.21	890.01
5	**Udaipur**	11459.12	5494.69	17.58	-	17.58	53.09	77.79	353.36	431.15	3.31	505.13
	Sub Total	**31074.21**	**15996.52**	**808.62**	**0.00**	**808.62**	**119.41**	**364.30**	**1410.05**	**1774.35**	**255.38**	**2957.77**
	Grand Total	**88740.72**	**38337.06**	**1067.02**	**0.00**	**1067.02**	**392.14**	**1181.72**	**2182.74**	**3364.46**	**754.24**	**5577.86**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
XV	**Basin: Sabarmati**											
i)	**GUJARAT**											
1	**Ahmedabad**	7712.66	4718.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Anand**	2806.43	1785.66	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Banaskantha**	10247.55	506.28	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Bhavnagar**	8062.74	213.25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Gandhinagar**	2055.07	2055.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Kheda**	3843.53	3325.40	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Mahesana**	4244.35	2087.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Panchmahal**	5095.62	68.67	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Rajkot**	10762.12	261.22	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Sabarkantha**	7140.29	7113.86	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Surendranagar**	10116.24	4603.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**72086.60**	**26738.20**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**RAJASTHAN**											
1	**Dungarpur**	3640.43	597.87	13.70	-	13.70	3.50	12.29	49.23	61.52	3.10	81.82
2	**Sirohi**	4961.34	54.66	0.67	-	0.67	0.10	0.81	9.55	10.36	0.00	11.14
3	**Udaipur**	11459.12	3289.85	10.53	-	10.53	31.79	46.58	211.57	258.14	1.98	302.44
	Sub Total	**20060.89**	**3942.38**	**24.90**	**0.00**	**24.90**	**35.40**	**59.69**	**270.34**	**330.03**	**5.08**	**395.40**
	Grant Total	**92147.49**	**30680.58**	**24.90**	**0.00**	**24.90**	**35.40**	**59.69**	**270.34**	**330.03**	**5.08**	**395.40**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												

Table 15 : Gross Area Irrigated (Source Wise) by River Basin, State & District for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
XVI	**Basin : WFR of Kutch, Saurashtra Including Luni**											
i)	**GUJARAT**											
1	**Ahmadabad**	7712.66	2994.60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Amreli**	7100.01	7100.01	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Anand**	2806.43	24.24	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Banas Kantha**	10247.55	9741.27	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Bhavnagar**	8062.74	7849.49	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Jamnagar**	10490.91	10490.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Junagadh**	8497.29	8497.29	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Kachchh**	40508.20	40508.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Mahesana**	4244.35	2156.99	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Patan**	5431.61	5431.61	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Porbandar**	2203.38	2203.38	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Rajkot**	10762.12	10500.90	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Surendranagar**	10116.24	5512.88	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**128183.49**	**113011.77**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**RAJASTHAN**											
1	**Ajmer**	8206.23	1870.76	5.26	-	5.26	4.55	17.36	234.05	251.41	21.16	282.38
2	**Barmer**	27351.28	20773.88	-	-	-	-	909.39	2018.66	2928.05	17.70	2945.76
3	**Bhilwara**	10052.59	2.23	0.04	-	0.04	0.01	0.06	0.39	0.45	0.01	0.50
4	**Chittorgarh**	7500.49	36.42	0.57	-	0.57	0.09	6.41	5.51	11.92	0.38	12.96
5	**Jaisalmer**	37070.06	2021.38	135.17	-	135.17	0.01	85.97	1.14	87.11	0.01	222.29
6	JALORE	10322.33	10322.33	169.32	-	169.32	-	1907.87	1720.68	3628.55	0.83	3798.70
7	**Jodhpur**	22037.60	13324.02	9.86	-	9.86	-	4737.74	33.94	4771.67	7.83	4789.36
8	**Nagaur**	17026.59	6096.23	-	-	-	-	1133.26	231.93	1365.18	0.53	1365.72
9	**Pali**	11890.23	11890.23	191.35	-	191.35	261.78	326.70	1243.60	1570.30	0.20	2023.63
10	**Rajsamand**	4485.42	364.89	-	-	-	5.14	3.38	35.75	39.13	-	44.28
11	**Sikar**	7428.38	2.75	-	-	-	-	0.92	0.06	0.98	-	0.98
12	**Sirohi**	4961.34	4906.68	60.48	-	60.48	9.43	73.00	857.23	930.23	0.08	1000.21
13	**Udaipur**	11459.12	205.67	0.66	-	0.66	1.99	2.91	13.23	16.14	0.12	18.91
	Sub Total	**179791.66**	**71817.47**	**572.70**	**0.00**	**572.70**	**282.99**	**9204.96**	**6396.16**	**15601.12**	**48.86**	**16505.67**
iii)	**Daman& Diu**											
1	**Diu**	34.39	34.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**34.39**	**34.39**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grant Total	**308009.54**	**184863.63**	**572.70**	**0.00**	**572.70**	**282.99**	**9204.96**	**6396.16**	**15601.12**	**48.86**	**16505.67**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
I	**Basin : Mahanadi**											
i)	**JHARKHAND**											
	Simdega	3639.71	145.66	0.175	-	0.175	0.123	0.138	0.423	0.561	0.644	1.503
	Sub Total	**3639.71**	**145.66**	**0.175**	**0.000**	**0.175**	**0.123**	**0.138**	**0.423**	**0.561**	**0.644**	**1.503**
ii)	**ODISHA**											
1	**Anugul**	6129.61	2060.53	-	-	-	-	-	-	-	46.054	46.054
2	**Balangir**	6332.43	6332.43	-	-	-	-	-	-	-	42.660	42.660
3	**Bargarh**	5583.76	5583.76	-	-	-	-	-	-	-	898.750	898.750
4	**Boudh**	3006.39	3006.39	-	-	-	-	-	-	-	660.310	660.310
5	**Cuttack**	3802.97	3683.62	-	-	-	-	-	-	-	208.824	208.824
6	**Deogarh**	2726.66	271.58	-	-	-	-	-	-	-	35.389	35.389
7	**Dhenkanal**	4310.65	660.17	-	-	-	-	-	-	-	3.625	3.625
8	**Ganjam**	8197.71	499.49	-	-	-	-	-	-	-	80.449	80.449
9	**Jagatsinghapur**	1678.55	1678.55	-	-	-	-	-	-	-	481.960	481.960
10	**Jajapur**	2792.19	41.71	-	-	-	-	-	-	-	3.574	3.574
11	**Jharsuguda**	2036.85	2036.85	-	-	-	-	-	-	-	30.630	30.630
12	**Kalahandi**	7633.06	6570.09	-	-	-	-	-	-	-	579.210	579.210
13	**Kandhamal**	7770.03	5807.13	-	-	-	-	-	-	-	10.381	10.381
14	**Kendrapara**	2388.95	1292.70	-	-	-	-	-	-	-	180.700	180.700
15	**Khordha**	2654.72	2462.32	-	-	-	-	-	-	-	147.347	147.347
16	**NABARANGPUR**	5236.39	1655.37	-	-	-	-	-	-	-	17.264	17.264
17	**Nayagarh**	3755.00	3458.66	-	-	-	-	-	-	-	119.326	119.326
18	**Nuapada**	3728.43	3728.43	-	-	-	-	-	-	-	110.070	110.070
19	**Puri**	3433.02	3433.02	-	-	-	-	-	-	-	619.330	619.330
20	**Rayagada**	7126.04	104.47	-	-	-	-	-	-	-	3.640	3.640
21	**Sambalpur**	6479.54	5266.85	-	-	-	-	-	-	-	86.104	86.104
22	**Sonepur**	2271.97	2271.97	-	-	-	-	-	-	-	494.050	494.050
23	**Sundargarh**	9353.52	3941.17	-	-	-	-	-	-	-	71.500	71.500
	Sub Total	**108428.44**	**65847.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4931.15**	**4931.15**
iii)	**MADHYA PRADESH**											
1	**Anuppur**	3637.40	121.78	0.170	-	0.170	0.016	0.597	0.445	1.042	0.475	1.703
2	**Balaghat**	8897.36	0.10	0.009	-	0.009	0.003	0.001	0.003	0.003	0.001	0.016
3	**Dindori**	5543.20	27.29	0.088	-	0.088	0.000	0.023	0.020	0.043	0.075	0.206
4	**Mandla**	7201.48	2.50	0.097	-	0.097	0.013	0.002	0.055	0.057	0.026	0.193
	Sub Total	**25279.44**	**151.67**	**0.36**	**0.00**	**0.36**	**0.03**	**0.62**	**0.52**	**1.15**	**0.58**	**2.12**

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iv)	**CHHATISGARH**											
1	**Bastar**	10152.59	347.86	0.36	-	0.36	0.13	1.28	0.09	1.37	0.98	2.85
2	**Bilaspur**	8022.86	7190.01	514.55	-	514.55	17.93	241.23	22.32	263.55	0.09	796.12
3	**Dhamtari**	3915.57	3903.65	852.36	-	852.36	1.85	277.32	2.77	280.09	10.39	1144.69
4	**Durg**	8287.60	8256.76	472.57	-	472.57	24.67	415.56	1.70	417.26	5.90	920.40
5	**Jashpur**	5583.19	3918.09	28.14	-	28.14	1.19	0.79	14.27	15.06	19.85	64.24
6	**Janjgir-Champa**	3723.65	3723.65	1899.96	-	1899.96	12.86	81.54	17.87	99.41	23.03	2035.26
7	**Kabirdham**	4061.73	3465.32	218.58	-	218.58	-	463.99	1.54	465.54	3.93	688.05
8	**Korba**	6333.50	6333.17	55.20	-	55.20	4.64	5.99	6.15	12.14	19.09	91.07
9	**Korea**	6383.21	2478.01	11.00	-	11.00	0.61	3.33	2.88	6.20	8.29	26.11
10	**Mahasamund**	4559.96	4559.96	354.85	-	354.85	41.94	674.96	3.25	678.21	78.88	1153.88
11	**Raigarh**	6819.11	6818.53	186.28	-	186.28	44.82	284.34	7.72	292.06	71.26	594.42
12	**Raipur**	11995.63	11995.63	1055.61	-	1055.61	22.39	240.83	2.87	243.70	20.52	1342.22
13	**Rajnandgaon**	7764.54	5467.60	233.68	-	233.68	14.12	382.41	8.32	390.73	16.22	654.76
14	**Surguja**	15125.37	2477.40	10.37	-	10.37	0.87	1.23	1.59	2.82	13.66	27.72
15	**Kanker**	6567.07	2278.90	15.70	-	15.70	7.64	44.73	0.62	45.35	-	68.69
	Sub Total	**109295.58**	**73214.54**	**5909.22**	**0.00**	**5909.22**	**195.65**	**3119.52**	**93.99**	**3213.51**	**292.10**	**9610.48**
v)	**MAHARASHTRA**											
1	**Gadchirol**	13966.06	298.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Gondiya**	5273.77	23.83	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**19239.83**	**322.39**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**265883.00**	**139681.52**	**5909.76**	**0.00**	**5909.76**	**195.81**	**3120.28**	**94.93**	**3215.21**	**5224.47**	**14545.25**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
II	**Basin : Subernarekha & Bhurhabalang**											
i)	**JHARKHAND**											
1	**Bokaro**	2688.22	17.01	-	-	-	0.033	0.004	0.079	0.083	0.023	0.140
2	**Khunti**	2603.07	1297.28	1.630	-	1.630	11.054	0.917	7.316	8.233	6.404	27.320
3	**West Singhbhum**	6941.29	2687.33	0.976	-	0.976	1.030	-	0.829	0.829	0.743	3.577
4	**East Singhbum**	3433.65	3119.28	5.160	-	5.160	7.804	2.634	4.497	7.131	1.454	21.548
5	**Ramgarh**	1259.52	136.64	-	-	-	1.322	-	1.531	1.531	0.769	3.622
6	**Ranchi**	4743.84	2802.26	-	-	-	30.995	6.073	46.259	52.331	15.902	99.228
7	**Saraikela Kharsawan**	2546.17	2536.09	0.777	-	0.777	1.145	-	0.259	0.259	1.524	3.705
	Sub Total	**24215.76**	**12595.89**	**8.54**	**0.00**	**8.54**	**53.38**	**9.63**	**60.77**	**70.40**	**26.82**	**159.14**
ii)	**ODISHA**											
1	**Baleshwar**	3733.69	2644.77	-	-	-	-	-	-	-	388.170	388.170
2	**Mayurbhanj**	10035.64	7146.63	-	-	-	-	-	-	-	262.155	262.155
	Sub Total	**13769.33**	**9791.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**650.32**	**650.32**

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iii)	**WEST BENGAL**											
1	**Pashchim Medinipur**	9021.98	2387.68	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Purba Medinipur**	3893.57	85.26	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Puruliya**	6003.10	931.92	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**18918.65**	**3404.86**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**56903.74**	**25792.15**	**8.54**	**0.00**	**8.54**	**53.38**	**9.63**	**60.77**	**70.40**	**677.14**	**809.47**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
III	**Basin : Brahamani and Baitarni**											
i)	**JHARKHAND**											
1	**Gumla**	5149.51	4312.74	1.198	-	1.198	16.105	6.239	15.485	21.725	25.309	64.337
2	**Khunti**	2603.07	1305.80	1.640	-	1.640	11.126	0.923	7.364	8.287	6.446	27.500
3	**Latehar**	4092.97	11.85	0.006	-	0.006	0.122	0.028	0.219	0.247	0.205	0.580
4	**Lohardaga**	1439.38	911.85	1.932	-	1.932	14.875	1.318	14.545	15.863	26.404	59.074
5	**West Singhbhum**	6941.29	4253.95	1.544	-	1.544	1.630	-	1.311	1.311	1.177	5.663
6	**Ranchi**	4743.84	1150.39	-	-	-	12.724	2.493	18.990	21.483	6.528	40.735
7	**Simdega**	3639.71	3494.05	4.205	-	4.205	2.957	3.312	10.147	13.459	15.436	36.057
	Sub Total	**28609.77**	**15440.63**	**10.53**	**0.00**	**10.53**	**59.54**	**14.31**	**68.06**	**82.38**	**81.51**	**233.95**
												Contd..
ii)	**CHATTISGARH**											
1	**Jashpur**	5583.19	1205.37	8.66	-	8.66	0.36	0.24	4.39	4.63	6.11	19.76
2	**Surguja**	15125.37	158.79	0.66	-	0.66	0.06	0.08	0.10	0.18	0.88	1.78
	Sub Total	**20708.56**	**1364.16**	**9.32**	**0.00**	**9.32**	**0.42**	**0.32**	**4.49**	**4.81**	**6.98**	**21.54**
iii)	**ODISHA**											
1	**Anugul**	6129.61	4069.08	-	-	-	-	-	-	-	90.946	90.946
2	**Baleshwar**	3733.69	1081.10	-	-	-	-	-	-	-	158.672	158.672
3	**Bhadrak**	2390.28	2390.28	-	-	-	-	-	-	-	660.310	660.310
4	**Cuttack**	3802.97	119.34	-	-	-	-	-	-	-	11.150	11.150
5	**Deogarh**	2706.30	2434.72	-	-	-	-	-	-	-	21.295	21.295
6	**Dhenkanal**	4310.65	3650.47	-	-	-	-	-	-	-	133.675	133.675
7	**Jajapur**	2792.19	2750.48	-	-	-	-	-	-	-	235.686	235.686
8	**Kendrapara**	2388.95	1096.25	-	-	-	-	-	-	-	153.240	153.240
9	**Kendujhar**	7996.91	7996.91	-	-	-	-	-	-	-	195.430	195.430
10	**Mayurbhanj**	10035.64	2889.01	-	-	-	-	-	-	-	105.975	105.975
11	**Sambalpur**	6479.54	1212.69	-	-	-	-	-	-	-	19.826	19.826
12	**Sundargarh**	9353.52	5412.35	-	-	-	-	-	-	-	98.190	98.190
	Sub Total	**62120.25**	**35102.68**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1884.39**	**1884.39**
	Grand Total	**111438.58**	**51907.47**	**19.85**	**0.00**	**19.85**	**59.96**	**14.63**	**72.56**	**87.19**	**1972.88**	**2139.88**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
IV	**Basin : Godavari**											
i)	**ANDHRA PRADESH**											
1	**East Godavari**	10571.11	5889.31	999.935	-	999.935	97.428	379.105	0.513	379.617	85.372	1562.353
2	**Vishakhapatanam**	11115.36	3614.27	149.151	-	149.151	81.709	61.351	16.011	77.362	79.310	387.532
3	**West Godavari**	7582.74	1682.39	347.525	-	347.525	31.177	388.150	0.002	388.152	17.264	784.119
	Sub Total	**29269.21**	**11185.97**	**1496.61**	**0.00**	**1496.61**	**210.31**	**828.61**	**16.53**	**845.13**	**181.95**	**2734.00**
ii)	**TELANGANA**											
1	**Adilabad**	15526.99	15526.99	44.910	-	44.910	12.010	427.300	5.670	432.970	12.340	502.230
2	**Karimnagar**	11539.77	11530.94	276.588	-	276.588	40.299	46.594	700.584	747.178	1.579	1065.644
3	**Khammam**	15646.02	9996.76	209.615	-	209.615	153.574	281.048	180.626	461.674	16.427	841.290
4	**Medak**	9489.96	9128.93	83.979	-	83.979	74.205	362.321	0.038	362.359	22.212	542.755
5	**Nizamabad**	7674.38	7674.38	437.160	-	437.160	28.580	1202.040	0.100	1202.140	35.960	1703.840
6	**Rangareddi**	7358.88	505.32	-	-	-	0.030	29.647	0.003	29.650	0.025	29.706
7	**Warangal**	12447.42	6248.2	28.060	-	28.060	75.476	101.282	333.838	435.120	4.969	543.626
	Sub Total	**79683.42**	**60611.52**	**1080.31**	**0.00**	**1080.31**	**384.17**	**2450.23**	**1220.86**	**3671.09**	**93.51**	**5229.09**
iii)	**KARNATAKA**											
1	**Bidar**	5293.88	4469.12	5.665	-	5.665	1.866	157.605	80.571	238.176	1.368	247.073
2	**Gulbarga**	10687.27	0.18	0.005	-	0.005	0.000	0.010	0.003	0.012	0.003	0.020
	Sub Total	**15981.15**	**4469.30**	**5.67**	**0.00**	**5.67**	**1.87**	**157.61**	**80.57**	**238.19**	**1.37**	**247.09**
iv)	**MADHYA PRADESH**											
1	**Balaghat**	8897.36	6686.72	600.969	-	600.969	172.065	49.669	170.269	219.938	94.048	1087.020
2	**Betul**	9690.38	2129.74	61.703	-	61.703	-	104.505	232.579	337.084	48.569	447.355
3	**Chhindwara**	11361.38	7972.16	178.524	-	178.524	33.078	353.392	1090.046	1443.438	66.541	1721.581
4	**Mandla**	7201.48	709.24	27.438	-	27.438	3.692	0.689	15.556	16.245	7.364	54.739
5	**Seoni**	8422.7	6269.58	721.135	-	721.135	74.132	212.874	390.361	603.235	164.669	1563.171
	Sub Total	**45573.30**	**23767.44**	**1589.77**	**0.00**	**1589.77**	**282.97**	**721.13**	**1898.81**	**2619.94**	**381.19**	**4873.87**
v)	**CHHATISGARH**											
1	**Bastar**	10152.59	9804.73	10.29	-	10.29	3.57	36.07	2.65	38.72	27.75	80.32
2	**Bijapur**	8511.40	8511.40	-	-	-	37.11	0.63	0.63	1.26	1.21	39.58
3	**Dantewada**	8466.39	8466.39	-	-	-	0.16	1.73	0.12	1.85	1.00	3.01
4	**Dhamtari**	3915.57	11.93	2.60	-	2.60	0.01	0.85	0.01	0.86	0.03	3.50
5	**Durg**	8287.60	30.84	1.77	-	1.77	0.09	1.55	0.01	1.56	0.02	3.44
6	**Narayanpur**	4131.46	4131.46	0.12	-	0.12	0.02	0.40	-	0.40	1.67	2.21
7	**Rajnandgaon**	7764.54	2218.36	94.81	-	94.81	5.73	155.15	3.38	158.53	6.58	265.65
8	**Kanker**	6567.07	4288.17	29.55	-	29.55	14.37	84.16	1.18	85.34	-	129.26
	Sub Total	**57796.62**	**37463.28**	**139.13**	**0.00**	**139.13**	**61.06**	**280.55**	**7.96**	**288.51**	**38.26**	**526.97**

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
vi)	**MAHARASHTRA**											
1	**Ahmadnagar**	16510.41	10368.10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Akola**	5214.95	0.23	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Amravati**	11765.11	4020.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Aurangabad**	9772.28	8725.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Bhandara**	3719.41	3719.41	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Bid**	10244.73	8798.17	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Buldana**	9409.67	3796.29	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Chandrapur**	10917.27	10917.27	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Gadchiroli**	13966.06	13667.51	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Gondiya**	5273.77	5249.95	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Hingoli**	4514.84	4514.84	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Jalgaon**	11349.74	15.66	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Jalna**	7510.09	7386.59	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
14	**Latur**	7009.52	7007.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
15	**Nagpur**	9564.49	9564.49	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
16	**Nanded**	10260.74	10260.74	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
17	**Nashik**	15021.09	6973.25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
18	**Osmanabad**	7347.20	2980.50	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
19	**Parbhani**	6154.98	6154.98	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
20	**Pune**	15185.75	81.25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
21	**Thane**	9208.22	3.10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
22	**Wardha**	6084.96	6084.96	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
23	**Washim**	5017.05	3960.73	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
24	**Yavatmal**	13069.20	13069.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**224091.53**	**147320.64**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
vii)	**ODISHA**											
1	**Kalahandi**	7633.06	417.57	-	-	-	-	-	-	-	36.812	36.812
2	**Koraput**	8180.27	6693.33	-	-	-	-	-	-	-	491.583	491.583
3	**Malkangiri**	5650.92	5650.92	-	-	-	-	-	-	-	43.740	43.740
4	**Nabarangpur**	5236.39	3581.02	-	-	-	-	-	-	-	37.346	37.346
5	**Rayagada**	7126.04	871.13	-	-	-	-	-	-	-	30.354	30.354
	Sub Total	**33826.68**	**17213.97**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**824.58**	**824.58**
viii)	**PUDUCHERRY**											
1	**Yanam**	36.94	36.94	2.89	0.00	2.89	0.00	0.00	0.00	0.00	0.00	2.89
	Sub Total	**36.94**	**36.94**	**2.89**	**0.00**	**2.89**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.89**
	Grand Total	**486258.85**	**302069.06**	**4314.38**	**0.00**	**4314.38**	**940.38**	**4438.13**	**3224.73**	**7662.86**	**1520.86**	**14438.49**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
V	**Basin : Krishna**											
i)	**ANDHRA PRADESH**											
1	**Anantapur**	18987.72	4185.59	24.241	-	24.241	7.012	267.266	0.445	267.712	1.909	300.874
2	**Guntur**	11186.51	6545.38	1164.388	-	1164.388	20.052	657.709	86.924	744.633	84.514	2013.587
3	**Krishna**	8365.25	4686.80	1046.887	-	1046.887	117.388	407.036	26.736	433.772	47.197	1645.245
4	**Kurnool**	17503.31	9696.79	388.319	-	388.319	49.090	446.339	63.411	509.750	92.495	1039.654
5	**Prakasam**	17389.37	657.16	14.178	-	14.178	0.791	35.390	0.274	35.664	1.049	51.682
	Sub Total	**73432.16**	**25771.72**	**2638.01**	**0.00**	**2638.01**	**194.33**	**1813.74**	**177.79**	**1991.53**	**227.16**	**5051.04**

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(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**TELANGANA**											
1	**Hyderabad**	173.43	173.43	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Karimnagar**	11539.77	8.83	0.212	-	0.212	0.031	0.036	0.536	0.572	0.001	0.816
3	**Khammam**	15646.02	4864.63	102.003	-	102.003	74.732	136.764	87.897	224.660	7.994	409.389
4	**Mahbubnagar**	17974.02	17974.02	15.110	-	15.110	20.140	630.510	-	630.510	13.090	678.850
5	**Medak**	9489.96	361.03	3.321	-	3.321	2.935	14.329	0.002	14.331	0.878	21.465
6	**Nalgonda**	13742.14	13742.14	308.360	-	308.360	92.460	920.370	23.760	944.130	109.090	1454.040
7	**Rangareddi**	7358.88	6853.56	-	-	-	0.410	402.093	0.047	402.140	0.345	402.894
8	**Warangal**	12447.42	6199.23	27.840	-	27.840	74.884	100.488	331.222	431.710	4.931	539.365
	Sub Total	**88371.64**	**50176.87**	**456.85**	**0.00**	**456.85**	**265.59**	**2204.59**	**443.46**	**2648.05**	**136.33**	**3506.82**
iii)	**KARNATAKA**											
1	**Bagalkot**	6432.04	6432.04	357.770	-	357.770	-	1250.310	35.380	1285.690	1029.420	2672.880
2	**Belgaum**	13120.75	12113.73	551.993	-	551.993	2.834	1083.720	1055.588	2139.308	798.445	3492.580
3	**Bellary**	8311.09	8311.09	1017.360	-	1017.360	11.390	668.950	29.270	698.220	403.360	2130.330
4	**Bidar**	5293.88	824.76	1.045	-	1.045	0.344	29.085	14.869	43.954	0.252	45.597
5	**Bijapur**	10261.00	10261.00	1256.260	-	1256.260	9.450	1020.300	329.480	1349.780	53.180	2668.670
6	**Chikmagalur**	7167.73	6264.50	43.525	-	43.525	34.496	284.203	1.337	285.540	128.310	491.871
7	**Chitradurga**	8360.22	8360.22	-	-	-	-	999.710	-	999.710	-	999.710
8	**Dakshin kannad**	4578.68	1.09	-	-	-	-	0.047	0.091	0.138	0.044	0.182
9	**Davangere**	5875.62	5875.62	377.460	-	377.460	11.100	1098.560	-	1098.560	66.420	1553.540
10	**Dharwad**	4202.26	2780.03	84.507	-	84.507	-	173.387	-	173.387	56.927	314.821
11	**Gadag**	4563.79	4563.79	269.030	-	269.030	13.790	375.950	4.570	380.520	135.410	798.750
12	**Gulbarga**	10687.27	10687.08	272.345	-	272.345	14.100	573.270	148.657	721.927	184.877	1193.249
13	**Hassan**	6789.18	1384.62	7.648	-	7.648	35.501	58.746	1.022	59.768	8.033	110.950
14	**Haveri**	4743.98	4623.62	-	-	-	-	801.886	-	801.886	116.916	918.802
15	**Koppal**	5468.71	5468.71	420.160	-	420.160	-	801.390	-	801.390	1.500	1223.050
16	**Raichur**	8276.99	8276.99	1519.500	-	1519.500	0.100	106.120	53.150	159.270	110.700	1789.570
17	**Shimoga**	8361.30	5694.09	241.532	-	241.532	336.907	217.316	44.075	261.390	60.228	900.058
18	**Tumkur**	10543.89	3897.56	-	-	-	19.702	539.602	2.684	542.285	-	561.988
19	**Udupi**	3841.79	3.06	-	-	-	0.004	0.014	0.185	0.199	0.051	0.253
20	**Uttar kannad**	10048.65	664.06	-	-	-	4.398	6.402	6.242	12.643	9.782	26.824
21	**Yadgir**	5163.02	5163.02	1345.730	-	1345.730	49.500	155.700	114.920	270.620	46.650	1712.500
	Sub Total	**152091.84**	**111650.68**	**7765.86**	**0.00**	**7765.86**	**543.62**	**10244.67**	**1841.52**	**12086.19**	**3210.51**	**23606.17**

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
iv)	**MAHARASHTRA**											
1	**Ahmadnagar**	16510.41	6130.16	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bid**	10244.73	1446.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Kolhapur**	7500.31	7237.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Latur**	7009.52	2.45	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Osmanabad**	7347.20	4366.70	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Pune**	15185.75	14790.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Raigarh**	6942.67	2.53	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Ratnagiri**	8050.94	14.49	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Sangli**	8349.99	8346.19	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Satara**	10223.37	10187.31	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Sindhudurg**	4966.78	124.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Solapur**	14495.87	14495.87	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Thane**	9208.22	2.55	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**126035.76**	**67146.95**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**439931.40**	**254746.22**	**10860.72**	**0.00**	**10860.72**	**1003.54**	**14263.00**	**2462.77**	**16725.77**	**3574.00**	**32164.03**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Note : (1)Totals may not tally due to rounding off.

Note : (2) Data not availabe.

Note : (3)Estimated on the basis of the percentage of the area of each district, within the basin, to the district as a whole.

VI	**Basin : Cauvery**											
i)	**KARNATAKA**											
1	**Bengaluru Urban**	2175.82	987.82	-	-	-	-	38.236	-	38.236	-	38.236
2	**Bangalore Rural**	2294.62	978.92	-	-	-	-	75.792	-	75.792	0.201	75.993
3	**Chamarajanagar**	5688.19	5688.19	27.910	-	27.910	4.890	400.300	14.470	414.770	-	447.570
4	**Chikballpur**	4188.56	6.40	-	-	-	-	0.751	-	0.751	-	0.751
5	**Chikmagalur**	7167.73	751.01	5.218	-	5.218	4.136	34.071	0.160	34.232	15.382	58.967
6	**Hassan**	6789.18	4941.78	27.296	-	27.296	126.704	209.669	3.647	213.316	28.672	395.987
7	**Kodagu**	4115.60	2898.68	13.072	-	13.072	1.204	0.430	-	0.430	0.725	15.432
8	**Mandya**	4942.61	4942.61	552.040	-	552.040	239.180	208.930	73.400	282.330	25.150	1098.700
9	**Mysore**	6319.07	6319.07	766.360	-	766.360	59.300	153.000	60.800	213.800	10.500	1049.960
10	**Ramanagara**	3511.62	3511.62	73.950	-	73.950	3.600	279.720	-	279.720	0.600	357.870
11	**Tumkur**	10543.89	3992.00	-	-	-	20.180	552.677	2.749	555.425	-	575.605
	Sub Total	**57736.89**	**35018.10**	**1465.85**	**0.00**	**1465.85**	**459.19**	**1953.58**	**155.23**	**2108.80**	**81.23**	**4115.07**

Contd…

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**KERALA**											
1	**Idukki**	5106.26	385.72	1.145	-	1.145	14.783	4.778	6.783	11.561	6.309	33.798
2	**Kannur**	2957.80	1.16	0.004	0.001	0.005	0.004	0.002	0.033	0.034	0.013	0.056
3	**Kozhikode**	2347.84	4.42	0.018	0.000	0.018	0.008	0.000	0.054	0.055	0.013	0.094
4	**Malappuram**	3599.11	1.90	0.013	0.001	0.014	0.020	0.008	0.073	0.081	0.023	0.138
5	**Palakkad**	4542.91	619.06	48.025	0.068	48.094	6.079	18.097	12.646	30.742	16.350	101.265
6	**Wayanad**	2141.18	1936.14	-	-	-	1.519	-	0.289	0.289	113.193	115.001
	Sub Total	**20695.10**	**2948.40**	**49.21**	**0.07**	**49.28**	**22.41**	**22.88**	**19.88**	**42.76**	**135.90**	**250.35**
iii)	**TAMIL NADU**											
1	**Ariyalur**	1970.10	1623.55	33.94	-	33.94	10.11	208.27	16.69	224.95	-	269.01
2	**Coimbatore**	4708.71	2569.37	78.53	1.70	80.23	1.07	166.97	355.41	522.37	-	603.68
3	**Cuddalore**	3725.96	604.91	63.01	-	63.01	3.67	143.11	11.15	154.27	0.63	221.58
4	**Dharmapuri**	4529.54	1906.74	1.24	0.38	1.62	2.72	4.18	221.29	225.47	-	229.81
5	**Dindigul**	6164.99	4429.05	18.92	3.00	21.92	23.32	30.18	514.52	544.70	5.06	595.00
6	**Erode**	5802.54	5802.54	224.21	1.76	225.97	0.01	230.16	466.02	696.18	-	922.16
7	**Karur**	2928.71	2928.71	51.06	-	51.06	1.27	139.52	186.37	325.89	-	378.22
8	**Krishnagiri**	5142.53	1909.10	3.37	-	3.37	23.92	78.65	116.65	195.30	-	222.60
9	**Nagapattinam**	2516.24	2516.20	1192.38	-	1192.38	-	-	-	-	3.89	1196.27
10	**Namakkal**	3434.37	3074.96	38.36	-	38.36	-	84.15	372.54	456.69	6.04	501.09
11	**Perambalur**	1768.81	625.19	-	-	-	0.51	7.56	81.05	88.61	-	89.12
12	**Pudukkottai**	4740.11	734.16	6.91	-	6.91	79.24	61.57	18.51	80.08	-	166.23
13	**Salem**	5247.41	3027.08	1.21	-	1.21	-	106.33	406.91	513.24	-	514.45
14	**Thanjavur**	3438.78	2221.95	851.48	-	851.48	-	256.71	4.71	261.42	-	1112.90
15	**The Nilgiris**	2572.79	2213.40	-	-	-	-	-	11.91	11.91	-	11.91
16	**Thiruvarur**	2302.70	2300.40	1496.50	3.11	1499.61	-	-	-	-	-	1499.61
17	**Tiruchirappalli**	4564.08	4032.11	237.83	-	237.83	10.28	73.43	269.19	342.62	-	590.73
18	**Tiruppur**	5266.55	4983.33	161.09	-	161.09	9.45	129.32	738.74	868.06	-	1038.61
	Sub Total	**70824.92**	**47502.75**	**4460.05**	**9.95**	**4470.00**	**165.58**	**1720.12**	**3791.65**	**5511.78**	**15.63**	**10162.99**
iv)	**PONDICHERY**											
1	**Karaikal**	154.98	154.98	36.23	0.00	36.23	0.00	0.91	0.00	0.91	0.12	37.26
	Sub Total	**154.98**	**154.98**	**36.23**	**0.00**	**36.23**	**0.00**	**0.91**	**0.00**	**0.91**	**0.12**	**37.26**
	Grand Total	**149411.89**	**85624.23**	**6011.33**	**10.02**	**6021.35**	**647.18**	**3697.49**	**3966.76**	**7664.25**	**232.88**	**14565.67**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
VII	**Basin : Penner**											
i)	**ANDHRA PRADESH**											
1	**Anantapur**	18987.72	14802.13	85.729	-	85.729	24.798	945.174	1.575	946.748	6.751	1064.026
2	**Chittoor**	14957.01	4929.17	3.345	-	3.345	71.642	401.930	40.380	442.310	0.191	517.488
3	**Kurnool**	17503.31	7747.18	310.245	-	310.245	39.220	356.599	50.661	407.261	73.899	830.624
4	**Prakasam**	17389.37	945.21	20.393	-	20.393	1.138	50.903	0.394	51.297	1.508	74.336
5	**SPSR Nellore**	13090.71	4151.44	375.379	-	375.379	144.275	258.587	10.395	268.982	12.929	801.565
6	**Kadapa**	14969.72	14877.73	167.236	-	167.236	35.709	1326.240	18.873	1345.113	12.075	1560.134
	Sub Total	**96897.84**	**47452.86**	**962.33**	**0.00**	**962.33**	**316.78**	**3339.43**	**122.28**	**3461.71**	**107.35**	**4848.17**

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**KARNATAKA**											
1	**Bangalore Rural**	2294.62	380.08	-	-	-	-	29.428	-	29.428	0.078	29.505
2	**Chikballpur**	4188.56	3367.63	-	-	-	-	394.912	-	394.912	-	394.912
3	**Kolar**	3968.44	388.52	-	-	-	-	14.441	-	14.441	-	14.441
4	**Tumkur**	10543.89	2654.33	-	-	-	13.418	367.482	1.828	369.309	-	382.727
	Sub Total	**20995.51**	**6790.56**	**0.00**	**0.00**	**0.00**	**13.42**	**806.26**	**1.83**	**808.09**	**0.08**	**821.58**
	Grand Total	**117893.35**	**54243.42**	**962.33**	**0.00**	**962.33**	**330.20**	**4145.69**	**124.11**	**4269.80**	**107.43**	**5669.76**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
VIII	**Basin : East Flowing Rivers from Mahanadi to Pennar**											
i)	**ANDHRA PRADESH**											
1	**East Godavari**	10571.11	4681.80	794.915	-	794.915	77.452	301.375	0.407	301.783	67.868	1242.017
2	**Guntur**	11186.51	4641.13	825.632	-	825.632	14.218	466.361	61.636	527.997	59.926	1427.773
3	**Krishna**	8365.25	3678.45	821.653	-	821.653	92.132	319.464	20.984	340.448	37.043	1291.275
4	**Kurnool**	17503.31	59.34	2.376	-	2.376	0.300	2.731	0.388	3.119	0.566	6.362
5	**Prakasam**	17389.37	15786.99	340.599	-	340.599	19.001	850.186	6.582	856.768	25.193	1241.561
6	**SPSR Nellore**	13090.71	2848.33	257.550	-	257.550	98.988	177.418	7.132	184.550	8.871	549.959
7	**Srikakulam**	5730.80	5730.80	1213.670	-	1213.670	545.440	40.890	39.370	80.260	62.890	1902.260
8	**Vishakhaptanam**	11115.36	7501.09	309.549	-	309.549	169.581	127.329	33.229	160.558	164.600	804.288
9	**Vizianagaram**	5821.45	5821.45	430.320	-	430.320	756.480	268.370	54.250	322.620	33.610	1543.030
10	**West Godavari**	7582.74	5900.34	1218.813	-	1218.813	109.343	1361.288	0.008	1361.295	60.546	2749.997
	Sub Total	**108356.61**	**56649.72**	**6215.08**		**6215.08**	**1882.93**	**3915.41**	**223.99**	**4139.40**	**521.11**	**12758.52**
ii)	**TELANGANA**											
1	**Khammam**	15646.02	784.64	16.453	-	16.453	12.054	22.059	14.177	36.237	1.289	66.032
	Sub Total	**15646.02**	**784.64**	**16.453**	**-**	**16.453**	**12.054**	**22.059**	**14.177**	**36.237**	**1.289**	**66.032**
												Contd…
iii)	**ODISHA**											
1	**Gajapati**	3928.20	3928.20	**-**	**-**	**-**	**-**	**-**	**-**	**-**	272.760	272.760
2	**Ganjam**	8197.71	7698.21	**-**	**-**	**-**	**-**	**-**	**-**	**-**	1320.340	1320.340
3	**Kalahandi**	7633.06	645.40	**-**	**-**	**-**	**-**	**-**	**-**	**-**	672.920	672.920
4	**Kandhamal**	7770.03	1962.90	**-**	**-**	**-**	**-**	**-**	**-**	**-**	13.890	13.890
5	**Khordha**	2654.72	192.40	**-**	**-**	**-**	**-**	**-**	**-**	**-**	158.860	158.860
6	**Koraput**	8180.27	1486.94	**-**	**-**	**-**	**-**	**-**	**-**	**-**	600.790	600.790
7	**Nayagarh**	3755.00	296.34	**-**	**-**	**-**	**-**	**-**	**-**	**-**	129.550	129.550
8	**Rayagada**	7126.04	6150.44	**-**	**-**	**-**	**-**	**-**	**-**	**-**	248.300	248.300
	Sub Total	**49245.03**	**22360.83**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3417.41**	**3417.41**
	Grand Total	**173247.66**	**79795.19**	**6231.53**	**0.00**	**6231.53**	**1894.99**	**3937.47**	**238.16**	**4175.64**	**3939.81**	**16241.97**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
IX	**Basin : East Flowing Rivers from Pennar to Kanyakumari**											
i)	**ANDHRA PRADESH**											
1	**Chittoor**	14957.01	10027.85	6.805	-	6.805	145.748	817.681	82.150	899.831	0.389	1052.773
2	**SPSR Nellore**	13090.71	6090.94	550.751	-	550.751	211.678	379.395	15.252	394.647	18.970	1176.046
3	**YSR Cudappah**	14969.72	92.00	1.034	-	1.034	0.221	8.201	0.117	8.318	0.075	9.647
	Sub Total	**43017.44**	**16210.79**	**558.59**	**0.00**	**558.59**	**357.65**	**1205.28**	**97.52**	**1302.80**	**19.43**	**2238.47**

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**KARNATAKA**											
1	**Bengaluru Urban**	2175.82	1188.00	-	-	-	-	45.984	-	45.984	-	45.984
2	**Bangalore Rural**	2294.62	935.62	-	-	-	-	72.440	-	72.440	0.192	72.632
3	**Chikballpur**	4188.56	814.53	-	-	-	-	95.518	-	95.518	-	95.518
4	**Kolar**	3968.44	3579.91	-	-	-	-	133.059	-	133.059	-	133.059
	Sub Total	**12627.44**	**6518.06**	**0.00**	**0.00**	**0.00**	**0.90**	**416.39**	**0.00**	**416.39**	**0.14**	**417.43**
iii)	**KERALA**											
1	**Idukki**	5106.26	38.13	0.113	-	0.113	1.461	0.472	0.671	1.143	0.624	3.341
2	**Kollam**	2556.16	11.68	0.083	-	0.083	0.004	0.001	0.115	0.115	0.036	0.239
3	**Pathanamthitta**	2709.55	4.92	0.037	-	0.037	0.002	0.000	0.040	0.040	0.018	0.097
4	**Thiruvananthapuram**	2246.81	4.33	0.079	-	0.079	0.005	0.002	0.051	0.053	0.009	0.146
	Sub Total	**12618.78**	**59.06**	**0.31**	**0.00**	**0.31**	**1.47**	**0.47**	**0.88**	**1.35**	**0.69**	**3.82**
iv)	**PUDUCHERY**											
1	PONDICHERRY	301.19	301.19	0.00	0.00	0.00	0.00	90.00	0.00	90.00	0.00	90.00
	Sub Total	**301.19**	**301.19**	**0.00**	**0.00**	**0.00**	**0.00**	**90.00**	**0.00**	**90.00**	**0.00**	**90.00**
v)	**TAMIL NADU**											
1	**Ariyalur**	1970.10	346.55	7.25	-	7.25	2.16	44.45	3.56	48.02	-	57.42
2	**Chennai**	128.00	128.00	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Cuddalore**	3725.96	3121.05	120.55	2.61	123.16	1.65	256.31	545.59	801.90	-	926.71
4	**Dharmapuri**	4529.54	2622.80	1.71	0.52	2.23	3.74	5.75	304.39	310.14	-	316.11
5	**Dindigul**	6164.99	1735.94	7.41	1.18	8.59	9.14	11.83	201.66	213.49	1.99	233.21
6	**Kanchipuram**	4475.20	4475.19	1.67	-	1.67	506.29	130.45	368.01	498.46	-	1006.42
7	**Kanniyakumari**	1746.80	70.81	3.31	-	3.31	4.23	1.37	1.16	2.53	-	10.07
8	**Krishnagiri**	5142.53	3233.43	5.72	-	5.72	40.52	133.21	197.58	330.79	-	377.02
9	**Madurai**	3767.70	3767.63	24.96	-	24.96	36.72	17.28	445.93	463.21	-	524.89
10	**Namakkal**	3434.37	359.41	4.48	-	4.48	-	9.84	43.54	53.38	0.71	58.57
												Contd…
11	**Perambalur**	1768.81	1143.62	-	-	-	0.92	13.84	148.25	162.09	-	163.01
12	**Pudukkottai**	4740.11	4005.95	37.71	-	37.71	432.38	335.98	100.99	436.97	-	907.06
13	**Ramanathapuram**	4040.52	4040.51	-	-	-	529.98	36.58	208.19	244.77	-	774.75
14	**Salem**	5247.41	2220.33	0.89	-	0.89	-	77.99	298.47	376.46	-	377.35
15	**Sivaganga**	4325.62	4325.62	-	-	-	471.73	56.37	156.18	212.55	-	684.28
16	**Thanjavur**	3438.78	1216.83	466.30	-	466.30	-	140.59	2.58	143.17	-	609.47
17	**Theni**	2909.55	2907.60	89.42	-	89.42	17.55	138.40	361.71	500.10	-	607.07
18	**Thiruvallur**	3377.77	3377.77	1.33	-	1.33	151.74	694.92	74.32	769.24	-	922.31
19	**Thoothukkudi**	4763.91	4763.91	97.31	-	97.31	72.50	8.85	166.63	175.48	-	345.29
20	**Tiruchirappalli**	4564.08	531.97	31.38	-	31.38	1.36	9.69	35.51	45.20	-	77.94
21	**Tirunelveli**	6998.99	6982.02	150.46	-	150.46	351.37	10.79	482.48	493.27	-	995.10
22	**Tiruvannamalai**	6187.67	6187.67	0.85	-	0.85	109.80	42.97	1392.60	1435.57	-	1546.22
23	**Vellore**	6056.53	6056.53	-	-	-	15.16	158.84	643.62	802.46	-	817.62
24	**Viluppuram**	7211.86	7211.85	7.54	-	7.54	355.14	486.92	1455.34	1942.26	-	2304.94
25	**Virudhunagar**	4487.16	4487.15	-	-	-	181.70	1.72	254.68	256.40	-	438.10
	Sub Total	**105203.96**	**79320.14**	**1060.24**	**4.31**	**1064.55**	**3295.77**	**2824.93**	**7892.97**	**10717.90**	**2.69**	**15080.91**
	Grand Total	**68564.85**	**23089.10**	**1619.14**	**4.31**	**1623.45**	**3655.78**	**4537.07**	**7991.36**	**12528.43**	**22.95**	**17830.63**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
X	**Basin : Narmada**											
i)	**GUJARAT**											
1	**Bharuch**	5083.67	1849.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Dohad**	3458.35	60.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Narmada**	2719.36	2321.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Panch Mahals**	5095.62	137.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Surat**	4174.64	168.82	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Vadodara**	7234.95	3788.50	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**27766.59**	**8326.35**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**MADHYA PRADESH**											
1	**Alirajpur**	3217.78	3001.03	19.632	-	19.632	39.208	28.399	159.631	188.030	85.430	332.300
2	**Anuppur**	3637.40	517.37	0.724	-	0.724	0.068	2.536	1.889	4.425	2.017	7.234
3	**Balaghat**	8897.36	2210.54	198.672	-	198.672	56.882	16.420	56.289	72.709	31.091	359.354
4	**Barwani**	5234.28	3841.08	43.773	-	43.773	15.733	271.797	446.852	718.649	258.925	1037.080
5	**Betul**	9690.38	3712.61	107.562	-	107.562	-	182.175	405.436	587.611	84.666	779.840
6	**Bhopal**	2618.98	3.33	0.163	-	0.163	0.045	0.765	0.410	1.175	0.379	1.762
7	**Burhanpur**	3084.12	368.60	1.041	-	1.041	0.442	39.073	33.224	72.297	1.483	75.264
8	**Chhindwara**	11361.38	3389.22	75.896	-	75.896	14.062	150.238	463.414	613.652	28.289	731.899
9	**Damoh**	7068.37	417.79	14.892	-	14.892	8.388	28.153	34.292	62.444	34.880	120.604
10	**Dewas**	6700.19	3740.87	75.463	-	75.463	88.500	1147.253	781.507	1928.760	108.566	2201.289
11	**Dhar**	7842.30	4756.36	194.978	-	194.978	198.938	1163.905	661.292	1825.197	408.697	2627.810
12	**Dindori**	5543.20	4598.04	14.773	-	14.773	0.075	3.957	3.310	7.266	12.675	34.789
13	**Khandwa**	7169.74	6469.19	186.964	-	186.964	20.283	375.163	1138.050	1513.214	233.215	1953.676
14	**Harda**	3192.55	3127.44	1031.329	-	1031.329	-	262.289	283.233	545.523	217.894	1794.745
15	**Hoshangabad**	6456.42	6456.42	1395.790	-	1395.790	23.610	1225.670	757.270	1982.940	187.550	3589.890
16	**Indore**	3765.95	1013.68	1.270	-	1.270	14.939	511.953	37.178	549.131	40.569	605.909
17	**Jabalpur**	4911.29	4619.32	532.183	-	532.183	7.355	1109.079	361.614	1470.693	230.905	2241.136
18	**Jhabua**	3302.18	7.92	0.406	-	0.406	0.389	0.076	0.449	0.525	0.597	1.917
19	**Katni**	4867.17	1093.93	26.119	-	26.119	3.904	96.138	93.411	189.549	122.059	341.630
20	**Mandla**	7201.48	6371.63	246.496	-	246.496	33.170	6.193	139.749	145.942	66.154	491.762
21	**Narsinghpur**	4947.28	4818.19	86.483	-	86.483	0.058	2241.067	359.956	2601.023	187.477	2875.041
22	**Raisen**	8172.10	4494.04	673.432	-	673.432	28.877	1311.015	213.827	1524.842	256.540	2483.691
23	**Sagar**	9858.18	371.79	5.085	-	5.085	7.063	28.251	79.539	107.790	28.660	148.598
24	**Sehore**	6317.41	3143.66	529.506	-	529.506	-	530.571	467.438	998.009	194.066	1721.581
25	**Seoni**	8422.70	2153.12	247.655	-	247.655	25.458	73.106	134.059	207.165	56.551	536.829
26	**Umaria**	4411.61	0.47	0.002	-	0.002	0.000	0.018	0.008	0.025	0.014	0.041
27	**Khargone**	7757.16	7397.29	877.787	-	877.787	53.021	321.824	807.038	1128.862	254.709	2314.378
	Sub Total	**165648.96**	**82094.93**	**6588.07**	**0.00**	**6588.07**	**640.47**	**11127.08**	**7920.36**	**19047.45**	**3134.06**	**29410.05**
iii)	**CHHATISGARH**											
1	**Bilaspur**	8022.86	0.71	0.05	-	0.05	0.00	0.02	0.00	0.03	0.00	0.08
2	**Kabirdham**	4061.73	596.41	37.62	-	37.62	-	79.86	0.27	80.12	0.68	118.42
3	**Rajnandgaon**	7764.54	78.58	3.36	-	3.36	0.20	5.50	0.12	5.62	0.23	9.41
	Sub Total	**19849.13**	**675.70**	**41.03**	**0.00**	**41.03**	**0.20**	**85.38**	**0.39**	**85.76**	**0.91**	**127.91**
iv)	**MAHARASHTRA**											
1	**Dhule**	6925.51	7.95	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Nandurbar**	5684.20	1572.12	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**12609.71**	**1580.07**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**225874.39**	**92677.05**	**6629.10**	**0.00**	**6629.10**	**640.68**	**11212.46**	**7920.75**	**19133.21**	**3134.97**	**29537.96**

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Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
XI	**Basin : Tapi**											
i)	**GUJARAT**											
1	**Narmada**	2719.36	398.16	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bharuch**	5083.67	1034.35	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Surat**	4174.64	2654.37	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Tapi**	3040.24	1686.10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**The Dangs**	1700.82	25.75	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**16718.73**	**5798.73**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
												Contd…
ii)	**MADHYA PRADESH**											
1	**Harda**	3192.55	65.11	21.471	-	21.471	-	5.461	5.897	11.357	4.536	37.365
2	**Burhanpur**	3084.12	2715.52	7.669	-	7.669	3.258	287.857	244.766	532.623	10.927	554.476
3	**Betul**	9690.38	3848.03	111.485	-	111.485	-	188.820	420.225	609.045	87.755	808.285
4	**Khandwa**	7169.74	700.55	20.246	-	20.246	2.197	40.627	123.240	163.866	25.255	211.564
5	**Khargone**	7757.16	359.87	42.703	-	42.703	2.579	15.656	39.262	54.918	12.391	112.592
6	**Barwani**	5234.28	1393.21	15.877	-	15.877	5.707	98.584	162.079	260.663	93.916	376.163
	Sub Total	**36128.23**	**9082.29**	**219.45**	**0.00**	**219.45**	**13.74**	**637.00**	**995.47**	**1632.47**	**234.78**	**2100.44**
iii)	**MAHARASHTRA**											
1	**Washim**	5017.05	1056.31	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Nashik**	15021.09	5959.21	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Nandurbar**	5684.20	4111.38	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Jalna**	7510.09	123.51	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Jalgaon**	11349.74	11334.09	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Dhule**	6925.51	6864.04	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Buldana**	9409.67	5613.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Aurangabad**	9772.28	1046.84	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Akola**	5214.95	5214.73	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Amravati**	11765.11	7744.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**87669.69**	**49067.70**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**140516.65**	**63948.72**	**219.45**	**0.00**	**219.45**	**13.74**	**637.00**	**995.47**	**1632.47**	**234.78**	**2100.44**

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				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
XII	**Basin : West Flowing Rivers from Tapi to Tadri**											
i)	**DADRA & NAGAR HAVELI**											
1	**Dadra and Nagar Haveli**	477.07	477.07	12.960	-	12.960	-	1.400	10.900	12.300	20.990	46.250
	Sub Total	**477.07**	**477.07**	**12.96**	**0.00**	**12.96**	**0.00**	**1.40**	**10.90**	**12.30**	**20.99**	**46.25**
ii)	**DAMAN & DIU**											
1	**Daman**	70.98	70.98	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**70.98**	**70.98**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
iii)	**GOA**											
1	**North Goa**	1650.18	1650.18	17.92	-	17.92	42.18	8.65	4.53	13.18	2.89	76.17
2	**South Goa**	1917.11	1917.11	19.81	-	19.81	47.61	12.96	7.06	20.02	5.58	93.02
	Sub Total	**3567.29**	**3567.29**	**37.73**	**0.00**	**37.73**	**89.79**	**21.61**	**11.59**	**33.20**	**8.47**	**169.19**
												Contd…
iv)	**GUJARAT**											
1	**Navsari**	2146.71	2146.71	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Surat**	4174.64	1351.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Tapi**	3040.24	1354.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**The Dangs**	1700.82	1675.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Valsad**	2894.91	2894.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**13957.32**	**9422.26**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
v)	**KARNATAKA**											
1	**Belgaum**	13120.75	1007.02	45.887	-	45.887	0.236	90.090	87.752	177.842	66.375	290.340
2	**Dharwad**	4202.26	1422.24	43.233	-	43.233	-	88.703	-	88.703	29.123	161.060
3	**Haveri**	4743.98	120.36	-	-	-	-	20.874	-	20.874	3.044	23.918
4	**Shimoga**	8361.30	15.01	0.637	-	0.637	0.888	0.573	0.116	0.689	0.159	2.373
5	UTTAR KANNAD	10048.65	8350.89	-	-	-	55.306	80.503	78.492	158.996	123.020	337.322
	Sub Total	**40476.94**	**10915.52**	**89.76**		**89.76**	**56.43**	**280.74**	**166.36**	**447.10**	**221.72**	**815.01**
vi)	**MAHARASHTRA**											
1	**Ahmadnagar**	16510.41	12.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Dhule**	6925.51	53.52	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Kolhapur**	7500.31	262.87	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Mumbai**	144.60	144.60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Mumbai (Suburban)**	438.28	438.28	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Nandurbar**	5684.20	0.69	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Nashik**	15021.09	2088.62	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Pune**	15185.75	313.94	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Raigarh**	6942.67	6940.14	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Ratnagiri**	8050.94	8036.44	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Sangli**	8349.99	3.80	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Satara**	10223.37	36.06	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Sindhudurg**	4966.78	4842.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
14	**Thane**	9208.22	9202.56	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**115152.12**	**32375.79**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grand Total	**173701.72**	**56828.91**	**140.45**	**0.00**	**140.45**	**146.22**	**303.75**	**188.85**	**492.60**	**251.18**	**1030.45**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
XIII	**Basin : West Flowing Rivers from Tadri to Kanyakumari**											
i)	**KARNATAKA**											
1	**Chikmagalur**	7167.73	152.22	1.058	-	1.058	0.838	6.906	0.032	6.938	3.118	11.952
2	**Dakshin Kannad**	4578.68	4577.59	-	-	-	-	198.613	381.569	580.182	184.686	764.868
3	**Hassan**	6789.18	462.78	2.556	-	2.556	11.865	19.635	0.342	19.976	2.685	37.083
4	**Kodagu**	4115.60	1216.92	5.488	-	5.488	0.506	0.180	-	0.180	0.305	6.478
5	**Shimoga**	8361.30	2652.20	112.501	-	112.501	156.925	101.222	20.529	121.751	28.053	419.230
6	**Udupi**	3841.79	3838.73	-	-	-	4.626	16.946	232.475	249.421	63.569	317.617
7	**Uttar kannad**	10048.65	1033.70	-	-	-	6.846	9.965	9.716	19.681	15.228	41.755
	Sub Total	**44902.93**	**13934.14**	**121.60**	**0.00**	**121.60**	**181.61**	**353.47**	**644.66**	**998.13**	**297.64**	**1598.98**
												Contd…
ii)	**KERALA**											
1	**Alappuzha**	1454.48	1454.48	24.240	-	24.240	4.390	70.650	8.720	79.370	250.610	358.610
2	**Ernakulam**	2454.58	2454.57	98.600	0.040	98.640	15.830	5.160	71.410	76.570	48.400	239.439
3	**Idukki**	5106.26	4682.42	13.902	-	13.902	179.456	58.000	82.346	140.346	76.588	410.292
4	**Kannur**	2957.80	2956.64	10.166	2.969	13.135	9.806	4.368	83.467	87.836	32.387	143.164
5	**Kasaragod**	1964.67	1964.67	1.600	0.970	2.570	142.470	117.150	274.540	391.690	34.510	571.240
6	**Kollam**	2556.16	2544.48	18.067	-	18.067	0.966	0.139	24.965	25.105	7.824	51.961
7	**Kottayam**	2258.83	2258.83	1.340	-	1.340	1.790	0.240	23.760	24.000	136.510	163.640
8	**Kozhikode**	2347.84	2343.42	9.282	0.090	9.372	4.342	0.230	28.856	29.085	6.907	49.706
9	**Malappuram**	3599.11	3597.21	24.667	1.549	26.216	37.710	15.642	137.857	153.499	43.927	261.352
10	**Palakkad**	4542.91	3923.85	304.405	0.432	304.836	38.531	114.703	80.154	194.858	103.630	641.855
11	**Pathanamthitta**	2709.55	2704.62	20.073	-	20.073	0.958	0.020	22.040	22.060	10.122	53.213
12	**Thiruvananthapuram**	2246.81	2242.48	41.081	-	41.081	2.715	0.808	26.549	27.357	4.541	75.694
13	**Thrissur**	3071.57	3071.56	150.670	-	150.670	34.720	14.430	345.699	360.129	88.020	633.538
14	**Wayanad**	2141.18	205.04	-	-	-	0.161	-	0.031	0.031	11.987	12.179
	Sub Total	**39411.75**	**36404.27**	**718.09**	**6.05**	**724.14**	**473.84**	**401.54**	**1210.39**	**1611.93**	**855.96**	**3665.88**
iii)	**TAMIL NADU**											
1	**Coimbatore**	4708.71	2139.34	65.38	1.42	66.80	0.90	139.02	295.92	434.95	-	502.64
2	**Kanniyakumari**	1746.80	1675.98	78.23	-	78.23	100.19	32.40	27.42	59.82	-	238.24
3	**The Nilgiris**	2572.79	359.39	-	-	-	-	-	1.93	1.93	-	1.93
4	**Theni**	2909.55	1.95	0.06	-	0.06	0.01	0.09	0.24	0.34	-	0.41
5	**Tirunelveli**	6998.99	16.96	0.37	-	0.37	0.85	0.03	1.17	1.20	-	2.42
6	**Tiruppur**	5266.55	283.22	9.16	-	9.16	0.54	7.35	41.99	49.34	-	59.03
7	**Virudhunagar**	4487.16	0.00	-	-	-	-	-	-	-	-	-
	Sub Total	**28690.55**	**4476.84**	**153.20**	**1.42**	**154.62**	**102.48**	**178.89**	**368.68**	**547.57**	**0.00**	**804.67**
iv)	**PONDICHERY**											
1	**Mahe**	9.90	9.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26
	Sub Total	**9.90**	**9.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.26**	**0.26**
	Grand Total	**113015.13**	**54825.15**	**992.89**	**7.47**	**1000.36**	**757.93**	**933.90**	**2223.73**	**3157.63**	**1153.61**	**6069.54**

Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)

Table 16 : Net Area Irrigated (Source Wise) by River Basin, State & Dist. for the Year Ending 2017-18

(Area in Sq.Km)

Sl. No.	Basin/State/District Name	Total Area	District Area in Basin	Canals		Total Canals	Tanks	Wells		Total Wells	Other Sources	Grand Total
				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
XIV	**Basin : Mahi**											
i)	**GUJARAT**											
1	**Anand**	2806.43	996.53	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Bharuch**	5083.67	2199.42	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Dohad**	3458.35	3397.99	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Kheda**	3843.53	518.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Panch Mahals**	5095.62	4889.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Sabar Kantha**	7140.29	26.43	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Vadodara**	7234.95	3446.45	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**34662.84**	**15474.34**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**MADHYA PRADESH**											
1	**Alirajpur**	3217.78	216.75	1.418	-	1.418	2.832	2.051	11.529	13.580	6.170	24.000
2	**Dhar**	7842.30	1505.16	61.701	-	61.701	62.954	368.320	209.267	577.587	129.333	831.576
3	**Jhabua**	3302.18	3294.25	168.744	-	168.744	161.661	31.694	186.721	218.414	248.412	797.231
4	**Neemuch**	4001.43	29.18	0.504	-	0.504	0.165	2.471	6.232	8.703	0.348	9.720
5	**Ratlam**	4639.98	1820.86	25.896	-	25.896	44.497	410.496	353.378	763.874	112.815	947.083
	Sub Total	**23003.67**	**6866.20**	**258.26**	**0.00**	**258.26**	**272.11**	**815.03**	**767.13**	**1582.16**	**497.08**	**2609.61**
iii)	**RAJASTHAN**											
1	**Banswara**	4332.72	4332.72	650.98	-	650.98	45.48	38.71	160.50	199.21	198.34	1094.01
2	**Chittorgarh**	7500.49	133.03	2.09	-	2.09	0.33	21.51	19.07	40.59	1.37	44.37
3	**Dungarpur**	3640.43	3042.56	69.71	-	69.71	17.74	58.88	247.74	306.62	15.21	409.28
4	**Pratapgarh**	4141.45	2993.52	66.86	-	66.86	2.68	158.47	616.82	775.29	35.21	880.04
5	**Udaipur**	11459.12	5494.69	17.51	-	17.51	52.58	74.02	344.29	418.31	3.26	491.66
	Sub Total	**31074.21**	**15996.52**	**807.15**	**0.00**	**807.15**	**118.82**	**351.59**	**1388.42**	**1740.01**	**253.38**	**2919.37**
	Grand Total	**88740.72**	**38337.06**	**1065.42**	**0.00**	**1065.42**	**390.93**	**1166.62**	**2155.55**	**3322.17**	**750.46**	**5528.98**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
XV	**Basin: Sabarmati**											
i)	**GUJARAT**											
1	**Ahmedabad**	7712.66	4718.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Anand**	2806.43	1785.66	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Banaskantha**	10247.55	506.28	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Bhavnagar**	8062.74	213.25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Gandhinagar**	2055.07	2055.07	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Kheda**	3843.53	3325.40	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Mahesana**	4244.35	2087.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Panchmahal**	5095.62	68.67	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Rajkot**	10762.12	261.22	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Sabarkantha**	7140.29	7113.86	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Surendranagar**	10116.24	4603.36	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**72086.60**	**26738.20**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**

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				Government	Private			Tubewells	Other wells			
1	2	3	4	5	6	7	8	9	10	11	12	13
ii)	**RAJASTHAN**											
1	**Dungarpur**	3640.43	597.87	13.70	-	13.70	3.49	11.57	48.68	60.25	2.99	80.43
2	**Sirohi**	4961.34	54.66	0.60	-	0.60	0.10	0.56	7.27	7.82	0.00	8.52
3	**Udaipur**	11459.12	3289.85	10.48	-	10.48	31.48	44.32	206.14	250.46	1.95	294.37
	Sub Total	**20060.89**	**3942.38**	**24.78**	**0.00**	**24.78**	**35.07**	**56.44**	**262.09**	**318.53**	**4.94**	**383.32**
	Grant Total	**92147.49**	**30680.58**	**24.78**	**0.00**	**24.78**	**35.07**	**56.44**	**262.09**	**318.53**	**4.94**	**383.32**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												
XVI	**Basin : WFR of Kutch, Saurashtra Including Luni**											
i)	**GUJARAT**											
1	**Ahmadabad**	7712.66	2994.60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	**Amreli**	7100.01	7100.01	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	**Anand**	2806.43	24.24	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	**Banas Kantha**	10247.55	9741.27	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
5	**Bhavnagar**	8062.74	7849.49	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
6	**Jamnagar**	10490.91	10490.91	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7	**Junagadh**	8497.29	8497.29	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
8	**Kachchh**	40508.20	40508.20	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
9	**Mahesana**	4244.35	2156.99	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10	**Patan**	5431.61	5431.61	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11	**Porbandar**	2203.38	2203.38	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12	**Rajkot**	10762.12	10500.90	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13	**Surendranagar**	10116.24	5512.88	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**128183.49**	**113011.77**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
ii)	**RAJASTHAN**											
1	**Ajmer**	8206.23	1870.76	5.26	-	5.26	4.54	13.32	190.83	204.15	20.85	234.80
2	**Barmer**	27351.28	20773.88	-	-	-	-	563.35	1385.16	1948.51	17.70	1966.22
3	**Bhilwara**	10052.59	2.23	0.04	-	0.04	0.01	0.05	0.32	0.37	0.00	0.42
4	**Chittorgarh**	7500.49	36.42	0.57	-	0.57	0.09	5.89	5.22	11.11	0.37	12.15
5	**Jaisalmer**	37070.06	2021.38	23.37	-	23.37	0.01	47.44	0.77	48.21	0.01	71.59
6	**Jalore**	10322.33	10322.33	169.32	-	169.32	-	1612.20	1550.01	3162.21	0.83	3332.36
7	**Jodhpur**	22037.60	13324.02	-	-	-	-	2762.76	30.40	2793.16	5.34	2798.50
8	**Nagaur**	17026.59	6096.23	-	-	-	-	779.57	208.13	987.70	0.53	988.23
9	**Pali**	11890.23	11890.23	191.35	-	191.35	261.78	304.21	1120.23	1424.44	0.20	1877.77
10	**Rajsamand**	4485.42	364.89	-	-	-	5.14	2.30	31.24	33.53	-	38.67
11	**Sikar**	7428.38	2.75	-	-	-	-	0.75	0.05	0.80	-	0.80
12	**Sirohi**	4961.34	4906.68	53.45	-	53.45	9.43	49.91	652.26	702.18	0.08	765.14
13	**Udaipur**	11459.12	205.67	0.66	-	0.66	1.97	2.77	12.89	15.66	0.12	18.40
	Sub Total	**179791.66**	**71817.47**	**444.02**	**0.00**	**444.02**	**282.96**	**6144.51**	**5187.50**	**11332.02**	**46.05**	**12105.05**
iii)	**Daman& Diu**											
1	**Diu**	34.39	34.39	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Sub Total	**34.39**	**34.39**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**
	Grant Total	**308009.54**	**184863.63**	**444.02**	**0.00**	**444.02**	**282.96**	**6144.51**	**5187.50**	**11332.02**	**46.05**	**12105.05**
Sources : India-WRIS (col. 2 to 4), Directorate of Economics & Statistics, Ministry of Agriculture (col 5 to 12) (Data received from respective websites)												

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I	**Mahanadi basin**												
i)	**Chhattisgarh**												
1	Balod	16181.18	7810.88	1721.84	10650.16	36364.06	33134.55	20389.68	2356.05	22745.77	2356.22	10654.51	68.65
2	Baloda Bazar	34099.30	15141.37	4269.90	7018.98	60529.55	54588.23	17550.27	5076.58	22626.88	6482.56	30095.96	41.45
3	Bemetara	16699.17	13227.34	1705.48	17583.72	49215.71	44554.89	36300.27	2533.25	38833.51	2889.52	8115.06	87.16
4	Bilaspur	34315.47	7342.63	5598.09	6552.12	53808.31	49736.63	16945.33	6691.12	23636.42	7853.65	24379.34	47.52
5	Dhamtari	19870.47	9761.24	1840.12	16204.69	47676.52	42908.85	34726.81	2042.12	36768.92	2180.05	8330.58	85.69
6	Durg	14123.23	8291.89	1438.50	10271.04	34124.66	31192.62	20479.11	5179.78	25658.89	5135.19	6525.91	82.26
7	Gariaband	23427.62	5230.76	2119.95	6085.36	36863.69	33612.92	18582.67	1624.80	20207.46	1877.55	13187.96	60.12
8	Janjgir-Champa	22405.85	12308.05	2889.64	10180.72	47784.26	43480.67	19315.20	4552.80	23867.96	5146.64	18907.64	54.89
9	Jashpur	27267.04	1710.50	4685.05	3280.10	36942.69	33248.39	10455.66	2137.48	12593.08	2320.47	20472.13	37.88
10	Kanker	61107.35	2505.81	10098.15	7847.35	81558.66	74024.55	20154.25	1958.71	22112.99	2150.07	52023.78	29.87
11	Kawardha	33869.41	4757.42	4887.42	9579.41	53093.66	48945.39	33365.73	2354.49	35720.21	2837.22	18491.07	72.98
12	Kondagaon	27387.25	669.02	5961.33	2093.25	36110.85	33378.64	10777.12	1498.42	12275.54	1658.78	21687.28	36.78
13	Korba	34489.15	974.80	5341.93	2032.69	42838.57	38874.77	8290.76	6150.74	14441.52	3879.21	24619.32	37.15
14	Koriya	37715.72	4197.19	5018.46	2468.25	49399.62	46243.17	7886.94	2443.33	10330.26	1819.79	35781.80	22.34
15	Mahasamund	41374.72	6898.77	4291.72	12028.97	64594.18	59318.57	36223.57	2765.46	38989.00	3077.95	19980.89	65.73
16	Mungeli	8983.52	2914.08	994.82	2952.81	15845.23	14260.69	6558.95	1729.45	8288.42	2236.98	5448.97	58.12
17	Raigarh	35608.77	3599.99	5037.69	4940.20	49186.65	45289.36	16066.65	5659.93	21726.62	4491.91	23553.46	47.97
18	Raipur	21140.58	10782.86	1931.21	12753.58	46608.23	42499.60	20776.86	8063.97	28840.83	8179.69	13585.14	67.86
19	Rajnandgaon	44692.98	12282.17	5372.56	19407.99	81755.70	75019.23	42951.79	4659.91	47611.72	6010.03	27294.18	63.47
20	Surajpur	23229.18	2472.40	3258.89	8174.97	37135.44	34321.48	17896.36	2619.87	20516.25	2298.05	13639.35	59.78
21	Surguja	36041.64	1491.03	5122.55	3701.20	46356.42	41720.77	10648.73	2862.07	13510.78	2436.01	27969.22	32.38
ii)	**Jharkhand**												
1	Simdega	21266.69	548.75	837.59	586.73	23239.76	21416.22	1807.00	840.77	2647.78	846.62	18762.58	12.36
iii)	**Madhya Pradesh**												
1	Anuppur	36011.33	319.95	2853.65	1245.99	40430.92	37734.99	6038.97	1512.23	7551.20	1623.03	30072.99	20.01
2	Balaghat	81686.50	1957.93	290.51	2791.18	86726.12	78053.48	12464.29	3597.17	16061.44	3889.78	61699.41	20.58
3	Dindori	40499.20	141.01	301.21	500.43	41441.85	38837.01	2377.60	1754.34	4131.95	1986.42	34472.98	10.64
4	Mandla	56699.37	871.29	1095.53	4003.84	62670.03	59244.15	6908.22	2425.78	9334.00	2690.49	49645.45	15.76

Cont...

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
iv)	**Maharashtra**												
1	Gadchiroli	94076.16	3316.89	0.00	10239.42	107632.48	101521.84	21046.00	3679.52	24725.60	3679.51	76796.24	24.35
2	Gondia	42973.23	6702.60	645.57	16408.00	66729.40	62549.10	10153.58	6207.01	16360.58	5909.92	46188.52	26.16
v)	**Odisha**												
1	Angul	42123.33	8245.72	3946.78	5213.93	59529.76	55077.39	20250.43	5285.84	25536.27	4916.11	28922.49	46.36
2	Bargarh	39883.47	11467.68	136.38	11828.43	63315.96	58594.76	25578.09	4857.21	30435.30	4861.23	28375.41	51.94
3	Bolangir	44751.80	6656.77	898.73	7584.45	59891.75	55514.38	20203.60	5547.62	25751.22	6244.53	28851.55	46.39
4	Boudh	18221.67	2936.05	449.44	4055.18	25662.34	23560.34	8748.53	1408.97	10157.50	1516.93	13252.00	43.11
5	Cuttack	39498.24	14352.19	9049.08	10212.02	73111.53	66992.29	21102.98	8079.87	29182.85	8114.15	37210.24	43.56
6	Deogarh	20728.22	5484.66	1223.69	6203.84	33640.41	30689.22	15353.55	1140.56	16494.11	1009.97	14117.77	53.75
7	Dhenkanal	29856.44	9441.84	5442.07	3509.78	48250.13	44724.57	12370.81	3945.45	16316.26	3895.50	28166.89	36.48
8	Ganjam	44501.12	26289.62	17236.11	13517.82	101544.67	92962.30	23498.20	12266.48	35764.68	12346.97	55910.43	38.47
9	Jagatsinghpur	16828.01	15431.15	4359.43	11488.23	48106.82	43580.43	21482.10	2853.06	24335.16	3219.49	19154.54	55.84
10	Jajpur	32439.37	9986.07	7250.92	7290.71	56967.07	52190.81	28635.65	5060.93	33696.58	5505.05	18185.95	64.56
11	Jharsuguda	16904.76	1242.16	221.66	1691.10	20059.68	18558.10	5801.91	3200.66	9002.57	2717.15	9205.75	48.51
12	Kalahandi	45664.16	9661.16	1926.11	8961.69	66213.12	61051.06	18949.10	5447.25	24396.35	5323.94	36133.95	39.96
13	Kandhamal	26251.55	2122.44	4436.16	2900.30	35710.45	32840.72	7005.32	2401.27	9406.59	2396.49	23281.50	28.64
14	Kendrapara	6658.70	9463.64	1731.64	8390.19	26244.17	23934.79	9202.83	1282.24	10485.07	4395.05	13372.82	43.81
15	Khurda	23748.04	7792.40	6000.27	8986.86	46527.57	42781.81	15789.85	8655.94	24445.79	7983.59	18183.64	57.14
16	Nabarangapur	50789.01	3054.23	3944.29	3960.07	61747.60	56844.77	15224.73	3893.63	19118.36	4141.86	37322.96	33.63
17	Nayagarh	22987.19	4543.21	5223.69	5964.22	38718.31	35898.01	10896.36	3227.58	14123.94	8151.34	21461.60	39.34
18	Nuapada	22077.90	4755.56	706.77	4475.91	32016.14	29229.23	16020.37	1954.00	17974.37	2030.79	11085.77	61.49
19	Puri	30114.07	10788.78	7134.83	16395.63	64433.31	59547.34	25540.45	4846.58	30387.03	6169.99	28670.51	51.03
20	Rayagada	24634.67	3347.22	4565.28	2512.03	35059.20	32448.08	5993.67	3604.10	9597.77	3199.55	22582.72	29.58
21	Sambalpur	45947.10	6636.67	311.18	10572.54	63467.49	58074.47	12396.63	4103.03	16499.66	3356.47	41363.80	28.41
22	Subarnapur	18951.66	3373.30	155.57	4280.89	26761.42	24785.48	9384.36	1912.93	11297.29	1988.05	13354.58	45.58
23	Sundargarh	69611.97	7402.83	2479.81	6182.00	85676.61	79304.61	21873.00	8082.98	29955.98	6671.02	48635.51	37.77
	Mahanadi basin Total	**1720417.53**	**332707.97**	**178444.25**	**377766.97**	**2609325.73**	**2398903.72**	**858449.88**	**198045.32**	**1056487.30**	**208110.53**	**1339197.10**	**44.04**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
II	**Subarnarekha Basin**												
i)	**Jharkhand**												
1	Bokaro	20046.48	1486.78	1885.13	1134.74	24553.13	22338.39	2283.00	7517.75	9800.77	3883.92	13416.30	43.87
2	East Singhbhum	24792.29	672.08	2826.54	569.88	28860.79	26113.88	1860.00	4245.16	6105.15	3664.71	20956.49	23.38
3	Khunti	10587.14	658.81	1201.58	738.68	13186.21	12312.28	2385.00	761.56	3146.55	759.03	9160.49	25.56
4	Ramgarh	10081.27	550.28	836.24	616.19	12083.98	11457.84	1428.25	4910.37	6338.59	1748.66	5107.18	55.32
5	Ranchi	34549.24	1982.44	3453.76	2681.23	42666.67	39440.87	9619.50	6749.36	16368.87	5334.03	23035.20	41.50
6	Saraikela - Kharsawa	15031.08	728.26	1707.67	462.50	17929.51	16429.92	1099.50	2110.07	3209.57	1716.00	13208.52	19.53
7	West Singhbhum	41369.34	1442.98	5742.08	914.60	49469.00	45026.18	1707.50	2257.24	3964.72	2249.72	41045.94	8.81
ii)	**Odisha**												
1	Balasore	53935.11	30857.61	17135.34	29372.84	131300.90	121284.03	61512.34	7080.93	68593.27	7947.22	52127.95	56.56
2	Mayurbhanj	86566.10	19024.07	18391.17	23689.91	147671.25	137053.64	48251.04	7838.87	56089.91	8297.08	80310.10	40.93
iii)	**West Bengal**												
1	Paschim Medinipur	241691.73	12698.55	68840.05	40624.33	363854.66	328863.50	110919.60	7943.15	118862.75	12907.78	205036.12	36.14
2	Purba Medinipur	53800.58	1957.01	15434.60	10220.33	81412.52	73271.26	21562.40	3047.88	24610.28	4341.44	47367.42	33.59
3	Puruliya	53190.45	8011.53	14077.33	4806.45	80085.76	72724.08	2232.80	4627.09	6859.89	6411.97	64079.31	9.43
	Subarnarekha Basin Total	**645640.82**	**80070.39**	**151531.49**	**115831.69**	**993074.38**	**906315.87**	**264860.93**	**59089.43**	**323950.32**	**59261.56**	**574851.02**	**35.74**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
III	**Brahmani & Baitarani basin**												
i)	**Chhattisgarh**												
1	Balrampur	42786.88	1374.31	6239.09	2685.88	53086.16	47777.53	11631.10	1979.13	13610.19	2200.65	33899.34	28.49
2	Jashpur	27267.04	1710.50	4685.05	3280.10	36942.69	33248.39	10455.66	2137.48	12593.08	2320.47	20472.13	37.88
ii)	**Jharkhand**												
1	Gumla	30917.49	884.93	3257.62	1159.17	36219.21	33213.77	3789.50	1332.84	5122.30	1331.99	28082.29	15.42
2	Khunti	10587.14	658.81	1201.58	738.68	13186.21	12312.28	2385.00	761.56	3146.55	759.03	9160.49	25.56
3	Latehar	18532.60	2496.33	1030.62	1915.24	23974.79	22060.63	5109.00	1137.71	6246.72	1026.24	15806.84	28.32
4	Lohardaga	16145.95	505.25	1478.73	590.29	18720.22	17052.35	1833.50	689.00	2522.47	680.35	14525.19	14.79
5	Ranchi	34549.24	1982.44	3453.76	2681.23	42666.67	39440.87	9619.50	6749.36	16368.87	5334.03	23035.20	41.50
6	Simdega	21266.69	548.75	837.59	586.73	23239.76	21416.22	1807.00	840.77	2647.78	846.62	18762.58	12.36
7	West Singhbhum	41369.34	1442.98	5742.08	914.60	49469.00	45026.18	1707.50	2257.24	3964.72	2249.72	41045.94	8.81
iii)	**Odisha**												
1	Angul	42123.33	8245.72	3946.78	5213.93	59529.76	55077.39	20250.43	5285.84	25536.27	4916.11	28922.49	46.36
2	Balasore	53935.11	30857.61	17135.34	29372.84	131300.90	121284.03	61512.34	7080.93	68593.27	7947.22	52127.95	56.56
3	Bhadrak	17772.06	15468.15	4479.02	19064.75	56783.98	51328.62	27199.14	2995.60	30194.74	4629.46	20912.13	58.83
4	Cuttack	39498.24	14352.19	9049.08	10212.02	73111.53	66992.29	21102.98	8079.87	29182.85	8114.15	37210.24	43.56
5	Deogarh	20728.22	5484.66	1223.69	6203.84	33640.41	30689.22	15353.55	1140.56	16494.11	1009.97	14117.77	53.75
6	Dhenkanal	29856.44	9441.84	5442.07	3509.78	48250.13	44724.57	12370.81	3945.45	16316.26	3895.50	28166.89	36.48
7	Jajpur	32439.37	9986.07	7250.92	7290.71	56967.07	52190.81	28635.65	5060.93	33696.58	5505.05	18185.95	64.56
8	Kendrapara	6658.70	9463.64	1731.64	8390.19	26244.17	23934.79	9202.83	1282.24	10485.07	4395.05	13372.82	43.81
9	Keonjhar	55950.32	11788.53	11495.85	9864.13	89098.83	81179.11	27552.61	6526.13	34078.74	6604.91	46479.77	41.98
10	Mayurbhanj	86566.10	19024.07	18391.17	23689.91	147671.25	137053.64	48251.04	7838.87	56089.91	8297.08	80310.10	40.93
11	Sambalpur	45947.10	6636.67	311.18	10572.54	63467.49	58074.47	12396.63	4103.03	16499.66	3356.47	41363.80	28.41
12	Sundargarh	69611.97	7402.83	2479.81	6182.00	85676.61	79304.61	21873.00	8082.98	29955.98	6671.02	48635.51	37.77
	Brahmani & Baitarani basin Total	**744509.33**	**159756.28**	**110862.67**	**154118.56**	**1169246.84**	**1073381.77**	**354038.77**	**79307.53**	**433346.13**	**82091.09**	**634595.42**	**40.37**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
IV	**Godavari basin**												
i)	**Andhra Pradesh**												
1	East Godavari	68320.35	124541.66	3290.44	66276.63	262429.08	249307.32	39158.73	8767.96	47926.69	4780.25	203246.60	19.22
2	Visakhapatnam	67943.86	20499.99	5851.03	4612.84	98907.72	93961.54	9179.49	16401.58	25581.07	16655.83	69745.23	27.23
3	Vizianagaram	54765.17	91315.38	5535.51	74019.61	225635.67	214353.03	40775.74	1946.54	42722.28	5440.50	170335.18	19.93
4	West Godavari	68260.83	55634.73	131.13	56393.35	180420.04	171402.63	43944.04	4837.26	48781.30	6494.29	123262.98	28.46
ii)	**Chhattisgarh**												
1	Balod	16181.18	7810.88	1721.84	10650.16	36364.06	33134.55	20389.68	2356.05	22745.77	2356.22	10654.51	68.65
2	Bastar	23467.96	823.65	5036.05	2484.67	31812.33	29138.98	9096.67	2217.28	11313.93	2400.33	17592.26	38.83
3	Bijapur	56124.02	184.00	5435.44	560.02	62303.48	56073.13	1936.38	646.22	2582.60	711.88	53424.48	4.61
4	Dantewara	26565.42	181.77	3019.40	1198.89	30965.48	28854.27	2838.73	890.97	3729.71	820.00	25042.38	12.93
5	Dhamtari	19870.47	9761.24	1840.12	16204.69	47676.52	42908.85	34726.81	2042.12	36768.92	2180.05	8330.58	85.69
6	Kanker	61107.35	2505.81	10098.15	7847.35	81558.66	74024.55	20154.25	1958.71	22112.99	2150.07	52023.78	29.87
7	Kondagaon	27387.25	669.02	5961.33	2093.25	36110.85	33378.64	10777.12	1498.42	12275.54	1658.78	21687.28	36.78
8	Narayanpur	23319.67	258.98	3730.18	447.36	27756.19	25977.94	630.20	378.58	1008.77	412.02	24925.73	3.88
9	Rajnandgaon	44692.98	12282.17	5372.56	19407.99	81755.70	75019.23	42951.79	4659.91	47611.72	6010.03	27294.18	63.47
10	Sukma	46643.94	323.97	4340.78	457.55	51766.24	46589.62	949.48	602.23	1551.73	636.60	45003.22	3.33
iii)	**Karnataka**												
1	BIDAR	17850.20	2710.99	3345.95	4799.20	28706.34	25883.10	12085.64	1020.59	13106.23	1103.80	12743.18	50.64
2	KALBURAGI	35171.21	4441.39	8401.37	7729.27	55743.25	50168.94	17963.83	4376.94	22340.77	4803.35	28605.98	44.53
iv)	**Madhya Pradesh**												
1	Balaghat	81686.50	1957.93	290.51	2791.18	86726.12	78053.48	12464.29	3597.17	16061.44	3889.78	61699.41	20.58
2	Betul	102040.17	3612.40	0.00	16046.71	121699.28	113477.81	46816.25	3753.32	50569.58	4105.82	62555.74	44.56
3	Chhindwara	87803.07	3866.38	600.33	12436.85	104706.63	98786.94	53283.55	5792.71	59076.21	6149.52	39353.93	59.80
4	Mandla	56699.37	871.29	1095.53	4003.84	62670.03	59244.15	6908.22	2425.78	9334.00	2690.49	49645.45	15.76
5	Seoni	62350.77	1951.24	2242.88	5957.79	72502.68	68249.83	22485.01	3136.80	25621.81	3485.41	42279.41	37.54

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Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
v)	**Maharashtra**												
1	Ahmednagar	85781.40	13325.98	14292.88	45925.63	159325.89	150868.83	114588.35	6196.74	120785.10	6196.76	41700.36	80.06
2	Akola	27826.59	1472.64	205.97	8668.31	38173.52	35610.17	21512.89	2247.83	23760.73	2247.87	11901.01	66.72
3	Amravati	53662.13	4699.59	1301.78	26837.03	86500.54	80378.67	70883.48	4354.80	75238.41	4354.79	18151.28	93.60
4	Aurangabad	67424.51	7120.07	334.37	31424.64	106303.59	100810.87	69352.38	3462.54	72814.94	3462.48	27995.96	72.23
5	Beed	81181.38	8213.38	6240.27	32855.58	128490.61	122066.06	67812.03	4213.10	72025.13	4213.12	50040.93	59.01
6	Bhandara	31379.88	44876.78	417.80	15965.57	92640.03	85803.94	22414.31	3686.07	26100.39	3648.19	59703.55	30.42
7	Buldhana	64511.58	5233.41	263.73	21719.68	91728.41	86593.38	65197.36	3254.40	68451.82	3254.42	21164.53	79.05
8	Chandrapur	98909.31	4760.52	1471.98	11466.41	116608.22	110554.57	14925.01	17107.51	32032.60	17107.50	78521.99	28.97
9	Gadchiroli	94076.16	3316.89	0.00	10239.42	107632.48	101521.84	21046.00	3679.52	24725.60	3679.51	76796.24	24.35
10	Gondia	42973.23	6702.60	645.57	16408.00	66729.40	62549.10	10153.58	6207.01	16360.58	5909.92	46188.52	26.16
11	Hingoli	50310.61	2780.69	1340.57	47748.08	102179.95	97005.43	36097.50	2161.67	38259.18	2159.14	58746.25	39.44
12	Jalgaon	89195.64	6694.80	574.12	46104.57	142569.13	135264.78	101162.32	4887.81	106050.10	4887.79	35647.21	78.40
13	Jalna	57765.54	2918.66	115.46	22359.31	83158.97	78593.55	41634.48	1397.04	43031.55	1397.01	35561.99	54.75
14	Latur	45440.55	6912.70	0.00	15902.77	68256.02	64833.65	33580.73	2142.34	35723.04	2142.33	29800.26	55.10
15	Nagpur	66937.32	7209.95	2587.52	19951.86	96686.65	91432.51	37281.60	10143.48	47425.01	10143.51	44007.48	51.87
16	Nanded	101847.77	974.83	3718.27	17520.68	124061.55	117858.42	34865.24	3345.26	38210.49	3344.07	79647.93	32.42
17	Nashik	133969.12	13444.75	0.00	48110.20	195524.07	184991.41	104572.27	3593.64	108165.87	3593.61	84044.51	58.47
18	Osmanabad	61058.00	6445.35	2583.65	15716.20	85803.20	81476.51	48272.70	2315.87	50588.61	2315.85	31057.67	62.09
19	Parbhani	58636.77	1785.50	645.43	26071.85	87139.55	82729.82	36212.33	1950.18	38162.49	1950.17	44567.35	46.13
20	Pune	95870.06	19431.62	1192.62	67959.95	184454.25	174455.41	112066.91	8174.04	120240.89	8174.07	61716.72	68.92
21	Thane	14840.38	285.66	0.00	2228.47	17354.51	16402.91	2397.66	713.64	3111.28	713.64	13291.63	18.97
22	Wardha	59859.59	1393.53	1437.36	21822.72	84513.20	80198.42	42162.18	3404.56	45566.79	3404.57	34631.62	56.82
23	Washim	42735.86	2823.67	68.85	12795.21	58423.59	55313.56	31144.78	2006.62	33151.47	2006.63	22162.09	59.93
24	Yawatmal	98127.02	2934.50	5793.56	18140.42	124995.50	118627.52	35679.35	7434.14	43113.46	7434.16	75593.53	36.34
vi)	**Odisha**												
1	Kalahandi	45664.16	9661.16	1926.11	8961.69	66213.12	61051.06	18949.10	5447.25	24396.35	5323.94	36133.95	39.96
2	Koraput	41774.15	3838.75	4155.74	5759.30	55527.94	50934.15	5955.63	4919.68	10875.31	4827.20	39576.03	21.35
3	Malkangiri	24241.28	3944.23	1152.11	4101.58	33439.20	30467.63	3048.64	1994.29	5042.93	2256.78	25162.18	16.55
4	Nabarangapur	50789.01	3054.23	3944.29	3960.07	61747.60	56844.77	15224.73	3893.63	19118.36	4141.86	37322.96	33.63
5	Nayagarh	22987.19	4543.21	5223.69	5964.22	38718.31	35898.01	10896.36	3227.58	14123.94	8151.34	21461.60	39.34
6	Rayagada	24634.67	3347.22	4565.28	2512.03	35059.20	32448.08	5993.67	3604.10	9597.77	3199.55	22582.72	29.58

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Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
vii)	**Telangana**												
1	Adilabad	23518.98	3093.24	1595.41	3008.09	31215.73	28094.16	11088.21	4859.77	15947.99	4766.07	12146.17	56.77
2	Bhadradri_Kot	62334.41	8660.38	8741.83	9210.29	88946.91	80735.92	21723.49	8427.93	30151.40	5763.23	51396.74	37.35
3	Jagtial	18814.03	10648.21	2086.34	17169.92	48718.50	44483.23	27245.34	999.14	28244.51	999.12	17134.13	63.49
4	Jangaon	15617.01	2436.31	2485.42	6366.56	26905.30	24214.78	18669.07	2588.93	21257.99	2221.54	3547.19	87.79
5	Jayashankar_B	19464.45	5269.97	1006.51	7536.70	33277.62	30187.49	14534.42	1252.11	15786.52	1252.11	14419.52	52.29
6	Kamareddy	29644.39	6944.78	3024.48	13237.20	52850.84	47682.74	29056.34	2050.97	31107.34	2050.98	16575.39	65.24
7	Karimnagar	16310.44	6876.03	2132.74	30542.62	55861.83	50275.65	24508.23	1738.93	26247.18	1647.14	24113.85	52.21
8	Khammam	32508.58	34933.54	6163.33	43130.66	116736.10	105085.81	37780.46	3808.27	41588.70	3768.67	64094.80	39.58
9	Komarambhem_A	35570.49	788.28	820.67	1435.92	38615.37	35528.67	6487.09	2067.00	8554.05	2067.01	26974.62	24.08
10	Mahabubabad	26150.10	7796.88	3512.20	14412.96	51872.14	46684.86	25102.86	2555.69	27658.57	1503.41	19034.24	59.25
11	Mancherial	52883.45	21950.84	446.72	17738.33	93019.33	85510.34	20541.33	6666.19	27207.52	6517.44	58302.82	31.82
12	Medak	19297.86	9570.17	2776.51	12415.69	44060.23	39717.19	25614.91	966.86	26581.77	825.70	13135.42	66.93
13	Medchal_Malka	6346.52	815.01	1348.63	1382.75	9892.91	8903.63	3438.78	2572.72	6011.52	1067.12	2892.11	67.52
14	Nirmal	28589.72	8178.28	2175.45	12910.32	51853.77	46766.52	18586.19	1840.86	20427.10	1840.84	26339.42	43.68
15	Nizamabad	39765.93	16014.93	3522.02	22496.68	81799.56	73619.60	51729.34	2139.06	53868.41	1944.54	20692.52	73.17
16	Peddapalli	15796.65	4444.77	1603.25	26518.36	48363.03	44460.63	18460.14	1561.77	20021.89	1561.77	24442.11	45.03
17	Rajanna_Sirci	14453.61	3610.11	2051.95	6229.01	26344.67	23710.18	25854.46	705.24	26559.70	569.71	2300.63	112.02
18	Rangareddy	26064.28	4038.11	6193.31	6043.43	42339.12	38105.15	24129.71	6637.94	30767.67	4936.10	7459.98	80.74
19	Sangareddy	21759.89	4089.32	4970.77	5671.63	36491.61	32915.86	20410.94	2472.41	22883.37	2171.20	10344.26	69.52
20	Siddipet	22936.68	9656.88	4317.55	16748.55	53659.65	48293.66	36649.84	1217.10	37866.96	969.28	10448.43	78.41
21	Vikarabad	21417.22	2075.60	3143.47	5520.89	32157.18	29112.82	16581.64	2801.77	19383.43	2768.12	9729.39	66.58
22	Warangal_Rura	19164.15	10249.42	2243.65	24970.10	56627.32	51087.75	19725.88	1725.61	21451.49	505.54	29481.87	41.99
23	Warangal_Urba	11101.28	3564.15	378.50	6195.92	21239.84	19142.81	15842.96	1172.60	17015.55	1172.60	4405.61	88.89
	Godavari basin Total	**3462178.73**	**736064.95**	**210290.22**	**1262525.22**	**5671037.12**	**5285909.02**	**2198379.09**	**267322.31**	**2465685.91**	**267490.03**	**2883768.77**	**46.65**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
V	**Krishna basin**												
i)	**Andhra Pradesh**												
1	Anantapur	84846.21	47161.42	1013.90	52467.51	185489.04	176214.31	112733.84	17548.92	130282.75	23268.20	78547.23	73.93
2	Guntur	49662.62	92208.88	1929.25	34149.45	177950.20	169052.60	41753.80	11249.24	53003.04	15899.09	119482.60	31.35
3	Krishna	40760.58	157301.43	16780.51	55709.77	270552.29	257024.38	62468.67	10215.78	72684.45	7912.62	186400.39	28.28
4	Kurnool	64814.59	86227.25	1373.14	30569.23	182984.21	173834.74	34098.12	1106.70	35204.81	933.39	141044.14	20.25
5	Prakasam	65051.91	17335.00	25796.39	25068.56	133251.86	126588.60	39039.80	2146.24	41186.04	10307.36	85908.04	32.54
ii)	**Telangana**												
1	Bhadradri_Kot	62334.41	8660.38	8741.83	9210.29	88946.91	80735.92	21723.49	8427.93	30151.40	5763.23	51396.74	37.35
2	Hyderabad	1392.04	3.49	333.39	3.49	1732.41	1559.17	0.00	1750.54	1750.54	2018.36	0.00	112.27
3	Jangaon	15617.01	2436.31	2485.42	6366.56	26905.30	24214.78	18669.07	2588.93	21257.99	2221.54	3547.19	87.79
4	Jayashankar_B	19464.45	5269.97	1006.51	7536.70	33277.62	30187.49	14534.42	1252.11	15786.52	1252.11	14419.52	52.29
5	Jogulamba_Gad	8659.81	15647.88	2057.02	9374.99	35739.70	32165.71	12738.71	579.85	13318.56	481.45	18847.15	41.41
6	Khammam	32508.58	34933.54	6163.33	43130.66	116736.10	105085.81	37780.46	3808.27	41588.70	3768.67	64094.80	39.58
7	Mahabubabad	26150.10	7796.88	3512.20	14412.96	51872.14	46684.86	25102.86	2555.69	27658.57	1503.41	19034.24	59.25
8	Mahabubnagar	12051.88	3822.94	2557.81	7203.39	25636.03	23225.58	17743.81	882.54	18626.34	850.54	4682.83	80.20
9	Medak	19297.86	9570.17	2776.51	12415.69	44060.23	39717.19	25614.91	966.86	26581.77	825.70	13135.42	66.93
10	Medchal_Malka	6346.52	815.01	1348.63	1382.75	9892.91	8903.63	3438.78	2572.72	6011.52	1067.12	2892.11	67.52
11	Nagarkurnool	27095.82	4968.34	7025.10	9041.39	48130.66	43317.57	24731.66	5130.31	29862.00	5003.19	13474.85	68.94
12	Nalgonda	36370.33	34403.22	8545.77	43366.36	122685.67	110502.11	47544.69	8138.87	55683.53	5542.72	55204.42	50.39
13	Rangareddy	26064.28	4038.11	6193.31	6043.43	42339.12	38105.15	24129.71	6637.94	30767.67	4936.10	7459.98	80.74
14	Sangareddy	21759.89	4089.32	4970.77	5671.63	36491.61	32915.86	20410.94	2472.41	22883.37	2171.20	10344.26	69.52
15	Siddipet	22936.68	9656.88	4317.55	16748.55	53659.65	48293.66	36649.84	1217.10	37866.96	969.28	10448.43	78.41
16	Suryapet	22902.26	53466.56	3509.49	54329.06	134207.37	120786.62	31331.39	2601.03	33932.44	2562.86	86913.23	28.09
17	Vikarabad	21417.22	2075.60	3143.47	5520.89	32157.18	29112.82	16581.64	2801.77	19383.43	2768.12	9729.39	66.58
18	Wanaparthy	8998.53	5048.28	10289.35	7168.27	31504.43	28409.53	11954.01	1306.33	13260.32	1306.33	15149.50	46.68
19	Warangal_Rura	19164.15	10249.42	2243.65	24970.10	56627.32	51087.75	19725.88	1725.61	21451.49	505.54	29481.87	41.99
20	Warangal_Urba	11101.28	3564.15	378.50	6195.92	21239.84	19142.81	15842.96	1172.60	17015.55	1172.60	4405.61	88.89
21	Yadadri_Bhong	19356.16	10514.91	4392.68	16506.29	50770.04	45778.54	25676.92	3819.94	29496.86	2795.81	16351.38	64.43

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Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
ii)	**Karnataka**												
1	Bagalkot	11256.28	23990.18	5180.34	17354.82	57781.62	52058.53	44546.20	3639.62	48185.81	3951.62	10148.48	92.56
2	Belagavi	35987.75	37053.45	9641.96	22906.21	105589.36	95761.75	60554.28	10641.69	71196.03	11510.24	31997.84	74.35
3	Bellary	28358.71	21609.76	14524.66	15676.57	80169.70	72245.56	39073.80	4348.48	43422.29	4745.15	32328.11	60.10
4	Bidar	17850.20	2710.99	3345.95	4799.20	28706.34	25883.10	12085.64	1020.59	13106.23	1103.80	12743.18	50.64
5	Chikkamagalur	44545.60	11262.29	10605.56	7401.10	73814.55	66800.14	29005.13	2433.69	31438.80	2536.88	37269.31	47.06
6	Chitradurga	20748.20	9938.17	11569.17	11209.87	53465.42	48118.88	47814.49	4358.18	52172.63	4721.16	6321.08	108.42
7	Dakshin Kanna	51614.42	3116.15	4081.54	3700.14	62512.26	56261.03	18006.33	3077.12	21083.45	3262.79	34991.90	37.47
8	Davangere	15417.44	13708.20	8161.47	24507.25	61794.35	56448.24	43499.13	2681.48	46180.61	2854.27	18362.85	81.81
9	Dharwad	14789.86	4529.45	5388.84	3942.03	28650.19	26094.88	12667.49	1517.53	14185.02	1622.57	11815.93	54.36
10	Gadag	9843.45	6903.38	4934.22	7870.45	29551.50	26596.35	21115.12	1997.33	23112.46	2127.01	5145.29	86.90
11	Hassan	24085.90	30482.39	10728.39	20321.81	85618.49	77328.75	43953.75	3740.60	47694.35	4018.81	35182.21	61.68
12	Haveri	19737.22	25156.04	7109.86	23180.26	75183.37	68655.15	34441.91	2947.80	37389.70	3169.49	31809.26	54.46
13	Kalburagi	35171.21	4441.39	8401.37	7729.27	55743.25	50168.94	17963.83	4376.94	22340.77	4803.35	28605.98	44.53
14	Koppal	14972.25	22132.01	6148.98	27078.34	70331.58	63387.06	33990.05	2255.50	36245.56	2494.42	28369.60	57.18
15	Raichur	15428.10	17738.87	6353.36	29083.09	68603.43	62007.85	26105.35	3727.50	29832.85	4519.87	31528.96	48.11
16	Shivamogga	69868.66	24405.68	6419.47	13129.97	113823.78	102485.08	30289.08	3828.08	34117.15	3979.11	68678.94	33.29
17	Tumakuru	26857.57	23149.55	19038.71	15588.37	84634.20	76452.40	63615.70	5531.75	69147.44	6012.41	18160.06	90.45
18	Udupi	59473.12	2552.62	3119.27	1993.41	67138.41	60424.58	10634.17	3758.48	14392.64	3955.31	45835.10	23.82
19	Uttar Kannada	72046.43	22886.25	1945.73	5055.18	101933.59	91840.70	19035.51	3398.44	22433.93	3602.85	69202.36	24.43
20	Vijayapura	22815.33	6609.37	9183.47	11391.29	49999.46	45372.04	25993.67	3733.51	29727.17	4053.22	16926.21	65.52
21	Yadgir	17110.74	11112.34	4424.08	12327.63	44974.78	40477.30	12661.68	2110.65	14772.34	2275.61	25540.12	36.50
iii)	**Maharashtra**												
23	Ahmednagar	85781.40	13325.98	14292.88	45925.63	159325.89	150868.83	114588.35	6196.74	120785.10	6196.76	41700.36	80.06
24	Beed	81181.38	8213.38	6240.27	32855.58	128490.61	122066.06	67812.03	4213.10	72025.13	4213.12	50040.93	59.01
25	Kolhapur	53249.23	8505.41	780.56	58343.85	120879.05	113655.18	52115.81	2058.48	54174.30	2058.48	59616.64	47.67
26	Latur	45440.55	6912.70	0.00	15902.77	68256.02	64833.65	33580.73	2142.34	35723.04	2142.33	29800.26	55.10
27	Osmanabad	61058.00	6445.35	2583.65	15716.20	85803.20	81476.51	48272.70	2315.87	50588.61	2315.85	31057.67	62.09
28	Pune	95870.06	19431.62	1192.62	67959.95	184454.25	174455.41	112066.91	8174.04	120240.89	8174.07	61716.72	68.92
29	Raigad	32261.27	408.29	0.00	5510.32	38179.88	36247.09	4352.55	2014.90	6367.45	2014.89	29879.64	17.57
30	Ratnagiri	38652.05	168.71	18.49	2150.25	40989.50	38697.85	5297.34	1291.81	6589.17	1291.81	32108.88	17.03
31	Sangli	52127.17	21434.34	128.40	65616.19	139306.10	130460.09	69295.18	3269.54	72564.74	3269.54	58785.85	55.62
32	Satara	53419.33	10543.20	3744.03	33927.78	101634.34	95840.64	58292.50	4849.88	63142.47	4849.90	32698.15	65.88
33	Sindhudurg	20638.77	186.03	3.83	2156.58	22985.21	21829.79	7087.53	2215.11	9302.65	2215.11	12527.14	42.61
34	Solapur	91229.03	10919.78	2954.03	40102.16	145205.00	137910.54	102924.75	4865.73	107790.48	4865.73	37137.73	78.16
35	Thane	14840.38	285.66	0.00	2228.47	17354.51	16402.91	2397.66	713.64	3111.28	713.64	13291.63	18.97
	Krishna basin Total	**2099855.23**	**1063538.31**	**325135.63**	**1179211.86**	**4667730.03**	**4312268.06**	**2067165.73**	**224132.35**	**2291290.21**	**233459.73**	**2153732.71**	**53.13**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
VI	**Cauvery basin**												
i)	**Karnataka**												
1	Bangalore Rur	6678.59	4177.63	4317.25	5173.38	20346.86	18331.37	23679.34	1503.34	25182.69	1708.06	109.46	137.37
2	Bangalore Urb	4817.08	3762.47	3937.49	5107.21	17624.25	15861.82	20573.93	1419.28	21993.21	1660.57	0.00	138.66
3	Chamrajnagara	16245.80	7688.50	7032.93	5690.75	36657.98	32992.17	30401.86	3105.32	33507.16	3905.17	2477.15	101.56
4	Chikballapur	11565.99	12485.10	7245.30	9873.16	41169.55	37052.61	50780.88	3078.11	53858.98	3380.96	931.09	145.36
5	Chikkamagalur	44545.60	11262.29	10605.56	7401.10	73814.55	66800.14	29005.13	2433.69	31438.80	2536.88	37269.31	47.06
6	Hassan	24085.90	30482.39	10728.39	20321.81	85618.49	77328.75	43953.75	3740.60	47694.35	4018.81	35182.21	61.68
7	Kodagu	27102.50	2810.88	6400.96	3444.82	39759.15	36045.56	9372.64	1734.50	11107.16	2392.38	24280.51	30.81
8	Mandya	12116.68	55729.72	6092.46	19805.89	93744.75	84370.27	44055.10	3744.99	47800.11	4217.59	37439.51	56.66
9	Mysuru	21992.93	31220.70	13928.22	13011.44	80153.28	72545.50	27001.56	6700.80	33702.36	9683.36	38007.46	46.46
10	Ramanagaram	8306.39	13709.41	6134.98	13576.43	41727.21	37554.48	31960.88	2000.57	33961.45	2758.20	3863.31	90.43
11	Tumakuru	26857.57	23149.55	19038.71	15588.37	84634.20	76452.40	63615.70	5531.75	69147.44	6012.41	18160.06	90.45
ii)	**Kerala**												
1	Errnakulam	35404.58	1271.91	7302.58	6966.54	50945.61	45959.59	8167.69	13552.72	21720.40	19145.59	18460.87	47.26
2	Idukki	17995.40	311.20	811.68	1856.03	20974.31	18876.90	6063.04	4371.73	10434.78	4358.70	8442.12	55.28
3	Kannur	38455.10	873.35	1818.66	3842.01	44989.12	40637.97	8397.78	10538.31	18936.12	14256.60	18166.93	46.60
4	Kozhikkode	31186.83	398.96	1565.21	1437.35	34588.35	31129.50	4869.73	12890.84	17760.58	20961.63	7816.17	57.05
5	Malappuram	39631.09	886.06	4369.05	7689.59	52575.79	47596.71	9535.32	22746.60	32281.95	60165.36	15314.76	67.82
6	Palakkad	35607.81	3975.43	699.16	24617.72	64900.12	58410.11	18631.94	14504.68	33136.60	22761.33	19365.50	56.73
7	Wayanad	23266.23	442.26	0.00	686.28	24394.77	21955.28	1363.15	3943.71	5306.85	5047.47	15386.27	24.17
iii)	**Puducherry**												
1	Karaikal	1542.26	3936.85	20.98	1481.15	6981.24	6283.12	786.98	545.71	1332.69	973.37	4895.12	21.21
iv)	**Tamilnadu**												
1	Ariyalur	18394.24	18888.59	2555.34	1710.97	41549.14	37677.56	14318.00	972.91	15290.90	1052.41	22307.16	40.58
2	Coimbatore	19884.52	16371.35	3032.65	9362.26	48650.78	43907.51	44737.00	4898.55	49635.60	4796.26	4130.24	113.05
3	Cuddalore	16047.48	47709.53	7604.28	14833.81	86195.10	77679.42	57970.79	8731.22	66702.03	7885.93	21388.14	85.87
4	Dharmapuri	17992.27	10404.79	2685.36	9539.28	40621.70	36707.51	40988.15	3196.64	44184.81	8615.42	2652.30	120.37
5	Dindigul	16954.55	25490.31	1900.40	10364.91	54710.17	49239.10	57604.36	3898.04	61502.41	3951.82	9021.46	124.91
6	Erode	14780.37	37362.81	3635.10	9925.64	65703.92	59465.96	57899.30	6582.53	64481.82	18345.24	3904.35	108.43
7	Karur	11455.44	13675.39	2623.56	2541.53	30295.92	27313.74	27672.86	1223.27	28896.11	1087.61	4500.80	105.79
8	Krishnagiri	17565.97	17462.09	2748.45	7766.40	45542.91	41142.19	39233.20	5060.00	44293.19	9836.46	4458.84	107.66
9	Madurai	23069.49	29627.51	3160.92	11487.47	67345.39	60795.13	37692.26	4393.31	42085.52	3534.46	22609.98	69.23
10	Nagapattinam	7004.73	4598.75	174.21	300.19	12077.88	10870.09	14322.99	960.80	15283.78	1566.86	622.93	140.60
11	Namakkal	20489.02	14612.50	4640.01	3113.56	42855.09	38569.53	50663.88	1608.35	52272.21	1661.17	7293.50	135.53
12	Perambalur	9486.75	10711.09	715.74	2959.35	23872.93	21485.62	24733.40	657.75	25391.14	711.52	5786.71	118.18
13	Pudukkottai	36670.97	60538.64	4434.57	4967.63	106611.81	96141.95	43627.36	1739.91	45367.30	1882.08	50661.05	47.19
14	Salem	19063.63	23103.66	1706.95	7480.34	51354.58	46241.57	65802.06	4921.58	70723.54	13277.35	10870.52	152.94
15	Thanjavur	44861.47	31650.81	7628.47	6514.66	90655.41	81680.12	83201.68	2950.40	86152.07	2921.66	21368.43	105.47
16	The Nilgiris	8018.46	357.54	1279.14	155.86	9811.00	8829.91	595.00	1045.59	1640.57	1835.92	6547.16	18.58
17	Theni	6744.92	21722.00	5589.77	4343.88	38400.57	34560.51	24893.49	1282.86	26176.34	1270.84	8821.63	75.74
18	Thiruvarur	7655.24	17694.98	389.91	1499.12	27239.25	24515.31	20228.15	2005.66	22233.84	3507.92	5581.81	90.69
19	Tiruchirappalli	19657.35	44195.08	2586.98	7536.49	73975.90	66780.85	52797.68	5152.71	57950.38	8217.82	21738.93	86.78
20	Tiruppur	16871.93	25789.27	3973.39	10052.02	56686.61	51296.45	52856.94	3131.53	55988.43	3106.37	3489.51	109.15
	Cauvery basin Total	**780073.11**	**680541.35**	**175114.78**	**294026.41**	**1929755.65**	**1741084.27**	**1244054.93**	**182500.84**	**1426555.67**	**289009.55**	**543323.25**	**81.93**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
VII	**Pennar Basin**												
i)	**Andhra Pradesh**												
1	Anantapur	84846.21	47161.42	1013.90	52467.51	185489.04	176214.31	112733.84	17548.92	130282.75	23268.20	78547.23	73.93
2	Chittoor	92719.43	23818.96	836.85	20578.98	137954.22	131056.07	69902.33	8829.89	78732.21	10061.78	53480.07	60.08
3	Kadapa	83309.3	14929.77	558.32	16914.16	115711.55	109925.89	54137.88	4689.49	58827.38	4305.30	64789.06	53.52
4	Kurnool	64814.59	86227.25	1373.14	30569.23	182984.21	173834.74	34098.12	1106.70	35204.81	933.39	141044.14	20.25
5	Nellore	120711.61	71498.40	69.41	123348.82	315628.24	299846.58	92776.89	6569.86	99346.75	8782.27	202391.99	33.13
6	Prakasam	65051.91	17335.00	25796.39	25068.56	133251.86	126588.60	39039.80	2146.24	41186.04	10307.36	85908.04	32.54
ii)	**Karnataka**												
1	BANGALORE RUR	6678.59	4177.63	4317.25	5173.38	20346.86	18331.37	23679.34	1503.34	25182.69	1708.06	109.46	137.37
2	CHIKBALLAPUR	11565.99	12485.10	7245.30	9873.16	41169.55	37052.61	50780.88	3078.11	53858.98	3380.96	931.09	145.36
3	KOLAR	10502.16	11008.43	7377.30	15513.88	44401.77	39961.58	75370.21	4537.68	79907.88	4951.10	0.00	199.96
4	TUMAKURU	26857.57	23149.55	19038.71	15588.37	84634.20	76452.40	63615.70	5531.75	69147.44	6012.41	18160.06	90.45
	Pennar Basin Total	**567057.36**	**311791.52**	**67626.57**	**315096.05**	**1261571.50**	**1189264.14**	**616134.99**	**55541.96**	**671676.93**	**73710.82**	**645361.14**	**56.48**
VIII_a	**East flowing rivers between Mahanadi and Godavari Basin**												
i)	**Andhra Pradesh**												
1	East Godavari	68320.35	124541.66	3290.44	66276.63	262429.08	249307.32	39158.73	8767.96	47926.69	4780.25	203246.60	19.22
2	Srikakulam	31990.92	51597.08	21640.31	22968.03	128196.34	121786.08	19558.03	9202.18	28760.21	16816.98	92526.57	23.62
3	Visakhapatnam	67943.86	20499.99	5851.03	4612.84	98907.72	93961.54	9179.49	16401.58	25581.07	16655.83	69745.23	27.23
4	Vizianagaram	54765.17	91315.38	5535.51	74019.61	225635.67	214353.03	40775.74	1946.54	42722.28	5440.50	170335.18	19.93
ii)	**Odisha**												
1	Gajapati	12910.09	1889.41	4946.34	2166.60	21912.44	19861.31	4875.80	1780.81	6656.61	1771.04	13105.11	33.52
2	Ganjam	44501.12	26289.62	17236.11	13517.82	101544.67	92962.30	23498.20	12266.48	35764.68	12346.97	55910.43	38.47
3	Kalahandi	45664.16	9661.16	1926.11	8961.69	66213.12	61051.06	18949.10	5447.25	24396.35	5323.94	36133.95	39.96
4	Kandhamal	26251.55	2122.44	4436.16	2900.30	35710.45	32840.72	7005.32	2401.27	9406.59	2396.49	23281.50	28.64
5	Khurda	23748.04	7792.40	6000.27	8986.86	46527.57	42781.81	15789.85	8655.94	24445.79	7983.59	18183.64	57.14
6	Koraput	41774.15	3838.75	4155.74	5759.30	55527.94	50934.15	5955.63	4919.68	10875.31	4827.20	39576.03	21.35
7	Nayagarh	22987.19	4543.21	5223.69	5964.22	38718.31	35898.01	10896.36	3227.58	14123.94	8151.34	21461.60	39.34
8	Rayagada	24634.67	3347.22	4565.28	2512.03	35059.20	32448.08	5993.67	3604.10	9597.77	3199.55	22582.72	29.58
9	Sundargarh	69611.97	7402.83	2479.81	6182.00	85676.61	79304.61	21873.00	8082.98	29955.98	6671.02	48635.51	37.77
	East flowing rivers between Mahanadi and Godavari Basin Total	**535103.24**	**354841.15**	**87286.80**	**224827.93**	**1202059.12**	**1127490.02**	**223508.92**	**86704.33**	**310213.25**	**96364.70**	**814724.07**	**27.51**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
VIII_b	**East flowing rivers between Godavari and Krishna Basin**												
i)	**Andhra Pradesh**												
1	Krishna	40760.58	157301.43	16780.51	55709.77	270552.29	257024.38	62468.67	10215.78	72684.45	7912.62	186400.39	28.28
2	West Godavari	68260.83	55634.73	131.13	56393.35	180420.04	171402.63	43944.04	4837.26	48781.30	6494.29	123262.98	28.46
ii)	**Telangana**												
1	Bhadradri_Kot	62334.41	8660.38	8741.83	9210.29	88946.91	80735.92	21723.49	8427.93	30151.40	5763.23	51396.74	37.35
2	Khammam	32508.58	34933.54	6163.33	43130.66	116736.10	105085.81	37780.46	3808.27	41588.70	3768.67	64094.80	39.58
	East flowing rivers between Godavari and Krishna Basin Total	**203864.40**	**256530.07**	**31816.80**	**164444.06**	**656655.34**	**614248.74**	**165916.65**	**27289.25**	**193205.86**	**23938.80**	**425154.91**	**31.45**
VIII_c	**East flowing rivers between Krishna and Pennar Basin**												
i)	**Andhra Pradesh**												
1	Guntur	49662.62	92208.88	1929.25	34149.45	177950.20	169052.60	41753.80	11249.24	53003.04	15899.09	119482.60	31.35
2	Kadapa	83309.30	14929.77	558.32	16914.16	115711.55	109925.89	54137.88	4689.49	58827.38	4305.30	64789.06	53.52
3	Kurnool	64814.59	86227.25	1373.14	30569.23	182984.21	173834.74	34098.12	1106.70	35204.81	933.39	141044.14	20.25
4	Nellore	120711.61	71498.40	69.41	123348.82	315628.24	299846.58	92776.89	6569.86	99346.75	8782.27	202391.99	33.13
5	Prakasam	65051.91	17335.00	25796.39	25068.56	133251.86	126588.60	39039.80	2146.24	41186.04	10307.36	85908.04	32.54
	East flowing rivers between Krishna and Pennar Basin Total	**383550.03**	**282199.30**	**29726.51**	**230050.22**	**925526.06**	**879248.41**	**261806.49**	**25761.52**	**287568.01**	**40227.41**	**613615.83**	**32.71**
Source: Central Ground Water Board, Faridabad													

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
IX_a	**East flowing rivers between Pennar and Cauvery Basin**												
i)	**Andhra Pradesh**												
1	Chittoor	92719.43	23818.96	836.85	20578.98	137954.22	131056.07	69902.33	8829.89	78732.21	10061.78	53480.07	60.08
2	Kadapa	83309.30	14929.77	558.32	16914.16	115711.55	109925.89	54137.88	4689.49	58827.38	4305.30	64789.06	53.52
3	Nellore	120711.61	71498.40	69.41	123348.82	315628.24	299846.58	92776.89	6569.86	99346.75	8782.27	202391.99	33.13
ii)	**Karnataka**												
1	Bangalore Rur	6678.59	4177.63	4317.25	5173.38	20346.86	18331.37	23679.34	1503.34	25182.69	1708.06	109.46	137.37
2	Bangalore Urb	4817.08	3762.47	3937.49	5107.21	17624.25	15861.82	20573.93	1419.28	21993.21	1660.57	0.00	138.66
3	Chikballapur	11565.99	12485.10	7245.30	9873.16	41169.55	37052.61	50780.88	3078.11	53858.98	3380.96	931.09	145.36
4	Kolar	10502.16	11008.43	7377.30	15513.88	44401.77	39961.58	75370.21	4537.68	79907.88	4951.10	0.00	199.96
iii)	**Puducherry**												
1	Puducherry	4270.18	6135.05	1445.95	3280.02	15131.20	13618.08	8983.50	4472.92	13456.42	4338.92	161.67	98.81
iv)	**Tamilnadu**												
1	Ariyalur	18394.24	18888.59	2555.34	1710.97	41549.14	37677.56	14318.00	972.91	15290.90	1052.41	22307.16	40.58
2	Cuddalore	16047.48	47709.53	7604.28	14833.81	86195.10	77679.42	57970.79	8731.22	66702.03	7885.93	21388.14	85.87
3	Dharmapuri	17992.27	10404.79	2685.36	9539.28	40621.70	36707.51	40988.15	3196.64	44184.81	8615.42	2652.30	120.37
4	Krishnagiri	17565.97	17462.09	2748.45	7766.40	45542.91	41142.19	39233.20	5060.00	44293.19	9836.46	4458.84	107.66
5	Namakkal	20489.02	14612.50	4640.01	3113.56	42855.09	38569.53	50663.88	1608.35	52272.21	1661.17	7293.50	135.53
6	Perambalur	9486.75	10711.09	715.74	2959.35	23872.93	21485.62	24733.40	657.75	25391.14	711.52	5786.71	118.18
7	Salem	19063.63	23103.66	1706.95	7480.34	51354.58	46241.57	65802.06	4921.58	70723.54	13277.35	10870.52	152.94
8	Tiruchirappalli	19657.35	44195.08	2586.98	7536.49	73975.90	66780.85	52797.68	5152.71	57950.38	8217.82	21738.93	86.78
9	Kancheepuram	16254.98	22915.01	29.60	6639.50	45839.09	41700.19	21698.52	2041.01	23739.53	924.41	18370.94	56.93
10	Vellore	6396.47	9315.73	1131.55	4561.48	21405.23	19264.68	21968.21	3193.84	25162.05	5770.45	1443.77	130.61
11	Tiruvannamalai	31800.51	48568.90	4079.28	32127.84	116576.53	106492.06	103985.34	3548.61	107533.93	5858.15	6884.97	100.98
12	Thiruvallur	52490.70	29458.56	52.79	6593.62	88595.67	80350.76	43350.32	8188.40	51538.74	6511.82	28590.15	64.14
13	Viluppuram	24904.61	35320.61	17673.62	20576.76	98475.60	88628.04	88617.45	3040.49	91657.98	3191.60	7901.29	103.42
14	Chennai	4276.33	558.10	216.29	185.95	5236.67	4717.75	241.05	6515.70	6756.72	4633.31	572.90	143.22
15	Pondicherry												
	East flowing rivers between Pennar and Cauvery Basin Total	**609394.65**	**481040.05**	**74214.11**	**325414.97**	**1490063.78**	**1373091.73**	**1022573.01**	**91929.78**	**1114502.65**	**117336.77**	**482123.46**	**81.17**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
IX_b	**East flowing rivers South of Cauvery Basin**												
i)	**Kerala**												
1	Idukki	17995.40	311.20	811.68	1856.03	20974.31	18876.90	6063.04	4371.73	10434.78	4358.70	8442.12	55.28
2	Kollam	27361.75	827.06	6564.38	2771.53	37524.72	34006.61	5106.65	11435.56	16542.20	12609.60	16271.49	48.64
3	Pathanamthitta	18372.86	493.55	5571.76	1939.61	26377.78	24132.21	3868.74	4681.98	8550.69	4681.94	15581.52	35.43
4	Thiruvananthapuram	21075.45	570.29	5623.81	2734.43	30003.98	27285.58	5291.15	11916.41	17207.51	13586.05	8402.06	63.06
ii)	**Tamilnadu**												
1	Dindigul	16954.55	25490.31	1900.40	10364.91	54710.17	49239.10	57604.36	3898.04	61502.41	3951.82	9021.46	124.91
2	Kanniyakumari	6280.63	15764.92	1944.60	4196.64	28186.79	25439.53	3961.60	1064.81	5026.37	913.87	20955.83	19.76
3	Madurai	23069.49	29627.51	3160.92	11487.47	67345.39	60795.13	37692.26	4393.31	42085.52	3534.46	22609.98	69.23
4	Pudukkottai	36670.97	60538.64	4434.57	4967.63	106611.81	96141.95	43627.36	1739.91	45367.30	1882.08	50661.05	47.19
5	Ramanathapuram	25925.73	40116.62	4366.17	7150.55	77559.07	69888.07	5938.64	1405.08	7343.72	1892.69	62457.12	10.51
6	Sivaganga	29475.64	32179.39	2800.34	1049.57	65504.94	59051.87	12751.48	2532.30	15283.77	6851.96	39448.48	25.88
7	Thanjavur	44861.47	31650.81	7628.47	6514.66	90655.41	81680.12	83201.68	2950.40	86152.07	2921.66	21368.43	105.47
8	Theni	6744.92	21722.00	5589.77	4343.88	38400.57	34560.51	24893.49	1282.86	26176.34	1270.84	8821.63	75.74
9	Thoothukkudi	19749.66	24603.43	3091.47	5797.82	53242.38	48172.91	20101.70	1580.66	21682.34	1506.32	28441.22	45.01
10	Tiruchirappalli	19657.35	44195.08	2586.98	7536.49	73975.90	66780.85	52797.68	5152.71	57950.38	8217.82	21738.93	86.78
11	Tirunelveli	27076.53	30639.94	4025.75	4829.67	66571.89	60140.03	27698.90	1033.00	28731.92	1062.47	33791.57	47.78
12	Virudhunagar	16675.69	30205.60	5319.35	9893.72	62094.36	55926.65	31051.16	3811.32	34862.47	1924.03	22984.27	62.34
	East flowing rivers South of Cauvery Basin Total	**357948.09**	**388936.35**	**65420.42**	**87434.61**	**899739.47**	**812118.02**	**421649.90**	**63250.08**	**484899.79**	**71166.31**	**390997.16**	**59.71**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
X	**Narmada basin**												
i)	**Chhattisgarh**												
1	Bilaspur	34315.47	7342.63	5598.09	6552.12	53808.31	49736.63	16945.33	6691.12	23636.42	7853.65	24379.34	47.52
2	Kawardha	33869.41	4757.42	4887.42	9579.41	53093.66	48945.39	33365.73	2354.49	35720.21	2837.22	18491.07	72.98
3	Mungeli	8983.52	2914.08	994.82	2952.81	15845.23	14260.69	6558.95	1729.45	8288.42	2236.98	5448.97	58.12
4	Rajnandgaon	44692.98	12282.17	5372.56	19407.99	81755.70	75019.23	42951.79	4659.91	47611.72	6010.03	27294.18	63.47
ii)	**GUJARAT**												
1	Bharuch	63366.21	8169.95	0.00	14870.59	86406.75	77766.09	15379.40	1120.51	16499.90	2032.73	61181.43	21.22
2	Chhota udepur	39945.22	4761.27	0.00	9485.09	54191.58	49296.60	18634.60	1727.58	20362.17	1874.63	28787.38	41.31
3	Dahod	34200.85	6586.17	0.00	10931.19	51718.21	47233.87	8267.30	4576.15	12843.44	5471.59	33494.97	27.19
4	Narmada	26666.89	4834.60	0.00	8077.01	39578.50	36570.29	18038.40	463.77	18502.16	504.74	18026.91	50.59
5	Panchmahal	22217.36	10692.81	0.00	14646.81	47556.98	43355.78	9404.60	1802.90	11207.50	1969.38	31954.49	25.85
6	Surat	82120.97	10669.35	0.00	27662.98	120453.30	111037.35	29018.00	3377.62	32395.62	6773.66	77637.64	29.18
7	Vadodara	64018.71	10055.28	0.00	31613.19	105687.18	97843.85	54911.90	2577.34	57489.24	2365.37	40314.12	58.76
iii)	**MADHYA PRADESH**												
1	Alirajpur	19981.86	1058.60	0.00	2063.07	23103.53	21327.31	6306.57	2189.07	8495.65	2548.66	12472.07	39.83
2	Anuppur	36011.33	319.95	2853.65	1245.99	40430.92	37734.99	6038.97	1512.23	7551.20	1623.03	30072.99	20.01
3	Balaghat	81686.50	1957.93	290.51	2791.18	86726.12	78053.48	12464.29	3597.17	16061.44	3889.78	61699.41	20.58
4	Barwani	34944.34	3415.72	0.00	18550.63	56910.69	51745.54	33147.22	3491.24	36638.47	3939.54	19221.59	70.81
5	Betul	102040.17	3612.40	0.00	16046.71	121699.28	113477.81	46816.25	3753.32	50569.58	4105.82	62555.74	44.56
6	Bhopal	30342.01	2622.81	0.00	6942.84	39907.66	36865.29	23436.86	3579.55	27016.42	4087.34	9341.08	73.28
7	Burhanpur	30054.26	2541.78	264.63	7412.93	40273.60	37343.92	22112.22	1469.58	23581.82	1665.18	13566.50	63.15
8	Chhindwara	87803.07	3866.38	600.33	12436.85	104706.63	98786.94	53283.55	5792.71	59076.21	6149.52	39353.93	59.80
9	Damoh	31619.92	2050.39	0.00	9173.22	42843.53	39298.28	19443.36	2988.54	22431.87	3295.52	16559.44	57.08
10	Dewas	66496.05	4935.92	0.00	15466.15	86898.12	80802.06	60554.71	4130.05	64684.74	4579.59	16963.50	80.05
11	Dhar	84490.43	7124.47	0.00	22699.40	114314.30	104913.07	77390.91	5739.37	83130.27	6648.40	32426.91	79.24
12	Dindori	40499.20	141.01	301.21	500.43	41441.85	38837.01	2377.60	1754.34	4131.95	1986.42	34472.98	10.64
13	Harda	33125.19	2883.56	0.00	15865.43	51874.18	46686.75	14704.63	1183.32	15887.95	1330.85	30651.27	34.03
14	Hoshangabad	129279.31	11449.30	0.00	66364.78	207093.39	195019.19	39144.71	2168.49	41313.17	2355.80	153518.70	21.18
15	Indore	37119.30	7338.55	0.00	15632.80	60090.65	54614.14	59179.95	9617.48	68797.42	10002.61	2539.19	125.97
16	Jabalpur	51628.17	3265.54	0.00	8922.50	63816.21	58997.21	25507.40	3543.15	29050.55	3956.94	29689.42	49.24
17	Jhabua	21206.45	1494.72	0.00	5236.23	27937.40	26233.84	10246.94	2993.56	13240.51	3548.42	12438.46	50.47
18	Katni	33856.39	1363.44	0.00	4594.03	39813.86	36677.26	13378.93	2624.73	16003.69	2973.79	20324.50	43.63
19	Khandwa	56167.03	4407.81	0.00	37510.11	98084.95	90037.02	40020.29	2927.40	42947.69	3243.92	46726.88	47.70
20	Khargone	63404.27	5658.22	0.00	44762.52	113825.01	105961.41	41433.83	4293.50	45727.33	4743.84	59783.75	43.15
21	Mandla	56699.37	871.29	1095.53	4003.84	62670.03	59244.15	6908.22	2425.78	9334.00	2690.49	49645.45	15.76
22	Narsinghpur	102628.63	3571.16	0.00	15637.83	121837.62	113541.26	70217.32	2263.17	72480.48	2452.96	40870.98	63.84
23	Raisen	76289.29	3279.07	0.00	9587.61	89155.97	81949.21	39617.81	3877.11	43494.90	3646.89	38034.53	53.08
24	Sagar	91071.07	3614.96	0.00	14072.96	108758.99	99930.26	56586.75	3645.88	60232.63	4089.76	39253.76	60.27
25	Sehore	54332.97	3470.08	0.00	11992.90	69795.95	65187.81	38035.12	2365.60	40400.72	2605.78	24992.51	61.98
26	Seoni	62350.77	1951.24	2242.88	5957.79	72502.68	68249.83	22485.01	3136.80	25621.81	3485.41	42279.41	37.54
27	Umaria	42947.39	559.13	811.73	1768.10	46086.35	41477.73	8591.38	1480.99	10072.37	1714.96	31171.39	24.28
iv)	**Maharashtra**												
1	Dhule	44433.42	7230.56	0.00	20749.03	72413.01	68266.89	34082.66	1758.06	35840.72	1754.80	32426.16	52.50
2	Nandurbar	39438.28	2689.61	0.00	8861.48	50989.36	47844.30	17367.55	3065.27	20432.82	3065.28	27492.62	42.71
	Narmada basin Total	**2096344.03**	**181811.33**	**25313.36**	**562628.53**	**2866097.24**	**2650169.73**	**1154357.01**	**124448.30**	**1278805.18**	**142111.28**	**1397555.62**	**48.25**

Source: Central Ground Water Board, Faridabad

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1	2	3	4	5	6	7	8	9	10	11	12	13	14
XI	**Tapi Basin**												
i)	**Gujrat**												
1	Bharuch	63366.21	8169.95	0.00	14870.59	86406.75	77766.09	15379.40	1120.51	16499.90	2032.73	61181.43	21.22
2	Dang	30173.22	848.43	0.00	925.07	31946.72	28752.05	1715.70	513.88	2229.59	512.56	26462.30	7.75
3	Narmada	26666.89	4834.60	0.00	8077.01	39578.50	36570.29	18038.40	463.77	18502.16	504.74	18026.91	50.59
4	Surat	82120.97	10669.35	0.00	27662.98	120453.30	111037.35	29018.00	3377.62	32395.62	6773.66	77637.64	29.18
5	Tapi	49529.02	3679.08	0.00	10132.92	63341.02	58213.18	18137.80	500.65	18638.45	536.42	39538.96	32.02
ii)	**Madhya Pradesh**												
1	Barwani	34944.34	3415.72	0.00	18550.63	56910.69	51745.54	33147.22	3491.24	36638.47	3939.54	19221.59	70.81
2	Betul	102040.17	3612.40	0.00	16046.71	121699.28	113477.81	46816.25	3753.32	50569.58	4105.82	62555.74	44.56
3	Burhanpur	30054.26	2541.78	264.63	7412.93	40273.60	37343.92	22112.22	1469.58	23581.82	1665.18	13566.50	63.15
4	Harda	33125.19	2883.56	0.00	15865.43	51874.18	46686.75	14704.63	1183.32	15887.95	1330.85	30651.27	34.03
5	Khandwa	56167.03	4407.81	0.00	37510.11	98084.95	90037.02	40020.29	2927.40	42947.69	3243.92	46726.88	47.70
6	Khargone	63404.27	5658.22	0.00	44762.52	113825.01	105961.41	41433.83	4293.50	45727.33	4743.84	59783.75	43.15
iii)	**Maharashtra**												
1	Akola	27826.59	1472.64	205.97	8668.31	38173.52	35610.17	21512.89	2247.83	23760.73	2247.87	11901.01	66.72
2	Amravati	53662.13	4699.59	1301.78	26837.03	86500.54	80378.67	70883.48	4354.80	75238.41	4354.79	18151.28	93.60
3	Aurangabad	67424.51	7120.07	334.37	31424.64	106303.59	100810.87	69352.38	3462.54	72814.94	3462.48	27995.96	72.23
4	Buldhana	64511.58	5233.41	263.73	21719.68	91728.41	86593.38	65197.36	3254.40	68451.82	3254.42	21164.53	79.05
5	Dhule	44433.42	7230.56	0.00	20749.03	72413.01	68266.89	34082.66	1758.06	35840.72	1754.80	32426.16	52.50
6	Jalgaon	89195.64	6694.80	574.12	46104.57	142569.13	135264.78	101162.32	4887.81	106050.10	4887.79	35647.21	78.40
7	Jalna	57765.54	2918.66	115.46	22359.31	83158.97	78593.55	41634.48	1397.04	43031.55	1397.01	35561.99	54.75
8	Nandurbar	39438.28	2689.61	0.00	8861.48	50989.36	47844.30	17367.55	3065.27	20432.82	3065.28	27492.62	42.71
9	Nashik	133969.12	13444.75	0.00	48110.20	195524.07	184991.41	104572.27	3593.64	108165.87	3593.61	84044.51	58.47
10	Washim	42735.86	2823.67	68.85	12795.21	58423.59	55313.56	31144.78	2006.62	33151.47	2006.63	22162.09	59.93
	Tapi Basin Total	**1192554.24**	**105048.66**	**3128.91**	**449446.37**	**1750178.19**	**1631258.99**	**837433.91**	**53122.79**	**890556.99**	**59413.94**	**771900.34**	**54.59**

Source: Central Ground Water Board, Faridabad

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1	2	3	4	5	6	7	8	9	10	11	12	13	14
XII&XIII	**West flowing rivers South of Tapi Basin**												
i)	**Dadra Nagar Haveli**												
1	Dadra Nagar Haveli	4306.48	661.77	329.73	1948.30	7246.26	6752.05	888.62	2217.18	3105.80	1798.23	3416.16	45.99
ii)	**Daman_Diu**												
1	Daman	**2551.89**	**35.50**	**0.00**	**67.92**	**2655.31**	**2522.54**	**215.10**	**2867.00**	**3082.10**	**1412.67**	**0.00**	**122.18**
iii)	**Goa**												
1	Goa North	14682.01	1334.62	53.52	2591.74	18661.89	14929.51	1419.93	2130.23	3550.18	2264.61	11193.32	23.78
2	Goa South												
3	South Goa	19460.60	619.65	287.17	1182.76	21550.18	17240.15	1005.21	2999.35	4004.57	2904.18	12997.01	23.23
iv)	**Gujarat**												
1	Dang	30173.22	848.43	0.00	925.07	31946.72	28752.05	1715.70	513.88	2229.59	512.56	26462.30	7.75
2	Navsari	52834.87	4380.70	0.00	10687.48	67903.05	62401.36	19155.60	2361.40	21517.00	2504.91	40772.34	34.48
3	Surat	82120.97	10669.35	0.00	27662.98	120453.30	111037.35	29018.00	3377.62	32395.62	6773.66	77637.64	29.18
4	Tapi	49529.02	3679.08	0.00	10132.92	63341.02	58213.18	18137.80	500.65	18638.45	536.42	39538.96	32.02
5	Valsad	56234.07	3148.99	0.00	7465.02	66848.08	60801.57	13344.80	5274.32	18619.10	5914.90	41513.84	30.62
v)	**Karnataka**												
1	Belagavi	35987.75	37053.45	9641.96	22906.21	105589.36	95761.75	60554.28	10641.69	71196.03	11510.24	31997.84	74.35
2	Chikkamagalur	44545.60	11262.29	10605.56	7401.10	73814.55	66800.14	29005.13	2433.69	31438.80	2536.88	37269.31	47.06
3	Dakshin Kanna	51614.42	3116.15	4081.54	3700.14	62512.26	56261.03	18006.33	3077.12	21083.45	3262.79	34991.90	37.47
4	Dharwad	14789.86	4529.45	5388.84	3942.03	28650.19	26094.88	12667.49	1517.53	14185.02	1622.57	11815.93	54.36
5	Hassan	24085.90	30482.39	10728.39	20321.81	85618.49	77328.75	43953.75	3740.60	47694.35	4018.81	35182.21	61.68
6	Haveri	19737.22	25156.04	7109.86	23180.26	75183.37	68655.15	34441.91	2947.80	37389.70	3169.49	31809.26	54.46
7	Kodagu	27102.50	2810.88	6400.96	3444.82	39759.15	36045.56	9372.64	1734.50	11107.16	2392.38	24280.51	30.81
8	Shivamogga	69868.66	24405.68	6419.47	13129.97	113823.78	102485.08	30289.08	3828.08	34117.15	3979.11	68678.94	33.29
9	Udupi	59473.12	2552.62	3119.27	1993.41	67138.41	60424.58	10634.17	3758.48	14392.64	3955.31	45835.10	23.82
10	Uttar Kannada	72046.43	22886.25	1945.73	5055.18	101933.59	91840.70	19035.51	3398.44	22433.93	3602.85	69202.36	24.43
vi)	**Kerala**												
1	Alappuzha	30068.77	428.56	4450.93	6803.64	41751.90	38741.68	3850.09	9972.35	13822.51	10069.86	24560.69	35.68
2	Errnakulam	35404.58	1271.91	7302.58	6966.54	50945.61	45959.59	8167.69	13552.72	21720.40	19145.59	18460.87	47.26
3	Idukki	17995.40	311.20	811.68	1856.03	20974.31	18876.90	6063.04	4371.73	10434.78	4358.70	8442.12	55.28
4	Kannur	38455.10	873.35	1818.66	3842.01	44989.12	40637.97	8397.78	10538.31	18936.12	14256.60	18166.93	46.60
5	Kasargod	26260.75	1272.78	508.58	4348.60	32390.71	29151.64	15919.49	6353.18	22272.67	11055.20	3196.88	76.40
6	Kollam	27361.75	827.06	6564.38	2771.53	37524.72	34006.61	5106.65	11435.56	16542.20	12609.60	16271.49	48.64
7	Kottayam	29715.79	762.74	4930.28	5595.41	41004.22	37191.29	5059.88	8507.37	13567.22	9194.25	22934.22	36.48
8	Kozhikkode	31186.83	398.96	1565.21	1437.35	34588.35	31129.50	4869.73	12890.84	17760.58	20961.63	7816.17	57.05
9	Malappuram	39631.09	886.06	4369.05	7689.59	52575.79	47596.71	9535.32	22746.60	32281.95	60165.36	15314.76	67.82
10	Palakkad	35607.81	3975.43	699.16	24617.72	64900.12	58410.11	18631.94	14504.68	33136.60	22761.33	19365.50	56.73
11	Pathanamthitta	18372.86	493.55	5571.76	1939.61	26377.78	24132.21	3868.74	4681.98	8550.69	4681.94	15581.52	35.43
12	Thiruvananthapuram	21075.45	570.29	5623.81	2734.43	30003.98	27285.58	5291.15	11916.41	17207.51	13586.05	8402.06	63.06
13	Thrissur	45874.26	840.67	1999.45	14282.56	62996.94	56882.56	20148.87	12901.51	33050.39	17127.38	19567.33	58.10
14	Wayanad	23266.23	442.26	0.00	686.28	24394.77	21955.28	1363.15	3943.71	5306.85	5047.47	15386.27	24.17

Cont...

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
XII&XIII	**West flowing rivers South of Tapi Basin**												
vii)	**Maharashtra**												
1	Ahmednagar	85781.40	13325.98	14292.88	45925.63	159325.89	150868.83	114588.35	6196.74	120785.10	6196.76	41700.36	80.06
2	Dhule	44433.42	7230.56	0.00	20749.03	72413.01	68266.89	34082.66	1758.06	35840.72	1754.80	32426.16	52.50
3	Kolhapur	53249.23	8505.41	780.56	58343.85	120879.05	113655.18	52115.81	2058.48	54174.30	2058.48	59616.64	47.67
4	Nandurbar	39438.28	2689.61	0.00	8861.48	50989.36	47844.30	17367.55	3065.27	20432.82	3065.28	27492.62	42.71
5	Nashik	133969.12	13444.75	0.00	48110.20	195524.07	184991.41	104572.27	3593.64	108165.87	3593.61	84044.51	58.47
6	Palghar	16230.20	237.02	0.00	3162.60	19629.82	18351.63	3301.38	837.28	4138.64	837.30	14212.99	22.55
7	Pune	95870.06	19431.62	1192.62	67959.95	184454.25	174455.41	112066.91	8174.04	120240.89	8174.07	61716.72	68.92
8	Raigad	32261.27	408.29	0.00	5510.32	38179.88	36247.09	4352.55	2014.90	6367.45	2014.89	29879.64	17.57
9	Ratnagiri	38652.05	168.71	18.49	2150.25	40989.50	38697.85	5297.34	1291.81	6589.17	1291.81	32108.88	17.03
10	Sangli	52127.17	21434.34	128.40	65616.19	139306.10	130460.09	69295.18	3269.54	72564.74	3269.54	58785.85	55.62
11	Satara	53419.33	10543.20	3744.03	33927.78	101634.34	95840.64	58292.50	4849.88	63142.47	4849.90	32698.15	65.88
12	Sindhudurg	20638.77	186.03	3.83	2156.58	22985.21	21829.79	7087.53	2215.11	9302.65	2215.11	12527.14	42.61
	Thane	14840.38	285.66	0.00	2228.47	17354.51	16402.91	2397.66	713.64	3111.28	713.64	13291.63	18.97
viii)	**Puducherry**												
1	Mahe	218.70	0.00	2.79	0.00	221.49	199.34	0.00	138.65	138.65	149.84	49.04	69.55
ix)	**Tamilnadu**												
1	Coimbatore	19884.52	16371.35	3032.65	9362.26	48650.78	43907.51	44737.00	4898.55	49635.60	4796.26	4130.24	113.05
2	Kanniyakumari	6280.63	15764.92	1944.60	4196.64	28186.79	25439.53	3961.60	1064.81	5026.37	913.87	20955.83	19.76
3	The Nilgiris	8018.46	357.54	1279.14	155.86	9811.00	8829.91	595.00	1045.59	1640.57	1835.92	6547.16	18.58
4	Theni	6744.92	21722.00	5589.77	4343.88	38400.57	34560.51	24893.49	1282.86	26176.34	1270.84	8821.63	75.74
5	Tirunelveli	27076.53	30639.94	4025.75	4829.67	66571.89	60140.03	27698.90	1033.00	28731.92	1062.47	33791.57	47.78
6	Tiruppur	16871.93	25789.27	3973.39	10052.02	56686.61	51296.45	52856.94	3131.53	55988.43	3106.37	3489.51	109.15
7	Virudhunagar	16675.69	30205.60	5319.35	9893.72	62094.36	55926.65	31051.16	3811.32	34862.47	1924.03	22984.27	62.34
	West flowing rivers South of Tapi Basin Total	**1934106.30**	**441733.91**	**157660.78**	**660852.80**	**3194342.77**	**2934524.95**	**1239755.36**	**264091.19**	**1503838.57**	**344800.34**	**1459345.29**	**51.25**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
XIV	**Mahi basin**												
i)	**Gujarat**												
1	Anand	28882.50	39882.83	0.00	35445.63	104210.96	97060.64	22265.10	4079.86	26344.97	4688.66	70417.45	27.14
2	Arvalli	70906.20	3014.54	0.00	6520.91	80441.65	72750.79	32196.30	1834.95	34031.25	2013.43	38535.58	46.78
3	Bharuch	63366.21	8169.95	0.00	14870.59	86406.75	77766.09	15379.40	1120.51	16499.90	2032.73	61181.43	21.22
4	Chhota udepur	39945.22	4761.27	0.00	9485.09	54191.58	49296.60	18634.60	1727.58	20362.17	1874.63	28787.38	41.31
5	Dahod	34200.85	6586.17	0.00	10931.19	51718.21	47233.87	8267.30	4576.15	12843.44	5471.59	33494.97	27.19
6	Kheda	77455.15	38260.81	0.00	37932.57	153648.53	145966.11	52593.70	3120.41	55714.15	3359.45	90015.92	38.17
7	Mahisagar	17449.93	4907.18	0.00	9088.11	31445.22	28300.71	10135.20	672.87	10808.07	743.97	17421.54	38.19
8	Panchmahal	22217.36	10692.81	0.00	14646.81	47556.98	43355.78	9404.60	1802.90	11207.50	1969.38	31954.49	25.85
9	Vadodara	64018.71	10055.28	0.00	31613.19	105687.18	97843.85	54911.90	2577.34	57489.24	2365.37	40314.12	58.76
ii)	**MADHYA PRADESH**												
1	Alirajpur	19981.86	1058.60	0.00	2063.07	23103.53	21327.31	6306.57	2189.07	8495.65	2548.66	12472.07	39.83
2	Dhar	84490.43	7124.47	0.00	22699.40	114314.30	104913.07	77390.91	5739.37	83130.27	6648.40	32426.91	79.24
3	Jhabua	21206.45	1494.72	0.00	5236.23	27937.40	26233.84	10246.94	2993.56	13240.51	3548.42	12438.46	50.47
4	Neemuch	29881.06	4282.92	0.00	8391.84	42555.82	38300.25	33497.06	1893.07	35390.12	2063.71	3215.25	92.40
5	Ratlam	54572.43	7036.13	0.00	22822.50	84431.06	76322.66	103519.66	4222.22	107741.87	6066.10	1491.06	141.17
6	Ujjain	73764.02	5627.80	0.00	20805.98	100197.80	91800.84	92923.58	3546.72	96470.30	3859.19	9505.30	105.09
iii)	**Rajasthan**												
1	Banswara	10031.40	225.32	0.00	10027.65	20284.37	18255.93	9683.01	2163.79	11846.81	2163.78	6413.46	64.89
2	Chittaurgarh	26356.67	1867.00	1244.29	13638.83	43106.79	38833.29	57837.94	2756.97	60594.91	1543.89	24.77	156.04
3	Dungarpur	10038.64	1760.88	313.29	7621.56	19734.37	17760.91	9062.64	843.81	9906.46	843.81	7854.45	55.78
4	Pratapgarh	14063.20	169.69	647.52	7344.23	22224.64	20178.77	25014.94	520.14	25535.09	520.15	1225.10	126.54
5	Udaipur	21414.21	520.39	0.00	9155.41	31090.01	27981.01	23157.91	4867.34	28025.30	2911.41	1676.56	100.16
	Mahi basin Total	**784242.50**	**157498.76**	**2205.10**	**300340.79**	**1244287.15**	**1141482.32**	**672429.26**	**53248.65**	**725677.98**	**57236.73**	**500866.27**	**63.57**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
XV	**Sabarmati Basin**												
i)	**Gujarat**												
1	Ahmedabad	44377.69	9688.35	0.00	10358.61	64424.65	60608.76	37210.40	1945.11	39155.51	2668.36	21359.00	64.60
2	Anand	28882.50	39882.83	0.00	35445.63	104210.96	97060.64	22265.10	4079.86	26344.97	4688.66	70417.45	27.14
3	Arvalli	70906.20	3014.54	0.00	6520.91	80441.65	72750.79	32196.30	1834.95	34031.25	2013.43	38535.58	46.78
4	Banaskantha	82583.48	16242.09	0.00	18448.92	117274.49	106926.75	129523.05	3824.73	133347.78	5092.00	19192.79	124.71
5	Botad	43266.32	2441.28	0.00	3820.15	49527.75	47051.37	23049.70	0.00	23049.70	0.00	24001.67	48.99
6	Gandhinagar	40044.07	5073.64	0.00	7761.33	52879.04	47591.13	57109.30	1628.48	58737.77	1482.08	5393.03	123.42
7	Kheda	77455.15	38260.81	0.00	37932.57	153648.53	145966.11	52593.70	3120.41	55714.15	3359.45	90015.92	38.17
8	Mahesana	78565.77	11554.36	0.00	22091.97	112212.10	100990.88	100905.60	3180.16	104085.78	3240.03	7824.57	103.06
9	Mahisagar	17449.93	4907.18	0.00	9088.11	31445.22	28300.71	10135.20	672.87	10808.07	743.97	17421.54	38.19
10	Rajkot	152287.46	14900.50	0.00	23454.28	190642.24	181110.14	99844.20	6396.95	106241.16	7163.96	74086.45	58.66
11	Sabarkantha	50308.31	7772.96	0.00	16687.96	74769.23	67292.30	49081.10	1831.83	50912.92	2007.99	17512.26	75.66
12	Surendranagar	69501.38	4620.63	0.00	6376.66	80498.67	76473.70	28902.20	629.67	29531.87	1150.20	46881.38	38.62
ii)	**Rajasthan**												
1	Dungarpur	10038.64	1760.88	313.29	7621.56	19734.37	17760.91	9062.64	843.81	9906.46	843.81	7854.45	55.78
2	Pali	28632.36	786.53	0.00	3484.46	32903.35	29612.98	41224.14	3140.36	44364.49	3144.97	497.18	149.81
3	Sirohi	24865.07	547.74	0.00	2035.40	27448.21	24703.38	29659.80	1885.40	31545.22	1558.40	1320.04	127.70
4	Udaipur	21414.21	520.39	0.00	9155.41	31090.01	27981.01	23157.91	4867.34	28025.30	2911.41	1676.56	100.16
	Sabarmati Basin Total	**840578.54**	**161974.71**	**313.29**	**220283.93**	**1223150.47**	**1132181.56**	**745920.33**	**39881.94**	**785802.40**	**42068.72**	**443989.87**	**69.41**

Source: Central Ground Water Board, Faridabad

Table 17: Dynamic Ground Water Resources Of Unclassified Basins Of India (In Ham) As On March 2020

Sl. No.	BASIN/STATE/DISTRICT	Recharge Due to Rainfall during monsoon Season	Recharge Due to Other Sources during monsoon Season	Recharge Due to Rainfall during non-monsoon Season	Recharge Due to Other Sources during non-monsoon Season	Total Annual Recharge	Annual Extractable Resources	Extraction for Irrigation Needs	Extraction for Domestic and Industrial Needs	Total Annual Extraction for all needs	Projected Demand for Domestic needs as on Year 2025	Allocation for Future Use	State of Extraction(%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
XVI	**West flowing rivers of Kutch and Saurashtra including Luni Basin**												
i)	**Daman_Diu**												
1	Diu	208.15	14.13	0.00	23.09	245.37	233.11	42.20	0.00	42.20	175.69	15.22	18.10
ii)	**Gujarat**												
1	Ahmedabad	44377.69	9688.35	0.00	10358.61	64424.65	60608.76	37210.40	1945.11	39155.51	2668.36	21359.00	64.60
2	Amreli	137968.04	8043.98	0.00	9991.73	156003.75	148203.56	74640.40	208.09	74848.48	213.21	73344.69	50.50
3	Anand	28882.50	39882.83	0.00	35445.63	104210.96	97060.64	22265.10	4079.86	26344.97	4688.66	70417.45	27.14
4	Banaskantha	82583.48	16242.09	0.00	18448.92	117274.49	106926.75	129523.05	3824.73	133347.78	5092.00	19192.79	124.71
5	Bhavnagar	84934.69	7021.85	0.00	10546.54	102503.08	97377.93	42198.40	64.85	42263.25	71.32	55108.21	43.40
6	Botad	43266.32	2441.28	0.00	3820.15	49527.75	47051.37	23049.70	0.00	23049.70	0.00	24001.67	48.99
7	Devbhumi Dwarka	37488.18	2727.09	0.00	4543.48	44758.75	42520.82	24483.80	1355.95	25839.76	1548.74	16572.46	60.77
8	Gir Somnath	52503.68	3210.16	0.00	5115.06	60828.90	57787.45	26281.30	2213.88	28495.19	2767.34	29134.13	49.31
9	Jamnagar	152729.18	6577.36	0.00	11397.39	170703.93	162168.73	51496.90	2122.61	53619.50	2444.32	108379.24	33.06
10	Junagadh	76055.68	5195.42	0.00	8117.83	89368.93	81114.63	60211.30	1904.93	62116.22	2123.43	21912.68	76.58
11	Kachchh	49048.75	18503.57	0.00	17598.75	85151.07	78772.82	56933.10	868.10	57801.20	1554.58	31816.30	73.38
12	Mahesana	78565.77	11554.36	0.00	22091.97	112212.10	100990.88	100905.60	3180.16	104085.78	3240.03	7824.57	103.06
13	Morbi	48713.01	4137.44	0.00	8088.60	60939.05	57889.36	26253.10	1383.99	27637.10	1830.66	30086.03	47.74
14	Patan	20983.87	5857.67	0.00	9733.79	36575.33	34172.18	39745.90	518.52	40264.41	1359.82	2716.81	117.83
15	Porbandar	21954.45	1698.08	0.00	2792.89	26445.42	25123.16	14133.40	346.03	14479.44	397.17	10624.81	57.63
16	Rajkot	152287.46	14900.50	0.00	23454.28	190642.24	181110.14	99844.20	6396.95	106241.16	7163.96	74086.45	58.66
17	Rana & kutch												
18	Sabarkantha	50308.31	7772.96	0.00	16687.96	74769.23	67292.30	49081.10	1831.83	50912.92	2007.99	17512.26	75.66
19	Surendranagar	69501.38	4620.63	0.00	6376.66	80498.67	76473.70	28902.20	629.67	29531.87	1150.20	46881.38	38.62
ii)	**Rajasthan**												
1	Ajmer	25228.61	1333.23	67.89	14620.62	41250.35	37207.51	61285.80	4270.52	65556.32	4270.52	0.00	176.19
2	Barmer	34497.75	432.09	199.13	2239.72	37368.69	33974.38	36162.09	6439.43	42601.54	7670.80	1890.03	125.39
3	Bhilwara	29011.57	332.53	1884.35	11959.97	43188.42	38877.22	53065.49	4835.15	57900.67	4835.14	1401.90	148.93
4	Jaisalmer	7906.18	304.47	325.92	913.40	9449.97	8504.97	24357.56	2741.58	27099.13	2741.57	0.00	318.63
5	Jalor	42489.21	1576.22	0.00	11889.22	55954.65	50561.22	90890.21	4186.08	95076.31	4229.28	1350.09	188.04
6	Jodhpur	33250.31	729.37	1169.67	2845.68	37995.03	34303.26	71501.08	15653.64	87154.73	15900.80	732.80	254.07
7	Nagaur	48061.87	177.80	1380.13	3935.98	53555.78	48824.36	82274.92	13933.66	96208.60	14476.86	280.21	197.05
8	Pali	28632.36	786.53	0.00	3484.46	32903.35	29612.98	41224.14	3140.36	44364.49	3144.97	497.18	149.81
9	Rajsamand	8092.47	317.26	9.26	3028.23	11447.22	10350.35	9916.66	2394.67	12311.36	2138.37	478.12	118.95
10	Sikar	30938.42	1187.97	4924.70	1979.22	39030.31	35328.94	49295.17	11413.89	60709.06	11413.89	385.42	171.84
11	Sirohi	24865.07	547.74	0.00	2035.40	27448.21	24703.38	29659.80	1885.40	31545.22	1558.40	1320.04	127.70
12	Udaipur	21414.21	520.39	0.00	9155.41	31090.01	27981.01	23157.91	4867.34	28025.30	2911.41	1676.56	100.16
	West flowing rivers of Kutch and Saurashtra including Luni Basin Total	**1566748.62**	**178335.35**	**9961.05**	**292720.64**	**2047765.66**	**1903107.87**	**1479991.97**	**108636.97**	**1588629.17**	**115789.49**	**670998.50**	**83.48**

Source: Central Ground Water Board, Faridabad

Glossary of Terms

Glossary of Terms

Active (usable) storage capacity	The total amount of reservoir capacity normally available for release from a reservoir below the maximum storage level. It is total or reservoir capacity minus inactive storage capacity. More specifically, it is the volume of water between the outlet works and the spillway crest.
Alluvium	Sediments deposited by erosion processes, usually by streams.
Area Sown more than once	This represents the areas on which crops are cultivated more than once during the agricultural year. This is obtained by deducting `Net Area Sown' from `Total Cropped Area'.
Area under Non-agricultural Uses	This includes all lands occupied by buildings, roads and railways or under water, e.g. rivers and canals and other lands put to uses for other than agricultural purposes.
Barren and Un-culturable Land:	This includes all barren and unculturable land like mountains, deserts, etc. land whether such land is in isolated blocks or within cultivated holdings which cannot be brought under cultivation, except at an exorbitant cost, is classified as unculturable land
Basin boundary	The topographic dividing line around the perimeter of a basin, beyond which overland flow (i.e., runoff) drains away into another basin.
Bed load	Sand, silt, gravel, or soil and rock detritus carried by a stream on or immediately above its bed. The particles of this material have a density or grain size such as to preclude movement far above or for a long distance out of contact with the stream bed under natural conditions of flow.
Bed material	The sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.
Biochemical Oxygen Demand (B.O.D.)	The measure of oxygen required for natural oxidation of organic matter with the aid of bacteria. The test is made by taking duplicate samples of water in two completely filled bottles, one of which is sealed and kept stored for 5 days. The dissolved oxygen content of the first sample gives the biochemical oxygen demand, or shortly B.O.D. value. The B.O.D. value of surface waters may be 1 to 10 p.p.m., and for deep well water it would be much less.
Coliform Group	All waters contain bacteria, vast majority of which are perfectly harmless. One organism, bacillus Coli, found in the intestines of men and warm-blooded animals, which in itself is usually quite and may therefore be regarded as danger signal. The group of bacteria of intestinal origin is known as coliform group. The bacilli of this group ferment lactose with gas formation. Since organisms of the coliform group normally live longer in water than other bacteria, absence of such organisms indicates that the water is safe. Also this group is more

	resistant to treatment than pathogens, their existence or otherwise gives a useful indication of the efficiency of water treatment methods.
Coliform Index	The probable number of coliform organisms present in 100 ml. is known as coliform index. If out of 5 portions be isolated from one sample only, the number of coliforms would be considered to be 1 in 50 ml. or 2 in 100 ml., which would be the coliform index, assuming that the gas formation was due to one coliform only.
Culturable Waste Land	This includes land available for cultivation, whether not taken up for cultivation or taken up for cultivation once but not cultivated during the last five years or more in succession including the current year for one reason or the other. Such lands may be either fallow or covered with shrubs and jungles which are not put to any use. They may be assessed or unassessed and may lie in isolated blocks or within cultivated holdings.
Current Fallows	This represents cropped area, which are kept fallow during the current year. For example, if any seeding area is not cropped against the same year it may be treated as current fallow.
Dam	Any artificial barrier which impounds or diverts water. A dam is generally considered hydrologically significant if it is (i) One and one quarter feet (0.4 meters) or more in height from the natural bed of the stream and has a storage of at least 15 acre-feet, or (ii) has an impounding capacity of 50 acre-feet or more and is at least six feet (2 meters) above the natural bed of the stream.
Discharge	The quantity of water flowing across a section of a channel in a unit time is called the discharge. It is measured in cubic feet or meters per second, briefly called cusecs and cumecs respectively and is equal to the area of section X average velocity. Common units are cubic feet per second (cfs), second-day feet (sdf), and cubic meter per second (cumecs). Two types of discharges are often measured and recorded: (i) instantaneous discharge: the discharge at a particular instant of time. (ii) mean discharge: the arithmetic mean of individual discharges during a period of time. Discharges given are daily observed discharges commencing at 08.00 hrs.
Drainage area	An area around a river and rainfall of which flows into the river. Also known as watershed, catchment area and drainage basin.
Drainage basin	A part of the earth's surface which is occupied by a drainage system which consists of a surface stream with all its tributaries and impounded bodies of water. Also known as watershed, catchment area, and drainage area.

Fallow Land	This includes fallow land other than current fallows and current fallow land of land use classification which are explained below.
Fallow Lands other than Current Fallows	This includes all lands, which were taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years.
Forest	This includes all lands classified as forest under any legal enactment dealing with forests or administered as forests, whether state-owned or private, and whether wooded or maintained as potential forest land. The area of crops rose in the forest and grazing lands or areas open for grazing within the forests remains included under the forest area.
Geographical Area:	The latest figures of geographical area of the State/Union Territories are those provided by the Office of the Surveyor General of India.
Gross capacity	The maximum volume of water that can be stored in a reservoir.
Gross reservoir capacity	The total amount of storage capacity available in a reservoir for all purposes from the streambed to the normal water or normal water or normal pool surface level. It does not include surcharge, but does include dead storage.
Ground water	Water within the earth that supplies wells and springs; water in the zone of saturation where all openings in rocks and soil are filled, the upper surface of which forms the water table. Also termed Phreatic water.
Ground water runoff	That part of the runoff which has passed into the ground, has become ground water, and has been discharged into a stream channel as spring, or seepage water.
Hardness	Hardness of water is generally caused by the presence of salts of calcium and magnesium. Hardness due to the presence of bicarbonates of calcium and magnesium is called temporary hardness. Permanent hardness is caused by the presence of sulphates and chlorides of these metals, and is not removable by boiling. The sum of these two hardness is called total hardness. It is expressed in terms of calcium carbonate. Since one gallon of water weighs 70,000 grains, degrees of hardness can be converted in p.p.m. by multiplying by 14.3. A water having 50 to 100 p.p.m. hardness is called soft water, one with 100 to 200 p.p.m. Moderately hard, and that with 200 to 300 p.p.m. hard. Hardness of 80 to 90 p.p.m. is considered to be the best.
Headwater basin	A basin at the headwaters of a river. All discharge of the river at this point is developed within the basin.

H18ydrogen-ion Concentration (pH)	Acidity and Alkalinity determinations is the measures of acid and alkali present, while the H-ion concentration determines the strength of the acid and alkali in water. An ion is an atom or a group of atoms that carries an electric charge.
Hydrologic Cycle	Water is lost to the atmosphere as vapour from the earth, which is then precipitated back in the form of rain, snow, hail, dew, frost, etc. The process of evaporation and precipitation which combines forever and thereby maintaining a balance between the two is called Hydrologic Cycle.
Hydrologic unit	A geographical area representing part or all of a surface drainage basin or distinct hydrologic feature such as a reservoir, lake, etc.
Inactive storage Capacity	The portion of capacity below which the reservoir is not normally drawn, and which is provided for sedimentation, recreation, fish and wildlife, aesthetic reasons, or for the creation of a minimum controlled operational or power head in compliance with operating agreements or restrictions.
Inches of runoff	the volume of water from runoff of a given depth over the entire drainage.
Irrigated area	The area is assumed to be irrigated for cultivation through such sources as canals (Govt. & Private), tanks, tube-wells, other wells and other sources. It is divided into two categories: **(i)** **Net Irrigated Area:** It is the area irrigated through any source once in a year for a particular crop. **(ii)** **Total Net Un-irrigated Area:** It is the area arrived at by deducting the net irrigated area from net sown area. **(iii)** **Total/Gross Irrigated Area:** It is the total area under crops, irrigated once and/or more than once in a year. It is counted as many times as the number of times the areas are cropped and irrigated in a year. **(iv)** **Total/Gross Un-Irrigated Area:** It is the area arrived at by deducting the gross irrigated area from the gross sown area. **(v)** **Cropping Intensity:** It is the ratio of Net Area Sown to the Total Cropped Area.
Irrigation efficiency	The percentage of water applied that can be accounted for in soil moisture increase for conjumtive use.
Irrigation requirement	The quantity of water, exclusive of precipitation, that is required for crop production. It includes surface evaporation and other economically unavoidable wastes.
Land under Miscellaneous Tree Crops, etc	This includes all cultivable land which is not included in `Net area sown' but is put to some agricultural use. Lands under Casuarinas trees, thatching grasses, bamboo bushes and other groves for fuel, etc. which are not included under `Orchards' are classified under this category.

Live capacity	The minimum volume of water required for maintaining flow of water from the Reservoir. It is the total amount of storage capacity available in a reservoir for all purposes, from the dead storage level to the normal water or normal pool level surface level. Does not include surcharge, or dead storage, but does include inactive storage, active conservation storage and exclusive flood control storage.
Long term storage dams	Reservoirs used for recreational use or storage of irrigation, municipal or industrial water. Because water is impounded on a "permanent" basis, the design of these dams is more complex than for tailings or flood control detention dams. A long term storage dam may include an impermeable core surrounded by shell material; have many types of drains and filters, outlet works, with gates and valves, seepage collection boxes, and possibly several spillways. The capacity of the spillway is dependent upon the downstream hazard potential.
Mean annual rainfall	Mean annual rainfall is usually worked out as a simple average of the total rainfall of various years.
Mean depth	The average depth of water in a stream channel or conduit. It is equal to the cross-sectional area divided by the surface width.
Moisture equivalent	The ratio of (1) the weight of water which the soil, after saturation, will retain against a centrifugal force 1,000 times the force of gravity, to (2) the weight of the soil when dry. The ratio is stated as a percentage.
Net Area Sown	This represents the total area sown with crops and orchards but area sown more than once in the same year is counted only once.
Net rainfall	The portion of rainfall which reaches a stream channel or the concentration point as direct surface flow.
Normal year	The year during which the precipitation or stream flow approximates the average for a long period of record.
Not available for cultivation	This includes area under non-agricultural uses and barren & unculturable land which are briefly described below.
Other Cultivated land excluding fellow land	This includes (i) permanent pastures and other grazing land (ii) land under miscellaneous trees, crops and groves not included in net area and (iii) culturable waste land which are briefly described below.
Peak discharge	Rate of discharge of a volume of water passing a given location. (Usually in cubic feet per second.)
Permanent Pastures and other Grazing Lands	This includes all grazing lands whether they are permanent pastures and meadows or not. Village common grazing land is included under this head.

Point discharge	Instantaneous rate of discharge, in contrast to the mean rate for an interval of time.
Point precipitation	Precipitation at a particular site, in contrast to the mean precipitation over an area.
Reporting Area for Land Utilisation Statistics	The Reporting area stands for the area for which data on land use classification of area are available. In areas where land utilization figures are based on land records, reporting area is the area according to village papers, i.e. the papers prepared by the village accountants. In some cases, the village papers may not be maintained in respect of the entire area of the State. For example, village papers are not prepared for forest areas for which no village paper exists for which ad-hoc estimates of classification of area etc. framed to complete the coverage.
River Basin	Drainage area of a river and its tributaries.
River gauge datum	The arbitrary zero datum elevation which all stage measurements are made from.
Runoff	Water which is not absorbed by the soil and flows to lower ground, eventually draining into a stream, river, or other body of water. It is that part of precipitation that flows toward the streams on the surface of the ground or within the ground. Runoff is composed of base flow and surface runoff.
Runoff/ potential	Runoff/ potential of a river for a specified period at a site is the total volume of water flow/passed from/through the site during the specified period. It is the notional depth of water in mm over the catchment, equivalent to annual runoff (in M.Cum.)/Catchment Area (km2)* 1000 and calculated at the discharge measurement station.
Second-day feet	The volume of water represented by a flow of one cubic foot per second for 24 hours; equal to 84,000 cubic feet. This is used extensively as a unit of runoff volume. Often abbreviated as SDF.
Sediment storage capacity	The volume of a reservoir planned for the deposition of sediment.
Soil moisture	Water contained in the upper regions near the earth's surface.
Stage	The level of the water surface above an established "zero" plane or datum at a given location.
Surface runoff	The runoff that travels overland to the stream channel. Rain that falls on the stream channel is often lumped with this quantity.
Surface water	Water that flows in streams and rivers and in natural lakes, in wetlands, and in reservoirs constructed by humans.

Temperature	The in-situ temperature in degree centigrade by thermometer is recorded in terms of water intended use, the treatment to remove impurities and its transport.
Total Cropped Area	This represents the total area covered with crops, i.e. the sum total of areas covered by all the individual crops; areas sown with crops more than once during the year being counted as separate areas for each crop. It is also known as Gross Cropped Area.
Tributary	A stream or river whose water flows into a larger stream or river.
Watershed	The sum total of all the land and smaller bodies of water which drains into a particular stream or river.
Water Year	The period of Water Year is from 1st June to 31st May of the following year.
Zero R.L. of gauge	The Zero R.L. of a gauge is the datum level fixed for a given site, which is kept 1 or 2 m lower than the lowest water level recorded in a perennial stream. In a no perennial stream, it is kept 1 or 2 m lower than the lowest bed level of the stream.

References:

Website address of the following information:

- Water Year Book, Sediment Year Book and Water Quality Year Book
  http://www.cwc.gov.in/

- Land use statistics (Table-14,15, 16)
  https://aps.dac.gov.in/LUS/Public/Reports.aspx

- Basin Reports (Table-14,15, 16)
  http://indiawris.gov.in/wris/#/Basin

- River Basin Atlas of India
  http://indiawris.gov.in/wris/#/RiverBasin