

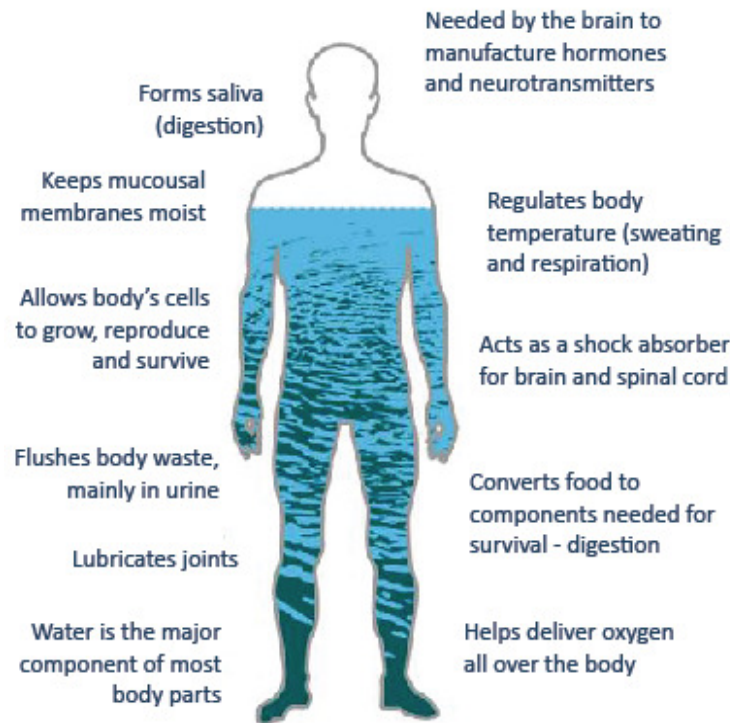


# **GOVERNMENT OF MAHARASHTRA WATER RESOURCES DEPARTMENT**

## **HYDROLOGY PROJECT (SW) HYDROLOGY PROJECT DIVISION, AURANGABAD**

### **WATER QUALITY LAB LEVEL-II, AURANGABAD**

#### *What Does Water do for You?*



### **ANNUAL REPORT YEAR 2012 - 2013**

**EXECUTIVE ENGINEER**

**HYDROLOGY PROJECT DIVISION, AURANGABAD**

## CERTIFICATE OF COMPLIANCE



INTERNATIONAL CERTIFICATION SERVICES PVT. LTD.

This is to certify that the  
QUALITY MANAGEMENT SYSTEM of

**HYDROLOGY PROJECT DIVISION**  
**WATER QUALITY LAB LEVEL II - AURANGABAD**  
 Hydrology Project Division, Near Hedgewar Hospital, Garkheda,  
 Aurangabad – 431 005, Maharashtra, India.

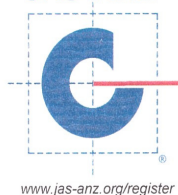
has been assessed and registered as complying with the requirements of the following International Standard:

**ISO 9001:2008**

The Quality Management System applicable to:

**Scope: Collection, Testing And Analysis Of Water And Waste Water Sample.**

Registration No. : RQ91/6398  
 Registered Date : 11<sup>th</sup> February, 2010  
 Reassessment Date : 08<sup>th</sup> March, 2013  
 Issue Date : 08<sup>th</sup> March, 2013  
 Expiry Date : 10<sup>th</sup> February, 2016

**JAS-ANZ**

[www.jas-anz.org/register](http://www.jas-anz.org/register)



*Shruti Kataria*

Director

International Certification Services

**Accredited by Joint Accreditation System of Australia and New Zealand**

Validity of this certificate is based on periodic audits of the management system defined by the above scope and is contingent upon prompt, written notification of significant changes to the management system and/or its components thereof shall be immediately communicated to ICS.  
 Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained at [www.icsasian.com](http://www.icsasian.com)

22/23, Goodwill Premises, Swastik Estate, 178 CST Road, Kalina, Santacruz (E), Mumbai – 400 098, Maharashtra, India. Tel.: 022-42200900

# CERTIFICATE OF COMPLIANCE



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QUALITY MANAGEMENT SYSTEM of

## HYDROLOGY PROJECT DIVISION WATER QUALITY LAB LEVEL II - AURANGABAD

Near Hedgewar Hospital, Garkheda, Aurangabad – 431 005,  
Maharashtra, India.

has been assessed by International Certification Services Pvt. Ltd. and registered as  
complying with the requirements of the following International Standard:

### ISO 9001:2008

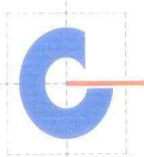
The Quality Management System applicable to:

**Scope: Collection, Testing And Analysis Of Water And Waste Water  
Samples.**

Registration No. : RQ91/6398  
Registered Date : 11<sup>th</sup> February, 2010.  
Expiry Date : 10<sup>th</sup> January, 2013.



JAS-ANZ



*Shankar Kataria*

Director

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Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained by consulting the above certification body.

International Certification Services Pvt. Ltd. E-7, Chand Society, Juhu Road, Juhu, Mumbai – 400 049, India

## **QUALITY POLICY**

**WATER QUALITY LABORATORY, LEVEL-II, AURANGABAD.  
DECLARED THE PURPOSE OF THE ORGANIZATION i.e**

### ***COLLECTION & TESTING OF WATER SAMPLES***

**HAS LAID DOWN THE FOLLOWING QUALITY POLICY, THAT HAS  
BEEN COMMUNICATED AND UNDERSTOOD WITHIN THE  
ORGANIZATION AND HAS PROVIDED ADEQUATE FRAME WORK  
FOR REVIEWING ITS QUALITY OBJECTIVES AND QUALITY  
POLICY FOR CONTINUING SUITABILITY AND IS  
COMMITTED.....**

- **TO MONITOR EFFECTIVENESS OF QMS TIME TO TIME & WILL ALSO WORK FOR CONTINUAL IMPROVEMENT OF THE ACTIVITIES.**
- **TO WORK FOR CONTINUAL IMPROVEMENT IN ITS TECHNOLOGY, PROCESSES AND TO INCREASE COMPETENCY LEVELS HAVE ITS PERSONNEL.**
- **TO DELIGHT THE CUSTOMER BY FULFILLING CUSTOMER NEEDS, STATUTORY/REGULATORY REQUIREMENTS AND ANY REQUIREMENT WHICH IS NOT STATED BUT WHICH IS REQUIRED FOR APPLICATION OF CUSTOMER SERVICE.**

**Rev. No.: 00  
DATE: 02 March 2009.**

**EXECUTIVE ENGINEER  
HYDROLOGY PROJECT DIVISION,  
AURANGABAD**



## PREFACE

*Well equipped (level-II) grade Water Quality Laboratory at Aurangabad, is set up under technical assistance of World-Bank aided Hydrology Project, for monitoring the surface water quality of Godavari basin and East flowing rivers of Marathwada & Amravati region in Maharashtra state.*

*This report includes water quality data for the period of **June 2012 to May 2013 (this period is known as water year)**, to know changes occurs in the selected parameters of selecting all stations of Dams & River water body which comes under Hydrology Project Division Aurangabad. The agency **M/s. Papilon Enviro Engineers** was awarded the contract towards Operation and Maintenance of Water Quality Lab Level-II, Aurangabad for the said period. The data has been interpreted to know the trends in the water quality of the locations.*

*It is a great pleasure to hand over this precise report on analysis of water samples at Water Quality Lab Level-II, Aurangabad. This booklet attempts to briefly describe an over view and general conclusion on the basis of water quality data of water samples collected from selected locations for define frequencies for the reported period.*

*Our efforts can always be updated through valuable suggestions.*

*Govt. Analyst  
W. Q. Lab Level-II  
Aurangabad*

*Sub Divisional Engineer  
HP – Sub Division  
Aurangabad*

*Executive Engineer  
Hydrology Project  
Aurangabad*

# Annual Report

## Water Quality Monitoring Through Water Quality Lab Level-II @ Aurangabad for the Year 2012 - 2013

### I N D E X

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# CHAPTER – I

## EXECUTIVE SUMMARY

## CHAPTER-I

### EXECUTIVE SUMMERY

#### Annual Report

#### **Water Quality Monitoring Through Water Quality Lab Level-II @ Aurangabad for the Year 2012 - 2013**

##### **1.1 Preamble:**

Water is the most vital resources for life. With the increasing population & changing life patterns, consumption of water has increased many folds particularly for domestic, agriculture, & industrial consumption. **“The negative change in physical, chemical & biological properties of natural water due to addition of pollutants causing adverse effect on aquatic life, & other living being, including man is known as water pollution.”**

The water quality monitoring in the area of surface water is performed in order to determine the quality of water. Various parameters are analyzed in the laboratory and 6 parameters are tested at field level. All these tasks are recorded and utilized for preparing the Annual Report by performing some specific exercise. This data is considered in order to specify the quality of water at each location. This also helps to determine the pollution level or concentration of some parameters of water at each station.

##### **1.2 Water Quality Monitoring – Objectives:**

Observations of analysis of physical & chemical parameters are carried out as per **“Uniform Protocol for Water Quality Monitoring Order 2005”** for each location followed by Operation and Maintenance of Water Quality Laboratory Level-II @ Aurangabad. As per Standard Guidelines and mandates including collection, transportation, analysis of samples, data entry in SWDES Software and preparation of the said Annual Report as per specific guidelines issued by Executive Engineer, Hydrology Project Division, Aurangabad.

### **1.3 Water Quality Monitoring – Scope:**

Annual Report is prepared for the period from **June-2012 to May-2013** (which is considered as Water Year period). In order to study the water quality status location wise, all stations are covered for this report which comes under this lab during the year 2012-13.

### **1.4 Methodology:**

Analysis of Physical and Chemical parameters is done in the laboratory on the basis of Standard Analytical Methods, Instrument Operating Instructions, HIS Manuals, CPCB Guidelines and APHA 21<sup>st</sup> Ed., 2005.

Data analyzed further validated with prescribed method as per Water Quality Manuals to verify various ratios manually and is entered in SWDES Software for Water Quality Data Entry. Further the data is sent to State Data Center for further dissemination to user end.

Furthermore to get brief idea about data generated for the period it is decided and instructed to analyzed the generated data for the said period in the form of Annual Report with the help of various tools in SWDES Software to find out critical parameters and critical locations in the jurisdiction of this Lab.

### **1.5 Result and Observation:**

In the year 2012-13, after observing all this data it is clear that most of the physical parameters are within tolerance limit except at few locations, we found that some parameter's value exceeds marginally.

### **1.6 Conclusion:**

In the Year 2012-13 it can be concluded that all the parameter of stations are in tolerance limit.

The discharge of waste from industries, agriculture and urban communities into water bodies generally stretches the biological capacities of aquatic systems. Chemical run-off from fields also adds nutrients to water. Excess nutrients cause the water body to become choked with organic substances and organisms. When organic matter exceeds the capacity of the micro-organisms in water that break down and recycle the organic matter, it encourages rapid growth or blooms of algae. When they die, the remains of the algae add to the organic wastes already in the water, eventually the water becomes



deficient in oxygen. Anaerobic organisms (those that do not require oxygen to live) then attack the organic wastes, releasing gases such as methane and hydrogen sulphide, which are harmful to the oxygen-requiring (aerobic) forms of life. Hence it can be concluded that water from all these sources have pollution and so it requires treatment before its usage.

In the point of consideration for above locations, water is suitable for irrigation purpose followed by traditional irrigation method.

### **1.7 Recommendations/Remedial Measures:**

- Domestic effluents may be treated and disinfected before discharging.
- Effluents from the non-point sources may be identified. These are required to be collected and treated.
- Use of water of such polluted locations may be useful for salt tolerance crop and is recommended based on special study.
- Use of direct source of water is to be avoided.
- Bathing at such location should be restricted.

### **1.8 Suggestions:**

- Create mass awareness in general public regarding surface and ground water quality aspects.
- Water Quality Annual Report shall be publicly published every year and made available to everyone on demand.
- Sampling points of sampling location need to be increased to better analysis of data at different stages of that location.

### **1.9 Water Quality Trend in Aurangabad Division.**

Water Quality Trend in Aurangabad division is based on the data available from June 2012 to May 2013 in Water Quality Lab Level-II, Aurangabad. This comparison of change is related to Irrigation parameters on their concentration.

## CHAPTER –II INTRODUCTION

## CHAPTER-II

### INTRODUCTION

#### **2.1 General:**

To check the pollution load & water safety for different uses there is need to regularly monitor water quality by using laboratory analysis method. The test includes physico-chemical parameters & biological parameters.

The water quality monitoring in the area of surface water is performed in order to determine the quality of water. Various parameters are analyzed in the laboratory and 6 parameters are tested at field level. All these tasks are recorded and utilized for preparing the Annual Report by performing some specific exercise. This data is considered in order to specify the quality of water at each location.

#### **2.2 Water Quality Monitoring – Objectives:**

Observations of analysis of physical & chemical parameters are carried out as per “**Uniform Protocol for Water Quality Monitoring Order 2005**” for each location followed by Operation and Maintenance of Water Quality Laboratory Level-II, Aurangabad. As per Standard Guidelines and mandates including collection, transportation, analysis of samples, data entry in SWDES Software and preparation of the said Annual Report as per specific guidelines issued by Executive Engineer, Hydrology Project Division, Aurangabad.

#### **2.3 Water Quality Monitoring – Scope:**

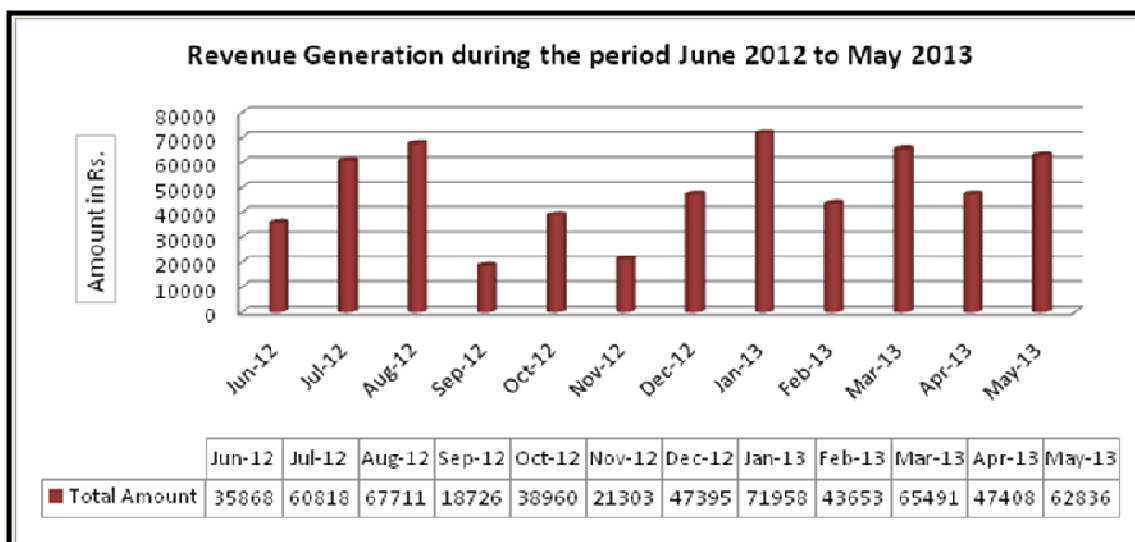
The Annual Report is prepared for the year 2012-2013. The Table below shows the number of sample analyzed during the reported period. In order to study water quality status station wise, all locations covered under this lab during the year 2012-2013 are considered.

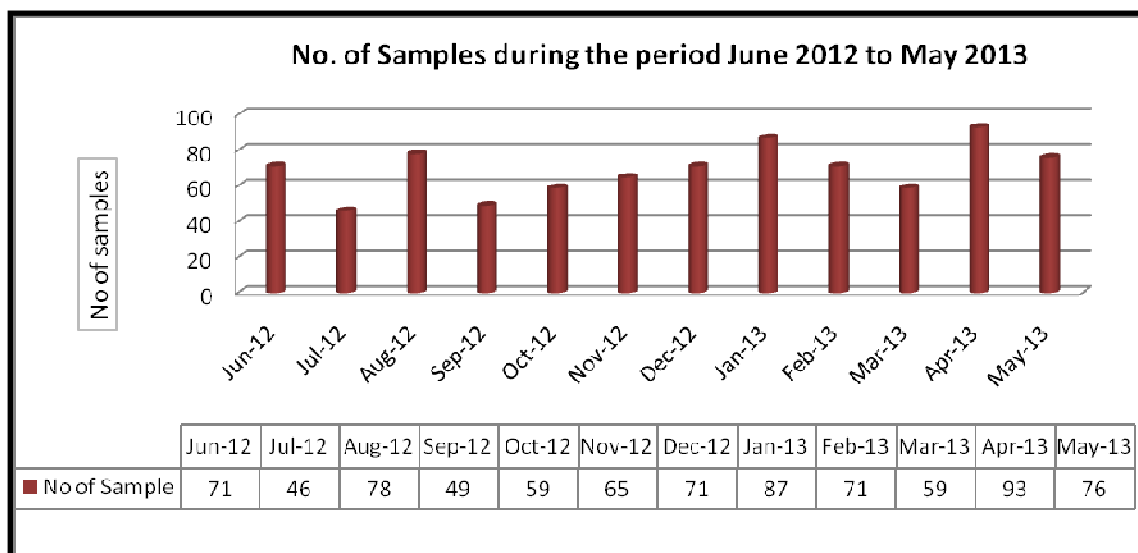
**REVENUE GENERATED DURING THE REPORTING PERIOD  
(June 2012 –May 2013)**

Sr. No.	Water Year	No. of Samples Analyzed	Amount Received
1.	2012-2013	825	5,82,127

**Month wise details are as under**

Month & Year	Total Amount	No of Sample
Jun-12	35,868	71
Jul-12	60,818	46
Aug-12	67,711	78
Sep-12	18,726	49
Oct-12	38,960	59
Nov-12	21,303	65
Dec-12	47,395	71
Jan-13	71,958	87
Feb-13	43,653	71
Mar-13	65,491	59
Apr-13	47,408	93
May-13	62,836	76
<b>Total:</b>	<b>5,82,127</b>	<b>825</b>





Lab. Operating Agency for NHP Work:

1) Green Friend Environment solution

[1/6/2012-30/6/2012 to 20/09/2012]

2) Papilon Enviro Engineers

[21/9/2012 – 31/5/2013]

#### **2.4 Other Activities:**

Apart from working for regular Water Quality Monitoring for Water Quality lab level II at Aurangabad, the infrastructure facility is made available to the users from various Government, Non Government, Private sector as well as individuals.

The facility is availed by many users with testing of sample towards drinking purpose, ice factory, construction purpose, swimming tanks, irrigation purpose & study purpose, also in plant training facility for Students of Educational Institutes.

#### **2.5 Extended Scope of Laboratory:**

Water Quality Lab Level – II is certified by **ISO 9001-2008** in the year 2009-10 and it is now renewed in the month of Jan 2013. We are working as per the standards of ISO to maintain the quality of work to streamline the process of work to achieve the set objectives.

#### **CPCB AQC Exercise:**

In the month of Feb. 2013 CPCB conducted the AQC Exercise, in which this lab score 75%.



**Training and Visits:**

Infrastructure facility is made available to many college students for in plant training and their research purposes. Many visitors from various institutes like Dr. B. A. M. U. Aurangabad, College students & students of various schools visited the laboratory.

The infrastructure facility is also made available to all institutional organization for visit and study purposes and the generated data of Water Quality is also made available to the users who are a member of Hydrology Project.

**WATER QUALITY LABORATORY LEVEL-II @ AURANGABAD**  
**SALIENT FEATURES OF LABORATORY**

1.	Latitude	: 19° 51'30"
2.	Longitude	: 75° 21'18"
3.	River Basin	: Godavari
4.	Year of Establishment	: 2001
5.	Actual Working Started	: October-2001
6.	Sampling Locations As Per W.Q. Network covered in this lab.	: 28
7.	Monthly sample collection	: 28 samples
8.	Samples Frequencies	
	a) Baseline	: --
	b) Trend/Flux	: Monthly
	c) Reservoir	: Monthly
9.	Level of Lab	: Level II
10.	W.Q. Parameters for Level II Lab	: 39 Nos.
11.	Observation Frequency	: Daily
12.	Govt. Staff related to the	: 1) Mr. V. L. Joshi (Ex. Engineer) 2) Mr. V. P. Kulkarni (S.D.O) 3) Mr. A. D. Mahajan (A.E. II) 4) Mrs. S. S. Quadri (Silt Analysist)
13.	Lab. Operating Agency & Staff on contract basis	: 1) Green Friend Environment solution [1/6/2012-30/6/2012] 2) Water Quality Lab Aurangabad [1/7/2012 – 20/9/2012] 3) Papilon Enviro Engineers [21/9/2012 – 31/5/2013]
14.	Staff Position	: 1) Ms. S. P. Deshpande (Chief Chemist) 2) Ms. G. D. Dehadrai (Microbiologist) 3) Mr. Sandeep Bhale (Field Chemist) 4) Mr. S. Gangawane (Lab Assistant)

**SCOPE OF WORK: OPERATION AND MAINTENANCE OF WATER QUALITY  
LABORATORY LEVEL-II AURANGABAD.**

**Outdoor work:** Surface water sampling from selected water quality network sampling points as per schedule of sampling, to be collected as per norms given by World Bank including field test to be carried out on site as per specific Performa of sampling to be collected from laboratory and sample should be reached in the lab, within 24 hrs with field determination test as specified by lab in charge etc.

**The Surface Water sampling includes:**

- Field determination as per standard guideline.
- Field parameters to be tested on site & entry to be taken on ID form.
- Sample to be transported to laboratory within prescribed time limit. Work is carried out as per flow chart.

**Transportation:** Transportation of collected samples from selected sampling points as per list including transportation sampling material as per check list from lab and transportation samples from sampling points back to laboratory as per schedule within 24 hrs.

**Indoor work:-** Operation & Maintenance of Water Quality Laboratory Level-II @ Aurangabad including analysis of water samples as per test procedure & taking entry of collected samples, operating instruments as per manual & keeping data record, primary & secondary validation, participating in AQC Exercise, analysis of samples under AQC, operation within Laboratory AQC exercise including analysis of samples within 31/29 parameters for Dam Samples and 29/27 parameters for trend samples as directed by Lab Incharge each from every station per month within stipulated period by using scientific staff including instrument operations data record maintenance & laboratory Management etc complete.

**Steps in Indoor work:**

- Day to Day Operation and Maintenance of Water Quality Laboratory Level II.
- The work includes analysis of water samples as per the test procedures.
- Operating the instruments as per specified instruction manual.
- Entry of data in SWDES Software.
- Conducting Analytical Quality Control Exercise (AQC) round.
- Within Laboratory AQC ii) Intra Laboratory AQC
- The Laboratory staff employed;
  - Chief Chemist: 1 No.
  - Sr. Research Officers: 1 No.
  - Research Assistant: 2 No.
  - Lab. Assistant: 1 No.
- The Indoor work also includes keeping data record.
- Log book of Lab equipment
- Preparation of monthly sampling Schedule.
- Keeping sampling record, instruments operation, Laboratory Management, demonstration
- Training to Departmental staff as and when required.
- Information to Visitors & Customer

### Water Quality Lab Level-II @ Aurangabad.

#### Statement Showing Number of Samples proposed to be collected for the Period of Work- June 2012 to May 2013

The Water Quality Laboratory Level-II at Aurangabad data for the period of June 2012 to May 2013 is taken for report preparation. Total no of 28 sampling location covered, out of which 20 locations are from river stations of Aurangabad division & Amaravati division, 7 Dam Stations & 1 is creator station. Actual sample from Pategaon Trend Station is collected from Jayakwadi Project.

**Table showing No. of Locations Covered under the Jurisdiction of Water Quality Lab level – II, Aurangabad.**

Sr. No.	Name & Type of Sampling Stations			Monthly Frequency of sampling	Remark
	Type	Station	Name of River		
Location as per W.Q. Network					
Aurangabad Division: River Location					
1	Trend	Newasa	Godavari	Monthly	
2	Trend	Raheri	Purna	Monthly	
3	Trend	Kesrali	Manar	Monthly	
4	Trend	Sundagi	Lendi	Monthly	
5	Trend	Nandednaga	Godavari	Monthly	
6	Flux	Yelli	Godavari	Monthly	
7	Trend	Purnabridge	Purna	Monthly	
8	Trend	Takalidhangar	Godavari	Monthly	
9	Trend	Aurangabad	Kham	Monthly	
10	Trend	Parli Vaijanath	Wan	Monthly	
11	Trend	Gangakhed	Godavari	Monthly	
12	Trend	Latur	Manjara	Monthly	
13	Trend	Killari	Terna	Monthly	
14	Trend	Udgir Takali	Manjara	Monthly	
15	Trend	Hirapur	Sindaphana	Monthly	
16	Trend	Auradshahajani	Terna	Monthly	
17	Trend	Shendurwada	Kham	Monthly	
18	Trend	Rahati	Purna	Monthly	
Amarvati Division: River Location					
19	Trend	Padalse	Tapi	Monthly	
20	Trend	Bhusaval	Tapi	Monthly	
Aurangabad Division: Dam Location					
21	Dam	Lower Terna	Terna	Monthly	
22	Dam	Manjara	Manjara	Monthly	
23	Dam	Majalgaon	Sindaphana	Monthly	
24	Dam	Yeldari	Purna	Monthly	
25	Dam	Vishnupuri	Godavari	Monthly	
26	Dam	U.P.P.	Penganga	Monthly	
27	Dam	Pategaon	Godavari	Monthly	Sample is collected from Jayakwadi project
28	Creator	Lonar	Natural Creator	Monthly	



**Statement Showing Water Quality Parameter  
Tested at W.Q. Lab Level-II Aurangabad.**

<b>Trend &amp; Flux</b>		
	<b>First Round</b>	<b>Second Round</b>
<b>Sr. No.</b>	<b>Parameters</b>	<b>Parameters</b>
1	Colour	Colour
2	Odour	Odour
3	Temperature	Temperature
4	pH	pH
5	Electrical Conductivity	Electrical Conductivity
6	DO	DO
7	Turbidity	Turbidity
8	Total Solids	Total Solids
9	Dissolved Solids	Dissolved Solids
10	Suspended Solids	Suspended Solids
11	Ammonia NH <sub>3</sub>	Ammonia NH <sub>3</sub>
12	Nitrite NO <sub>2</sub>	Nitrite NO <sub>2</sub>
13	Nitrate NO <sub>3</sub>	Nitrate NO <sub>3</sub>
14	T Phosphorous	T Phosphorous
15	B.O.D	B.O.D
16	C.O.D	C.O.D
17	Potassium K	Potassium K
18	Sodium Na	Sodium Na
19	Magnesium Mg	Magnesium Mg
20	Carbonate CO <sub>3</sub>	Carbonate CO <sub>3</sub>
21	Bicarbonate HCO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>
22	Calcium	Calcium
23	Chloride Cl	Chloride Cl
24	Fluoride F	Total Coliforms
25	Boron B	Fecal Coliforms
26	Total Coliforms	Alkalinity
27	Fecal Coliforms	Total Hardness
28	Alkalinity	
29	Total Hardness	

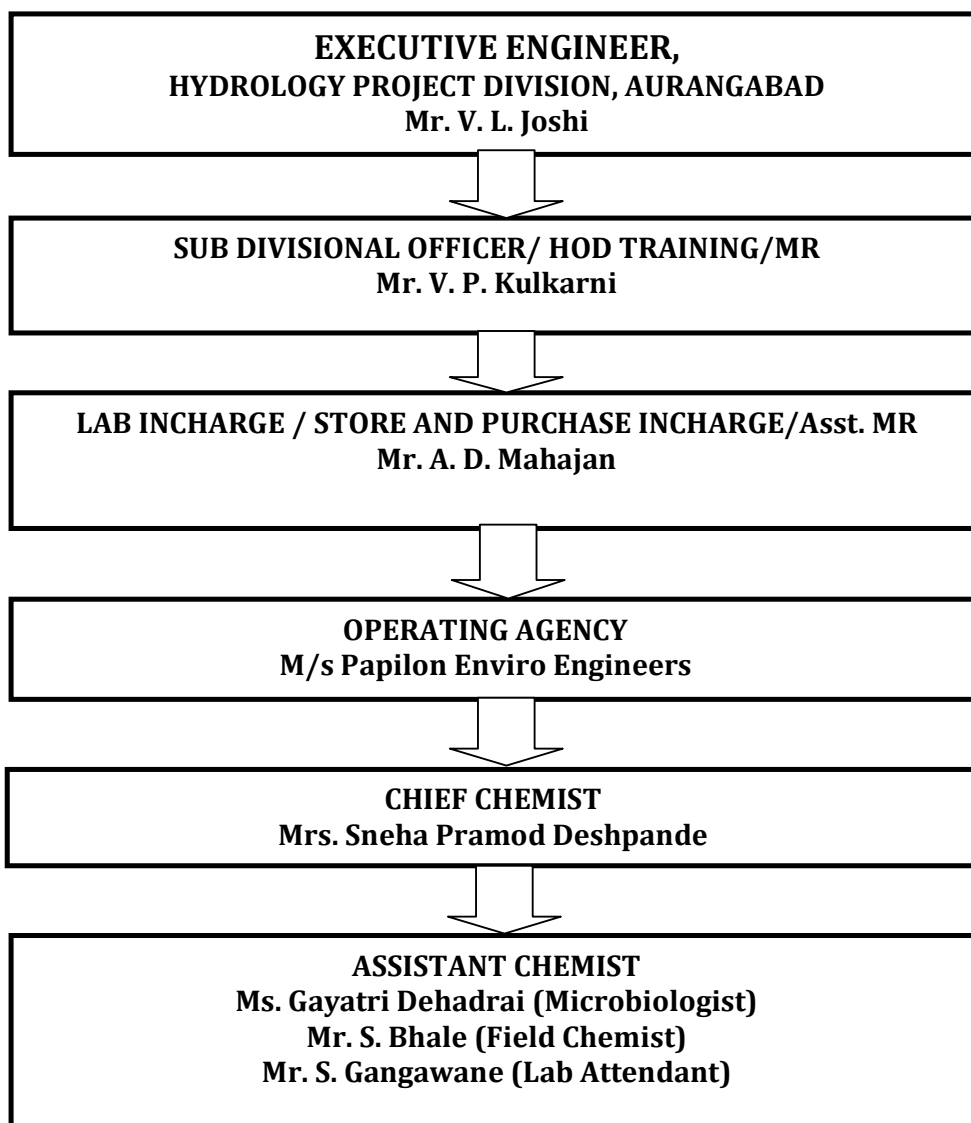
**Statement Showing Water Quality Parameter  
Tested at W.Q. Lab Level-II Aurangabad.**

<b>Dam Sample (Reservoir)</b>		
	<b>First Round</b>	<b>Second Round</b>
<b>Sr. No.</b>	<b>Parameters</b>	<b>Parameters</b>
1	Colour	Colour
2	Odour	Odour
3	Temperature	Temperature
4	pH	pH
5	Electrical Conductivity	Electrical Conductivity
6	DO	DO
7	Turbidity	Turbidity
8	Total Solids	Total Solids
9	Dissolved Solids	Dissolved Solids
10	Suspended Solids	Suspended Solids
11	Ammonia NH <sub>3</sub>	Ammonia NH <sub>3</sub>
12	Nitrite NO <sub>2</sub>	Nitrite NO <sub>2</sub>
13	Nitrate NO <sub>3</sub>	Nitrate NO <sub>3</sub>
14	T Phosphorous	T Phosphorous
15	B.O.D	B.O.D
16	C.O.D	C.O.D
17	Pottassium K	Pottassium K
18	Sodium Na	Sodium Na
19	Magnesium Mg	Magnesium Mg
20	Carbonate CO <sub>3</sub>	Carbonate CO <sub>3</sub>
21	Bicarbonate HCO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>
22	Calcium	Calcium
23	Chloride Cl	Chloride Cl
24	Fluoride F	Total Coliforms
25	Boron B	Fecal Coliforms
26	Total Coliforms	Alkalinity
27	Fecal Coliforms	Kjeldahl Nitrogen
28	Alkalinity	Chlorophyll-a
29	Kjeldahl Nitrogen	Total Hardness
30	Chlorophyll-a	
31	Total Hardness	

## HYDROLOGY PROJECT DIVISION, AURANGABAD

### WATER QUALITY LAB, LEVEL – II AURANGABAD

#### ORGANISATION CHART



## CHAPTER – III METHODOLOGY

## **CHAPTER-III**

### **METHODOLOGY**

#### **3.0 General:**

This Water Quality laboratory covers Surface Water component Rivers like Godavari, Purna, Manjara, Terna and Reservoir like Dams & Lonar Creator from different district locations.

#### **3.1 Rivers:**

A river is a natural watercourse, usually freshwater, flowing toward an ocean, a lake, a sea or another river. In a few cases, a river simply flows into the ground or dries up completely before reaching another body of water. Small rivers may also be called by several other names, including stream, creek, brook, rivulet and rill.

Fortunately almost the entire country is criss-crossed by rivers. Geographical area of the state is divided in different river basins viz. Godavari, Purna, Manjara, Terna etc.

#### **3.2 Methodology**

Analysis of Physical and Chemical parameters is done in the laboratory on the basis of Standard Analytical Methods, Instrument Operating Instructions, HIS Manuals, CPCB Guidelines and APHA, 21st Ed., 2005.

Data analyzed further validated with prescribed method as per Water Quality Manuals to verify various ratios manually and is entered in SWDES Software for Water Quality Data Entry. Further the data is sent to State Data Center for further dissemination to user end.

Furthermore to get an idea about data generated for the period it is decided and instructed to analyzed the generated data for the said period in the form of Annual report with the help of various tools in SWDES Software to find out critical parameters and critical locations in the jurisdiction of this Lab.



**Methodology For the analysis of Water Quality samples the following parameters were analyzed during the Period 2012-13**

**Table showing List of parameters and the methodology used for analysis.**

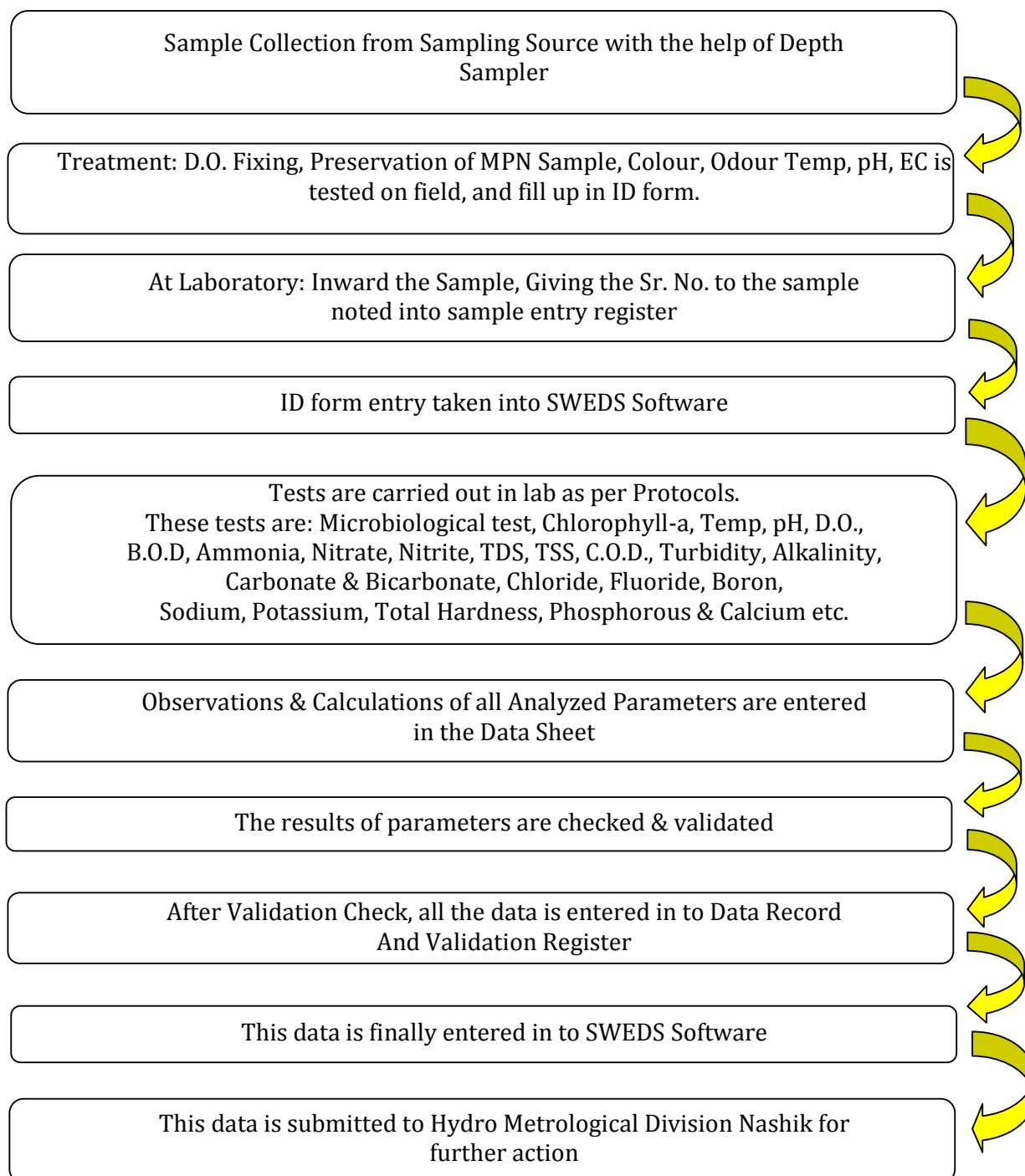
<b>Sr. No</b>	<b>Parameters</b>	<b>Methodology</b>
1.	Colour	APHA, 21 <sup>st</sup> Ed., 2005, 2120-B, 2-2
2.	Odour	IS 3025 (Part 5): 1983, Reaffirmed 2006
3.	Temperature	APHA, 21 <sup>st</sup> Ed., 2005, 2550-B, 2-61
4.	pH	APHA, 21 <sup>st</sup> Ed., 2005, 4500-H <sup>+</sup> - B, 4-90
5.	Electric Conductivity	APHA, 21 <sup>st</sup> Ed., 2005, 2510- B, 2-47
6.	Dissolved Oxygen	APHA, 21 <sup>st</sup> Ed., 2005, 4500-O, 4138
7.	Turbidity	APHA, 21 <sup>st</sup> Ed., 2005, 2130-B, 2-9
8.	Total Solids	APHA, 21 <sup>st</sup> Ed., 2005, 2540 B, -266
9.	Dissolved Solids	APHA, 21 <sup>st</sup> Ed., 2005, 2540 C, 251
10.	Suspended Solids	APHA, 21 <sup>st</sup> Ed., 2005, 2454 D-258
11.	NH <sub>3</sub> -N	APHA, 21 <sup>st</sup> Ed., 2005, 4500-NH <sub>3</sub> F, 4-110
12.	NO <sub>2</sub> <sup>-</sup>	APHA, 21 <sup>st</sup> Ed., 2005, 4500-NO <sub>2</sub> -B, 4-118
13.	NO <sub>3</sub> <sup>-</sup>	APHA, 21 <sup>st</sup> Ed., 2005, 4500-NO <sub>3</sub> , B -4 -120
14.	Total Phosphorous	APHA, 21 <sup>st</sup> Ed., 2005, 4500 P, E, 4-153
15.	Biochemical Oxygen Demand	APHA, 21 <sup>st</sup> Ed., 2005, 5210-52
16.	Chemical Oxygen Demand	APHA, 21 <sup>st</sup> Ed., 2005, 5220-B, 5-15
17.	Potassium K <sup>+</sup>	APHA, 21 <sup>st</sup> Ed., 20053500K,388
18.	Sodium Na <sup>+</sup>	APHA, 21 <sup>st</sup> Ed., 2005, 3500NA,398
19.	Calcium Ca <sup>++</sup>	APHA, 21 <sup>st</sup> Ed., 2005, 3500-B, 3-65
20.	Magnesium Mg <sup>++</sup>	APHA, 21 <sup>st</sup> Ed., 2005, 3500-Mg, B, 3-84
21.	Total Hardness	APHA, 21 <sup>st</sup> Ed., 2005, 2340-C, 2-37
22.	Carbonate CO <sub>3</sub>	APHA, 21 <sup>st</sup> Ed., 2005, 2320-B, 2-27, 5 -1 & 4500-CO <sub>2</sub> -D, 4-34
23.	Bi-Carbonate H CO <sub>3</sub>	APHA, 21 <sup>st</sup> Ed., 2005, 2320-B, 2-27, 5 -3 & 4500-CO <sub>2</sub> -D, 4-34
24.	Chloride Cl	APHA, 21 <sup>st</sup> Ed., 2005, 4500-Cl, B, 4-70
25.	Fluoride F	APHA, 21 <sup>st</sup> Ed., 2005, 4500-F, D, 4-85
26.	Boron B	APHA, 21 <sup>st</sup> Ed., 2005, 4500-B-C, 4-23
27.	Total Coliforms	APHA, 21 <sup>st</sup> Ed., 2005, 9221-B, 9-49
28.	Faecal Coliforms	APHA, 21 <sup>st</sup> Ed., 2005, 9221-E, 9-56
29.	Alkalinity	IS 3025 (Part 23): 1986, Reaffirmed 2003, Amds.1

**3.4 Flow Chart:**

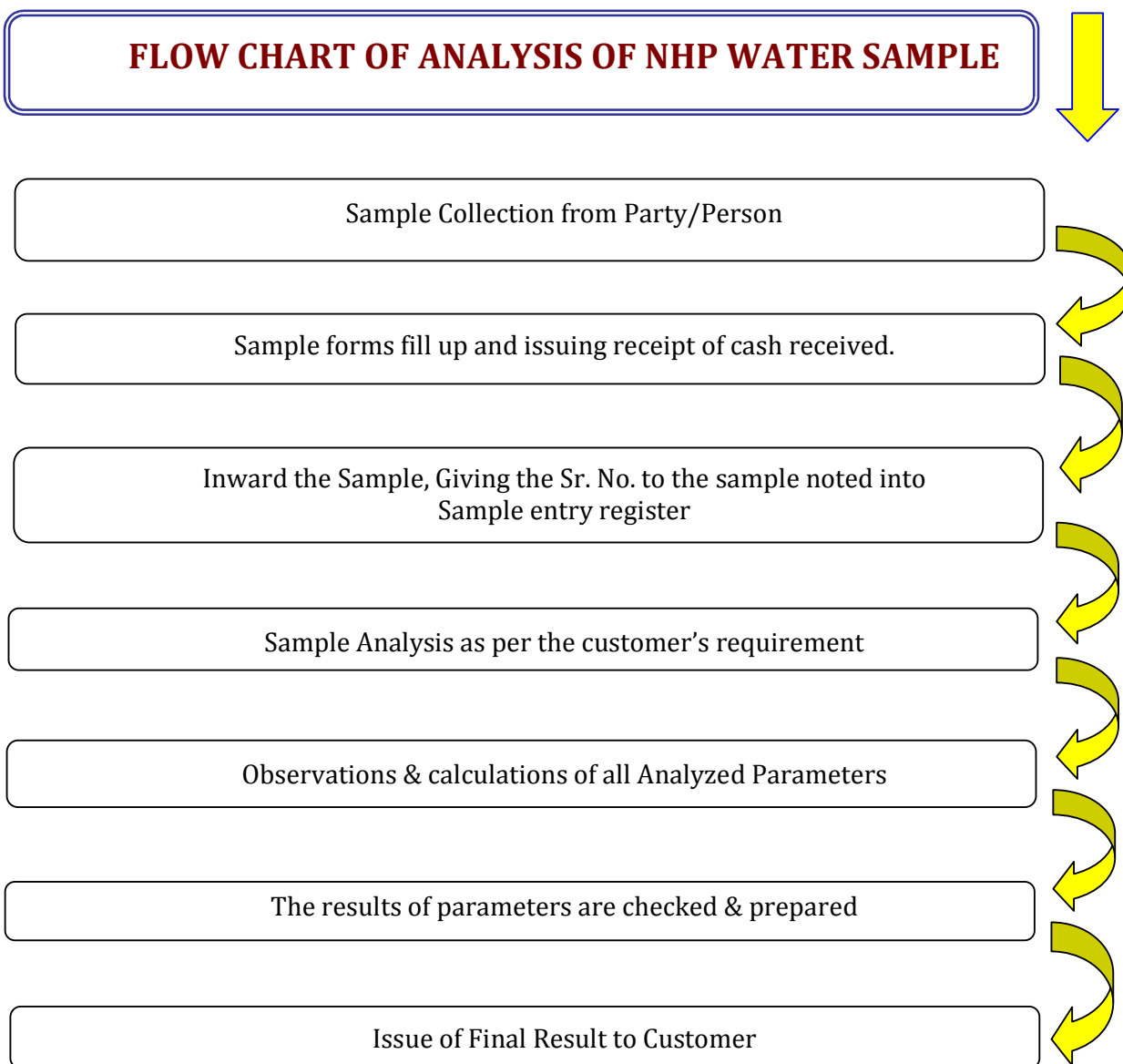
The work of analysis of sample is being monitored on the basis of flow chart generated in the lab as per standard guidelines and analysis of sample is performed as per guidelines of world bank with HIS manuals and APHA, 21st Ed, 2005 as a standard procedures for analysis of samples.

As well refers BIS standards IS:10500 and other relevant BIS standards for analysis of various samples received from users for various purpose like drinking, irrigation, bathing (swimming tank), construction, study & various R & D activities.

## FLOW CHART OF ANALYSIS OF HP WATER SAMPLE



## FLOW CHART OF ANALYSIS OF NHP WATER SAMPLE



**Annual Report  
On Water Quality Monitoring through  
Water Quality Lab level - II  
Aurangabad for the year 2012-2013**

**TABLE SHOWING SAMPLES ANALYSED DURING THE REPORTING PERIOD**

<b>Year</b>	<b>Trend Sample (First Round)</b>	<b>Trend Sample (Balance Round)</b>	<b>Dam Sample (First Round)</b>	<b>Dam Sample (Balance Round)</b>	<b>Total</b>
<b>2012 -13</b>	<b>1</b>	<b>11</b>	<b>8</b>	<b>77</b>	<b>97</b>



## CHAPTER – IV RESULT & OBSERVATIONS

## CHAPTER - IV

### RESULTS AND OBSERVATIONS

#### **4.0 Results and Conclusions:**

The water quality monitoring in the area of surface water is performed in order to determine the quality of water. Various parameters are analyzed in the laboratory and 6 parameters are tested at field level. All these tasks are recorded and are utilized for preparing the Annual Report by performing some specific exercise. These data are considered in order to specify the quality of water at each location. This also helps to determine the pollution level or concentration in each source of water at each station.

#### **4.1 Water Quality status- Stations wise Exercise:**

In order to study water quality status station wise, all locations are considered which comes under the jurisdiction of this lab during the year 2012-13.

#### **4.2 Objectives:**

Observations of respective parameters in view with use of water i.e. for drinking purpose or irrigation purpose, analyzed for each location individually & interpretation of data has done to identify the trend at that location. Also critical parameters are identified at every location.

#### **4.3 Irrigation Water Quality Criteria:**

Soil scientists use the following categories to describe irrigation water effects on crop production and soil quality:

- Salinity hazard - total soluble salt content
- Sodium hazard - relative proportion of sodium ( $\text{Na}^+$ ) to calcium ( $\text{Ca}^{2+}$ ) and magnesium ( $\text{Mg}^{2+}$ ) ions
- pH
- Alkalinity - carbonate and bicarbonate

Specific ions: chloride ( $\text{Cl}$ ), sulfate ( $\text{SO}_4^{2-}$ ), boron (B), and nitrate-nitrogen ( $\text{NO}_3^-$ ). Other potential irrigation water contaminants that may affect suitability for agricultural use include heavy metals and microbial contaminants

### ICAR Standard for Irrigation Water

Sr. No.	Parameter	Limit	Unit
1.	pH	6.5-8.5	-
2.	Electrical Conductivity	2250	Micromhos/cm
3.	Total Dissolved Solids	2100	mg/Lit
4.	Chloride	600	mg/Lit
5.	Sulphate	1000	mg/Lit
6.	Boron	2	mg/Lit
7.	% Sodium	60	%
8.	SAR (Sodium Absorbance Ratio)	26	Meq/L

#### 4.4 Effects of water pollution:

The effects of water pollution are not only devastating to people but also to animals, fish and birds. Polluted water is unsuitable for drinking, recreation, agriculture and industry. It diminishes the aesthetic quality of lakes and rivers. More seriously, contaminated water destroys aquatic life and reduces its reproductive ability. Eventually, it is a hazard to human health. Nobody can escape from the effects of water pollution.

#### 4.5 Critical parameters Identified:

After observing all this data it is clear that most of the physical parameters are within tolerance limit, Physical parameters like TDS and Chloride are within tolerance limits of Dam Samples & some of the River samples but in case of few stations it is observed that the value of TDS is increased. Tested parameters of rivers & dams are within tolerance limit as per Irrigation ICAR Standards. Most of the chemical parameters are also within tolerance limit.



#### 4.6 Classification of locations on the basis of results for the year 2012-2013

OBSERVATION ON THE BASIS OF CLASSIFICATION OF LOCATION			
Sr. No.	River	Year	Observations
1	Aurangabad Division – Trend (River) Station (18)	2012-13	Water is good for irrigation without any further treatment. Except Aurangabad
2	Amaravati Division - Trend (River) Station (2)	2012-13	Water is good for irrigation without any further treatment.
3	Dams Stations (7 +1)	2012-13	Water is good for irrigation without any further treatment. Except Lonar.

#### CPCB Water Quality Criteria

Designated best use	Quality Class	Primary Water Quality Criteria
Drinking water source without conventional treatment but with chlorination	A	<ul style="list-style-type: none"> <li>➤ Total coliform organisms (MPN/100 ml) shall be 50 or less</li> <li>➤ pH between 6.5 and 8.5</li> <li>➤ Dissolved Oxygen 6 mg/l or more, and</li> <li>➤ Biochemical Oxygen Demand 2 mg/l or less</li> </ul>
Outdoor bathing (organized)	B	<ul style="list-style-type: none"> <li>➤ Total coliform organisms(MPN/100 ml) shall be 500 or less</li> <li>➤ pH between 6.5 and 8.5</li> <li>➤ Dissolved Oxygen 5 mg/l or more, and</li> <li>➤ Biochemical Oxygen Demand 3 mg/l or less</li> </ul>
Drinking water source with conventional treatment	C	<ul style="list-style-type: none"> <li>➤ Total coliform organisms(MPN/100 ml) shall be 5000 or less</li> <li>➤ pH between 6 and 9</li> <li>➤ Dissolved Oxygen 4 mg/l or more, and</li> <li>➤ Biochemical Oxygen Demand 3 mg/l or less</li> </ul>
Propagation of wildlife and fisheries	D	<ul style="list-style-type: none"> <li>➤ pH between 6.5 and 8.5</li> <li>➤ Dissolved Oxygen 4 mg/l or more, and</li> <li>➤ Free ammonia (as N) 1.2 mg/l or less</li> </ul>
Irrigation, industrial cooling, and controlled disposal	E	<ul style="list-style-type: none"> <li>➤ pH between 6.0 and 8.5</li> <li>➤ Electrical conductivity less than 2250 micro mhos/cm,</li> <li>➤ Sodium Absorption Ratio less than 26,</li> <li>➤ and Boron less than 2 mg/l.</li> </ul>
	Below E	➤ Not Meeting A, B, C, D & E Criteria

### **Graphical Representation of ICAR Standards Parameter of Rivers for the Year 2012-2013**

In the monsoon period for the year 2012-2013, only one river sample is collected by Aurangabad water quality lab level – II which is Aurangabad station sample. Following are the reasons for non sample collection at other sample collection stations.

- In adequate rain fall during the monsoon.
- Less & non-continuous flow at sample collection station.
- Delay in tendering process of outsourcing work of sample collection and analysis.

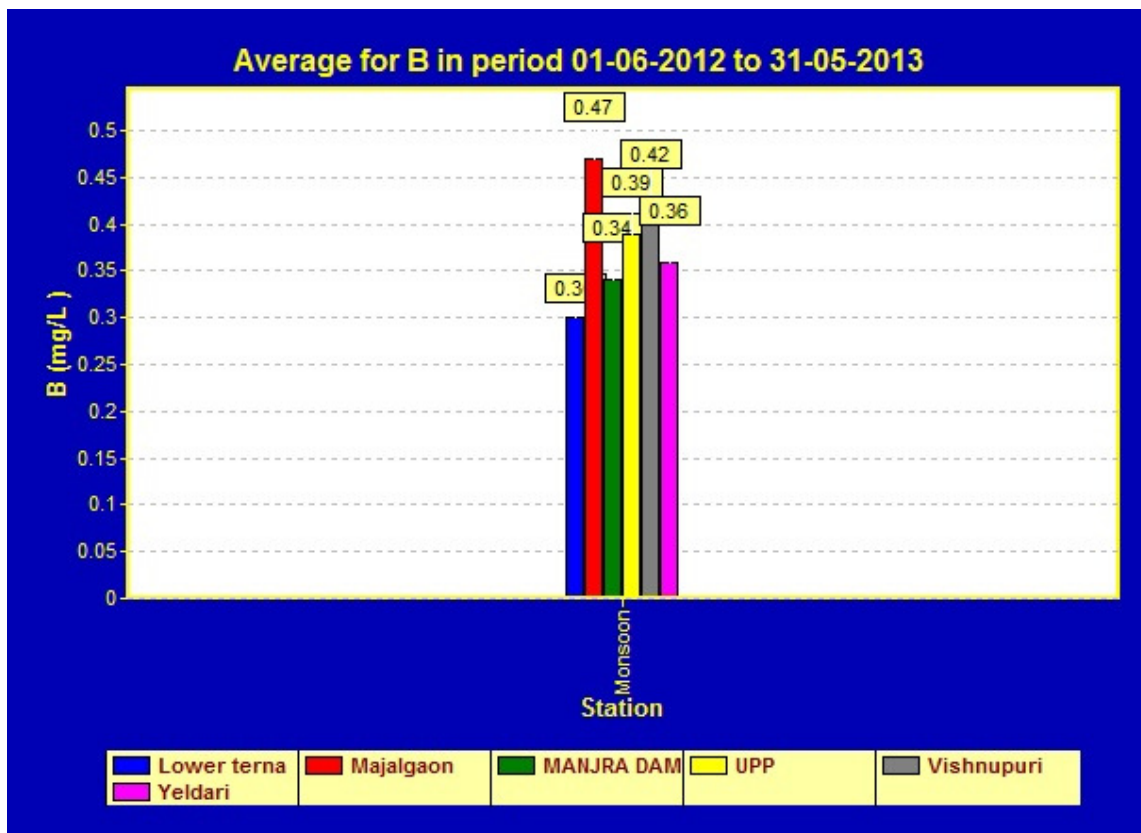
Due this there was only one sample collection at Aurangabad Lab; other river station's sample is not collected, which leads to no data of river samples to represent the quality of water for ICAR standards parameters.

**ICAR Standards Parameter of River station at Aurangabad for the  
Year 2012-2013**

Month	ICAR Standards Parameter					
	pH-Gen (6.5-8.5)	SAR (26)	Chloride (600)	Na% (60)	EC_Gen (2250)	TDS (2100)
Jun-12	7.1	2.8	132.0	46	1073	710
Jul-12	7.6	2.8	198.0	41	1413	1130
Aug-12	7.9	3.6	222.0	46	1419	832
Sep-12	7.7	3.8	235.0	51	1570	1380
Oct-12	7.9	3.2	240.0	43	1603	1340
Nov-12	7.5	3.0	166.0	43	1296	754
Dec-12	7.1	3.1	183.0	44	1765	1026
Jan-13	8.2	4.2	210.0	56	1146	828
Feb-13	7.9	3.5	235.0	47	1198	828
Mar-13	8.1	3.7	245.0	48	1450	920
Apr-13	7.9	3.7	234.0	49	1110	798
May-13	8.0	3.9	287.0	49	1134	772

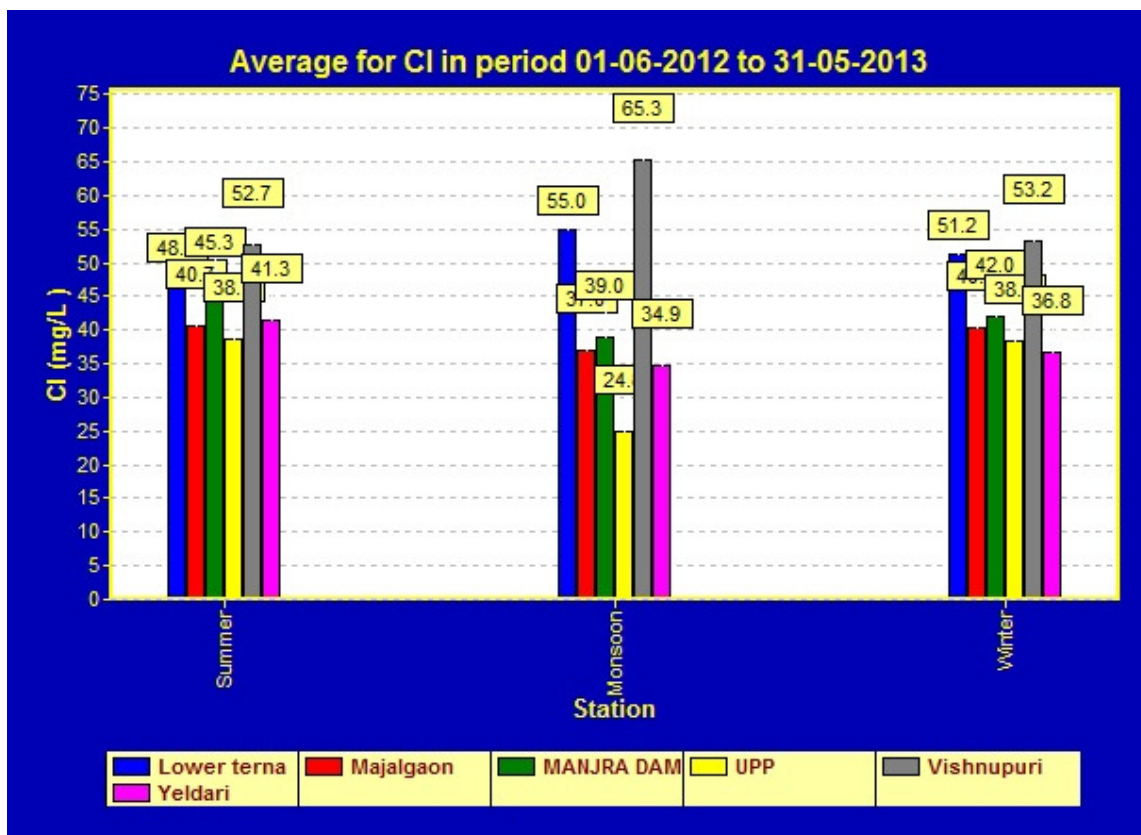
## DAM STATIONS

### Graphical Representation of Boron of Dams for the Year 2012-2013 (As per ICAR Standards Parameter)



Boron is the element that is essential in low amounts, but toxic at higher concentrations. In fact, toxicity can occur on sensitive crops at concentrations less than 2.0 ppm. From above station's graph it is observed that Boron is within tolerance limit.

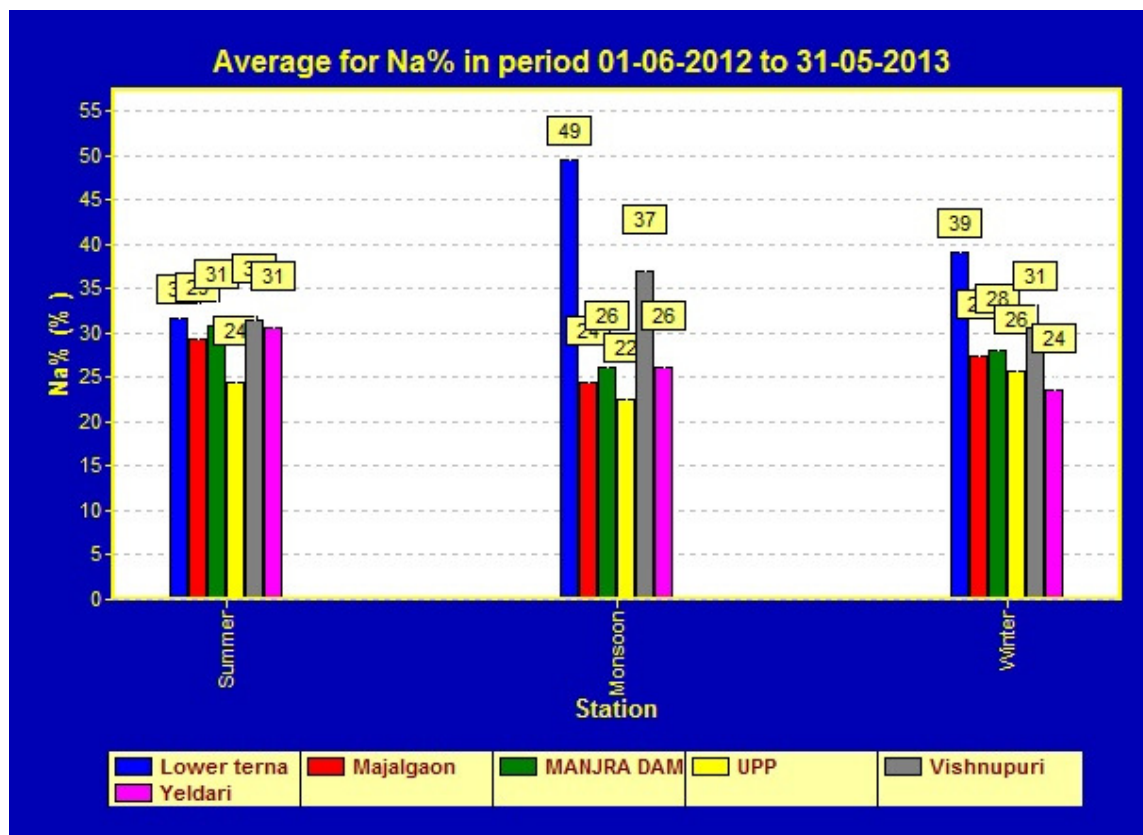
### Graphical Representation of **Chloride** of Dams for the Year 2012-2013 (As per ICAR Standards Parameter)



Chloride is a common ion in irrigation waters. Although chloride is essential to plants in very low amounts, it can cause toxicity to sensitive crops at high concentrations, like sodium high chloride concentrations cause more problems.

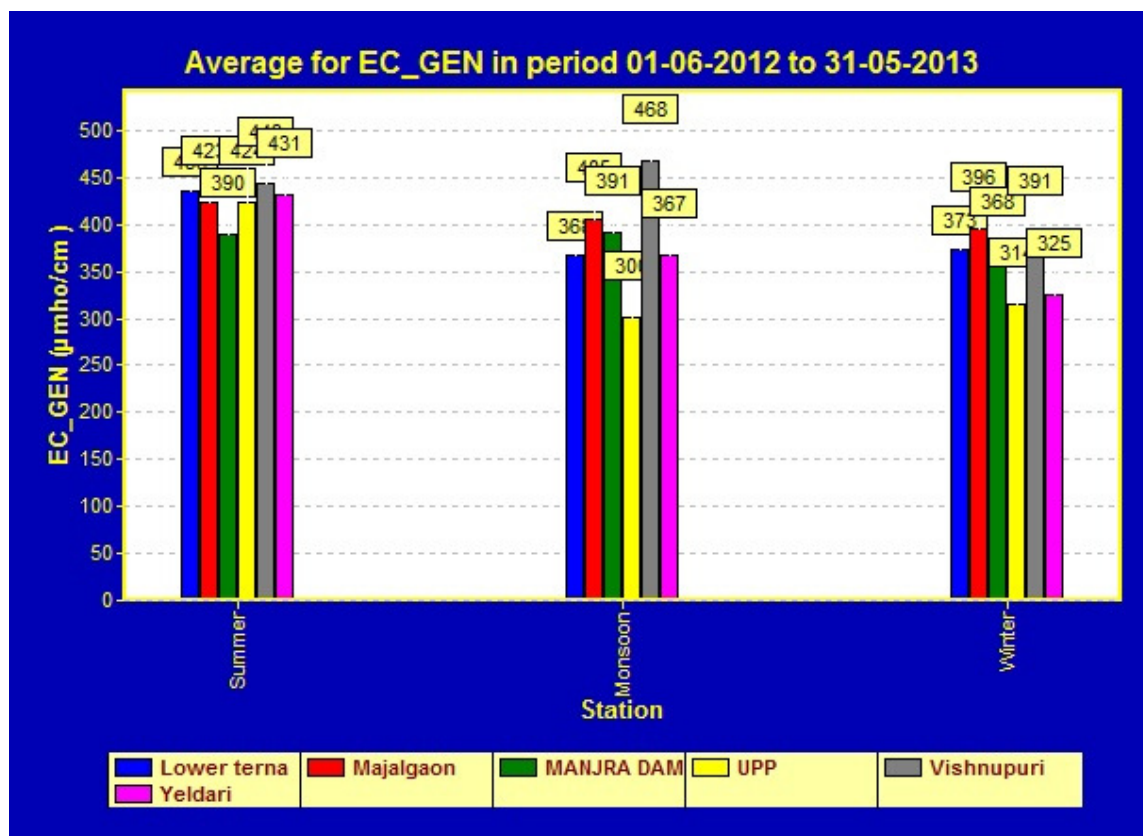
From above station's graph it is observed that Chloride is within tolerance limit.

### Graphical Representation of **Na%** of Dams for the Year 2012-2013 (As per ICAR Standards Parameter)



From above Graph it is observed that the Na% value has fluctuation at every station. However many factors including soil texture, organic matter, crop type, climate, irrigation system and management impacts on how sodium in irrigation water affects soils. Though as per ICAR standards it is within limit.

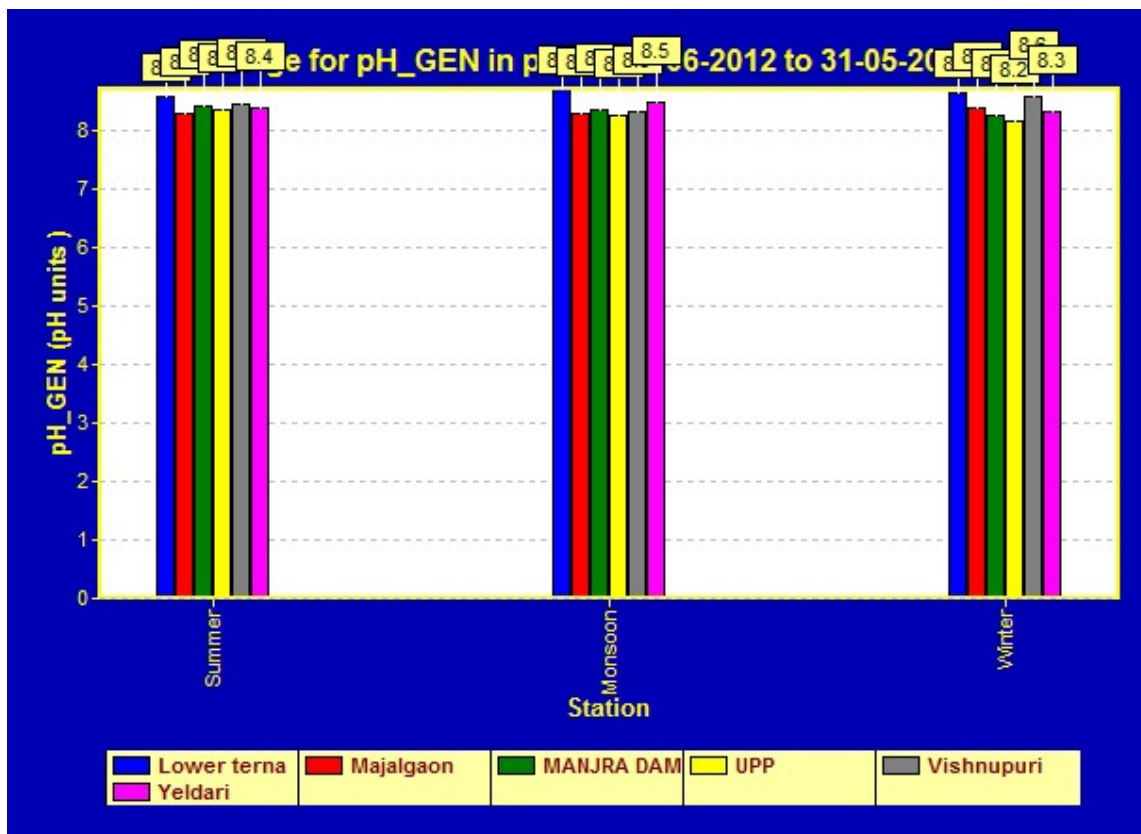
### Graphical Representation of **EC** of Dams for the Year 2012-2013 (As per ICAR Standards Parameter)



Electrical conductivity is an indicator of dissolved metals. Some common metals that may be found in surface water include iron, aluminum, calcium, magnesium and others. High conductivity levels may be due to several different factors.

From above graph it is observed that as per ICAR Stds Electrical Conductivity at all stations is within tolerance limit.

### Graphical Representation of pH of Dams for the Year 2012-2013 (As per ICAR Standards Parameter)

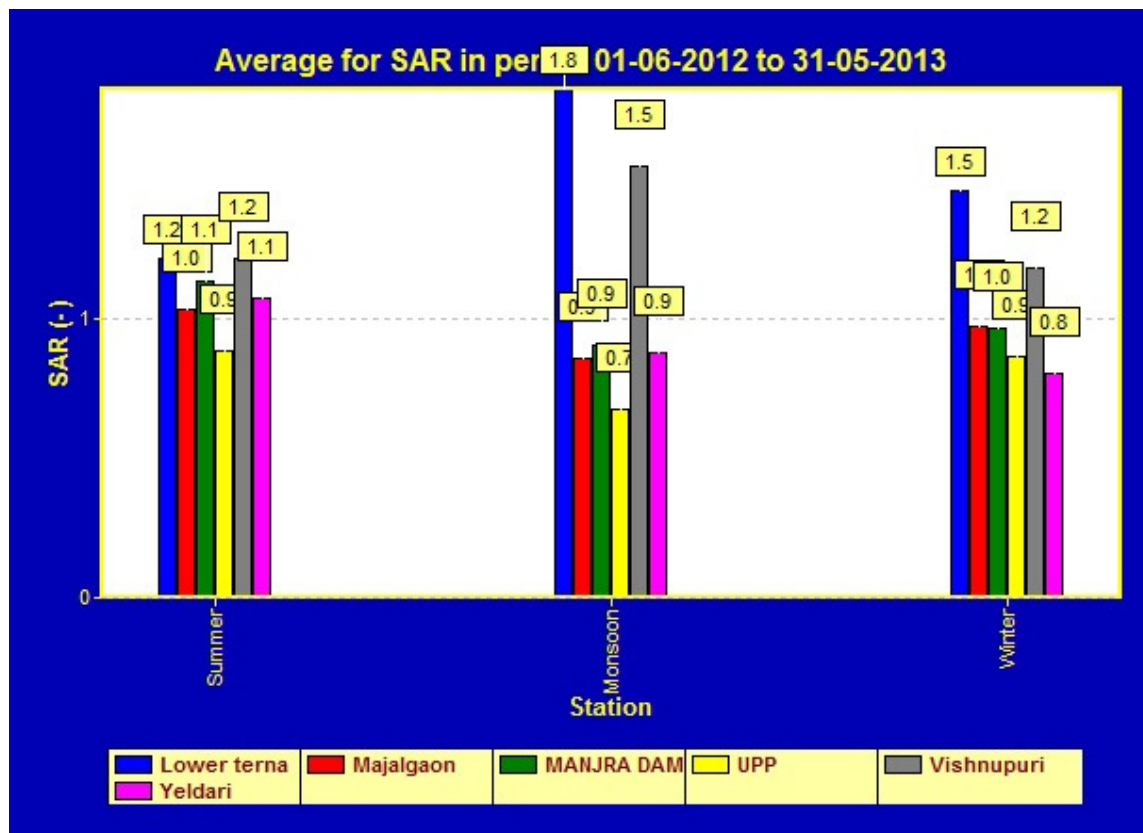


The acidity or basicity of irrigation water is expressed as pH (< 7.0 acidic; > 7.0 basic). High pH's above 8.5 are often caused by high bicarbonate ( $\text{HCO}_3^-$ ) and carbonate ( $\text{CO}_3^{2-}$ ) concentrations, known as alkalinity.

From above graph it is observed that as per ICAR standards water of all station's pH is not within tolerance limit, many times it exceeds the maximum limit slightly.



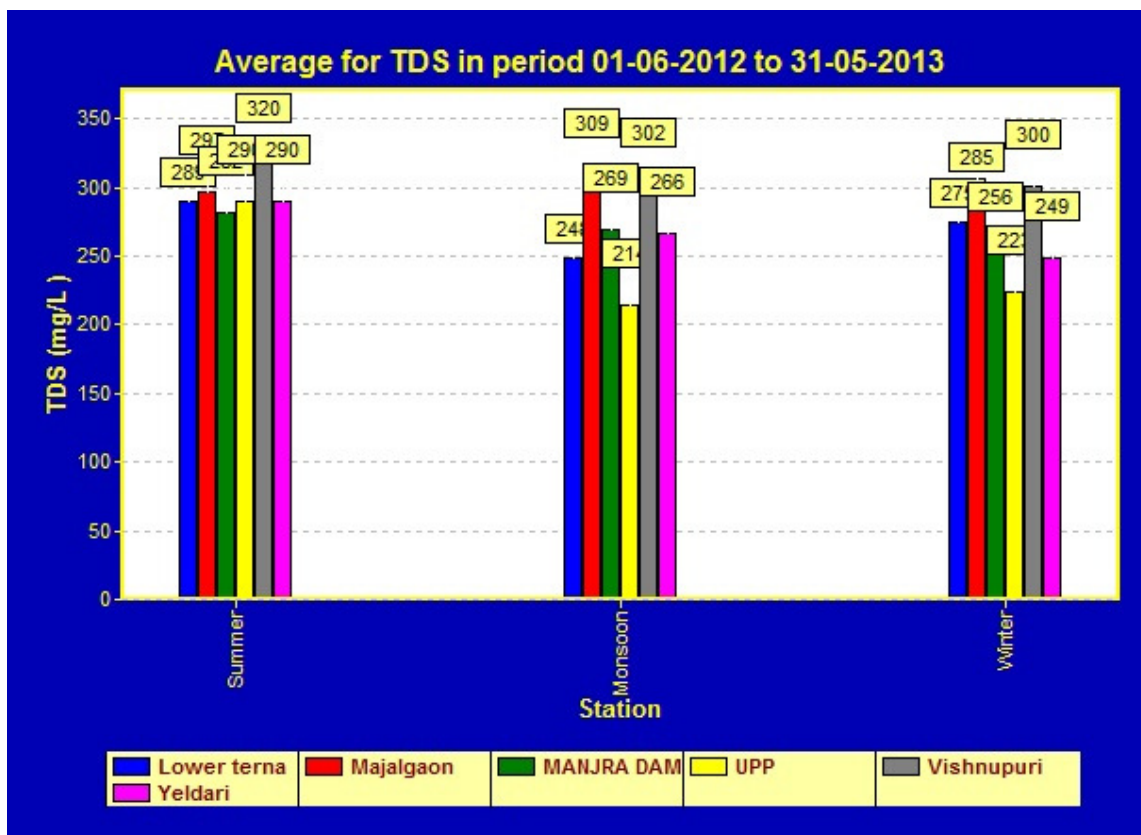
### Graphical Representation of **SAR** of Dams for the Year 2012-2013 (As per ICAR Standards Parameter)



SAR fluctuates while EC is an assessment of all soluble salts in a sample, sodium hazard is defined separately because of sodium's specific detrimental effects on soil physical properties. The sodium hazard is typically expressed as the sodium adsorption ratio (SAR). This index quantifies the proportion of sodium ( $\text{Na}^+$ ) to calcium ( $\text{Ca}^{++}$ ) and magnesium ( $\text{Mg}^{++}$ ) ions in a sample. Calcium will flocculate (hold together), while sodium disperses (pushes apart) soil particles. This dispersed soil will readily crust and have water infiltration and permeability problems.

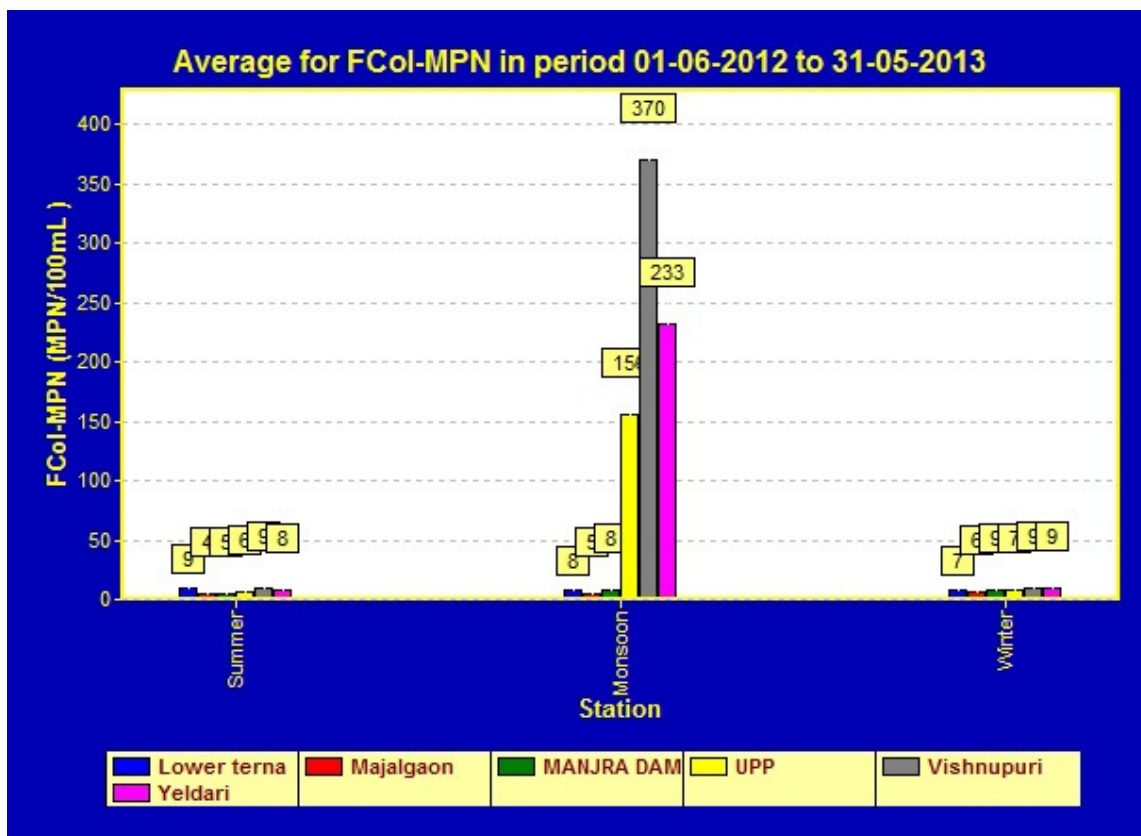
As per above graph SAR is within tolerance limit.

### Graphical Representation of **TDS** of Dams for the Year 2012-2013 (As per ICAR Standards Parameter)



As per ICAR Standards of TDS limit (2100 mg/L), from above graph it is observed that in every month TDS of water is within tolerance limit. TDS is a general indicator of overall water quality. It is a measure of inorganic and organic materials dissolved in water. High levels of TDS in surface water may be due to several factors.

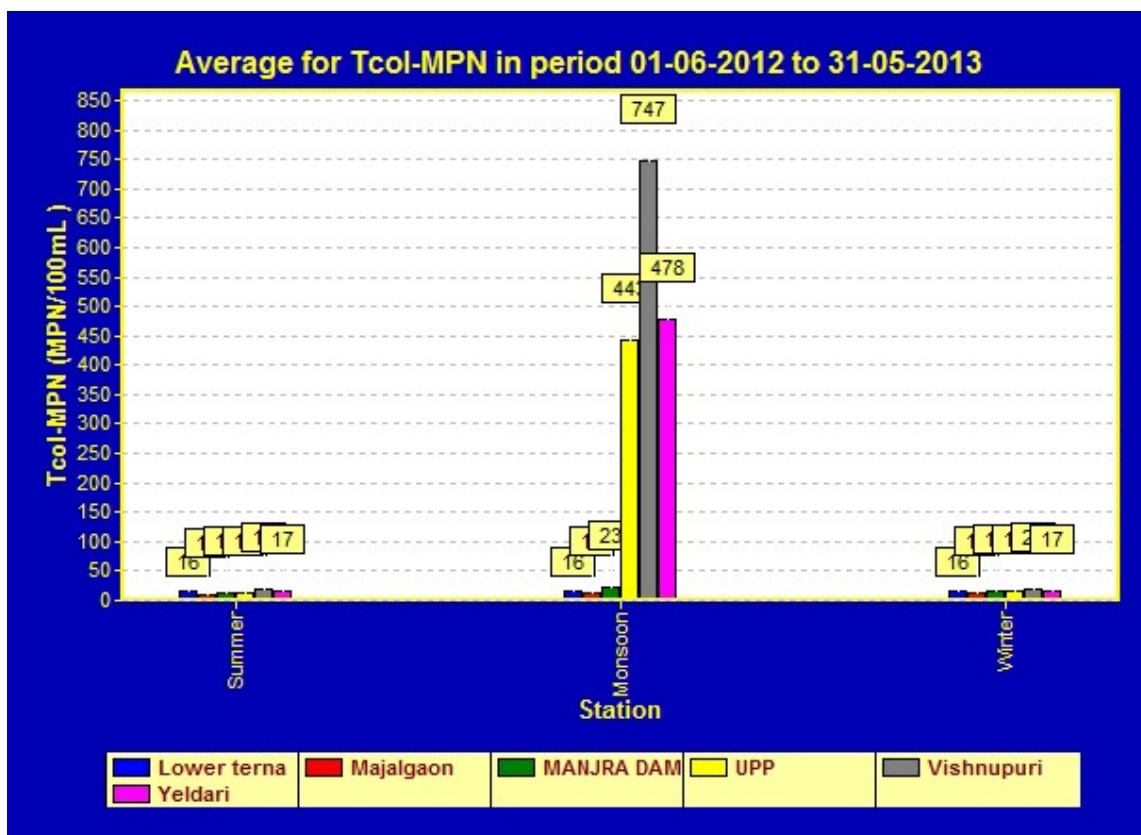
**Graphical Representation of FCol-MPN  
(As per IS-10500 Standards)  
For the Year 2012-2013  
WR Division Aurangabad  
Dam Locations**



When a sample is positive for coliform, it means there is fecal contamination in the water. This could be human or animal, but its implications are more serious than total coli form.

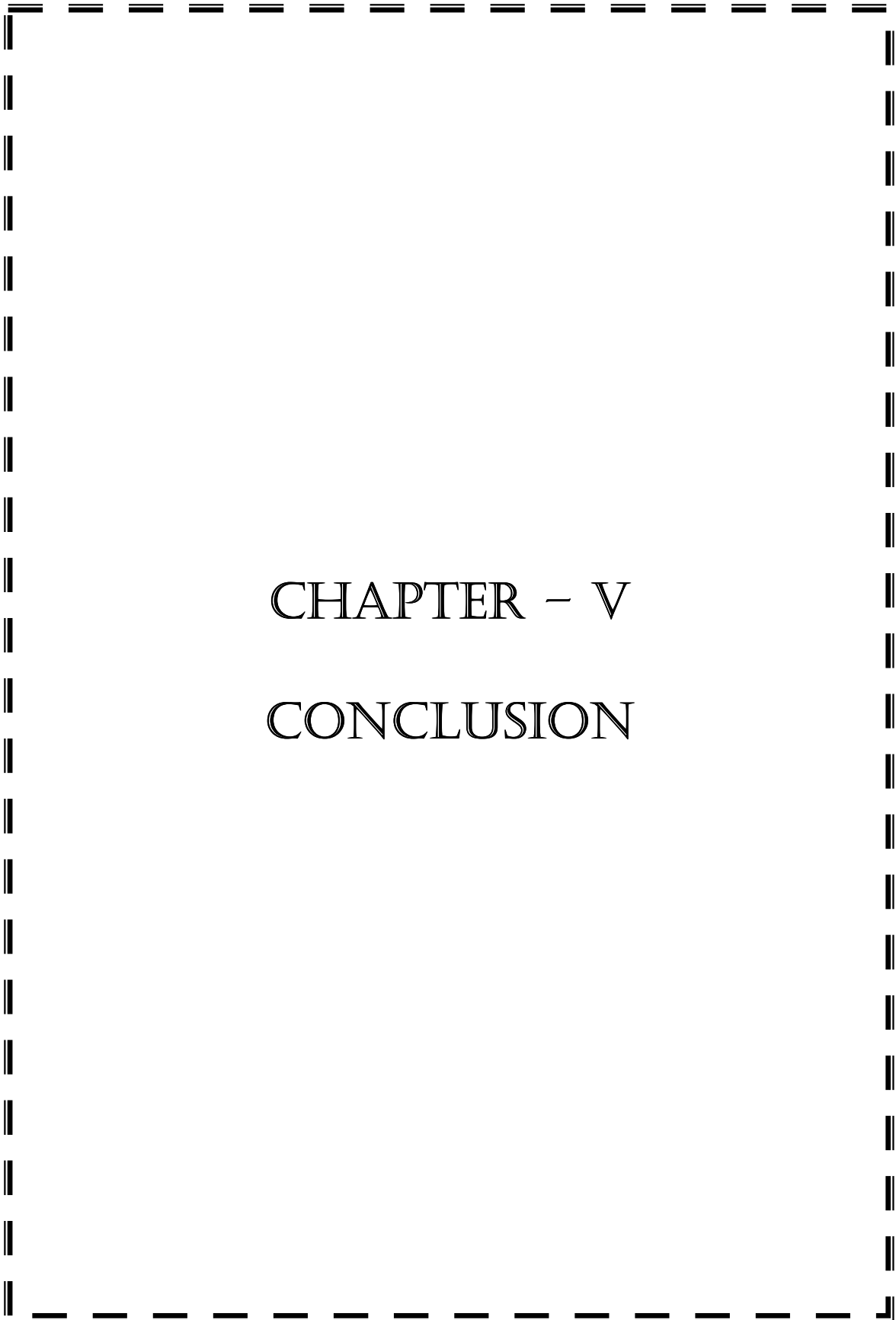
From above graph it is found that at every station there is Fecal Contamination in the water in various seasons. It needs chlorination treatment before use.

**Graphical Representation of TCol-MPN**  
**(As per IS-10500 Standards)**  
**For the Year 2012-2013**  
**WR Division Aurangabad**  
**Dam Locations**



At the time of testing for bacteria two results are given as total Coliform. The first, total coliform is a test for coliform bacteria which are distributed widely in the environment. They are on animals, plants and in the solid, mainly in large numbers on the feces of warm-blooded animals. A positive reading for total coliform bacteria means the water has been affected by the environment and disease-causing organism may or may not be present.

From above graph it is observed that at every station there is Bacterial count in every month. Water should be treated before use.



# CHAPTER – V

## CONCLUSION

## **CHAPTER - V**

### **CONCLUSION**

#### **5.0 Classes of Water:**

**Source: 2295, 1982 & (IS10500, 1983)**

##### **Class A:**

Surface water for use as “Drinking water” Sources without Conventional Treatment

##### **Class B:**

Surface water for out door bathing

##### **Class C:**

Surface water used as “Drinking Water” Source within conventional treatment followed by disinfection.

##### **Class D:**

Surface water used for fish culture & wild life propagation.

##### **Class E:**

Surface water for irrigation, industrial cooling, waste disposal.

### **5.1 Surface water:**

In order to understand drinking water contamination, it is necessary to first understand from where our drinking water comes. For most urban residents, relying upon municipal water systems, drinking water comes from two major sources, groundwater and surface water. These two sources of drinking water will be referenced throughout this guide to water contamination.

Surface water refers to water occurring in lakes, rivers, streams or other fresh water sources used for drinking water supplies. While most drinking water is withdrawn from groundwater sources, surface water remains a significant water resource.

### **5.2 Contaminants resulting from Biological Matter in Water - Human and Animal Feces:**

Though there are multiple ways that pathogens and harmful microorganisms enter the water supply, the principal means of entry is through water contamination by human sewage and/or animal feces. These types of contamination largely affect surface water areas like rivers, lakes and streams from which drinking water is taken. Though most of the diseases caused by drinking water containing fecal material are gastrointestinal, such water can cause more serious and life threatening diseases like hepatitis (A, B and C) and Legionnaire's disease. Hepatitis is an inflammation of the liver, characterized by jaundice, fever and abdominal pain. Acute cases of hepatitis, especially hepatitis C can be fatal. Legionnaire's disease is an infectious, sometimes fatal disease that is characterized by high fever, incessant cough, lung congestion and subsequent pneumonia. The disease can permanently damage such vital, internal organs as the heart and lungs. Ingestion of drinking water contaminated by human or animal feces can also result in higher rates of spontaneous abortion in pregnant women. The effects of pathogen-contaminated drinking water are especially detrimental to cancer patients, as well.

Human and animal feces enter water systems primarily through breakdowns in sewage and improper treatment of surface water sources. Human and animal fecal matter affects surface water almost exclusively, but as surface water bleeds into groundwater through stream and riverbeds, the groundwater can become contaminated as well. Water treatment facilities can certainly lower the presence of human and animal feces in drinking water but they cannot remove it entirely. Current treatment methods are

aimed at protecting surface water sources from contamination before the water enters a treatment plant.

### 5.3 Significance of inorganic chemicals in drinking water:

**Chloride:** The secondary drinking water standard for chloride is 250 mg/L, because some people can detect a salty taste when chloride exceeds 250 mg/L. Chloride itself has no health effect. However, the amount of chloride can be directly tied to the amount of sodium in the water. To find the sodium level of this sample, multiply the chloride level by 1.6. Those individuals, who have high blood pressure and monitor their salt intake, may want to let their physician know if the level is over 250 mg/L.

**Fluoride:** The primary drinking water standard for fluoride is 4 mg/L, and the secondary standard is 2 mg/L. A fluoride concentration of approximately 1.0 mg/L helps to prevent dental cavities and osteoporosis. At concentrations above 2.0 mg/L, fluoride may cause mottling of enamel of permanent teeth (most common in children up to age 10 while teeth are forming). Bone changes can occur if drinking water contains more than 4 mg/L fluoride and if fluoride exceeds 20 mg/L, crippling fluorosis can occur after long term consumption.

**Nitrates:** The primary drinking water standard for nitrate (as N) is 10 mg/L. Excessive nitrate consumption by infants less than one year of age may result in “blue baby” syndrome, also known as methemoglobinemia. Nitrate replaces the oxygen in red blood cells causing an oxygen deficiency in the infants. At the extreme, it can be fatal. High nitrates also effect ruminants (sheep, cattle, etc.) Which are sensitive to nitrates. Elevated nitrates are thought to not pose a direct health threat to children over the age of one or adults

**pH:** The pH scale extends from 0 (which is very acidic) to 14 (which is very alkaline), with 7 being neutral. Drinking water should ideally range from 6.5 to 8.5. Lower pH tends to make metals and hardness minerals more soluble, possible allowing unwanted heavy metals into a water supply. pH levels below 6.5 or above 8.5 could also indicate the presence of a contamination source



**Total Dissolved Solids (TDS):** TDS is a measure of all dissolved inorganic material in water. TDS over 1,000 mg/L is objectionable because of the mineral taste. Harm to humans has not been proven however high TDS (over 400 mg/L) does shorten the lives of water heaters. Concentrations more than 1,000 mg/L can accelerate corrosion in general.

**Total Hardness:** Also called “hardness as Calcium Carbonate.” Calcium and magnesium are the principle minerals contributing to Total hardness; coming from soil and rocks where water readily dissolves them. Iron and manganese can also contribute to the Total Hardness. Water with less than 50 mg/L is considered soft. Although hard water requires more soap and detergent for laundering and deposits scale on fixtures, soft water may be corrosive. Hard water may also possibly aid in the prevention of heart and arterial diseases. Even so, a Total Hardness greater than 400 mg/L is considered excessive hardness as calcium: Hardness as Calcium is usually compared to Total Hardness. When the amount of Hardness as Calcium is subtracted from the Total Hardness reading, the difference is the amount of magnesium in the water. Calcium is usually more prevalent than magnesium. Excessive calcium has been implicated in formation of kidney or bladder stones, while high levels of magnesium may have a laxative effect on these not used to high levels.

#### **Explanation of bacterial analysis:**

**Bacteria:** At the time of testing for bacteria two results are given – total coliform E.coli. The first, total coliform is a test for coliform bacteria which are distributed widely in the environment. They are on animals, plants and in the soil, but are in large numbers in the feces of warm-blooded animals. A positive reading for total coliform bacteria means that the water supply has been affected by the environment, and disease-causing organism may or may not be present. However, it is cause for concern and corrective action, such as well chlorination, should be taken. E.coli is a species of bacteria found in the intestinal tract of warm-blooded animals. When a sample is positive for E.coli, it means there is fecal contamination in the well water. This could be human or animal, but its implications are more serious than total coliform. The well’s construction should be reviewed and the well chlorinated, with a follow-up test done 10 days after chlorination. A negative reading means none of the above bacteria were found in the sample.

## **CONCLUSIONS**

### **5.4 PART I: Conclusion for River Samples:**

In the Year 2012-13 it can be concluded that for Rivers Stations water is good for irrigation purpose without any treatment except Aurangabad, Where contamination is very high. This is mainly due to Contamination of Industrial waste & Sewage waste. Hence, it can be concluded that water from all these sources is suitable for Irrigation purpose except Aurangabad station; it requires treatment before its usage.

### **5.5 Part II: Conclusion for Dam Samples:**

The threat of harmful contaminants in drinking water can no longer be reasonably ignored. The correlation between contaminated drinking water and many significant diseases and health problems is far too strong to discount.

Of course, municipal water treatment facilities have lowered the presence of many of the more harmful contaminants and it has set maximum contaminant levels below which it is assumed that contaminants may be safely ingested into the body. Municipal treatments facilities are not infallible and its levels do not represent a safety level for every person. Children, the elderly and those individuals who already have weakened immune systems, are particularly at risk to drinking water contaminants. Two of the most volatile drinking water contaminants chlorine and fluoride are actually treatment additives. Also lead is other more harmful contaminants, enters drinking water after treatment and cannot be regulated by municipal water systems. Therefore, municipal water systems cannot and should not be trusted to provide healthy, clean drinking water.

There are many home treatment alternatives that can purify drinking water to a greater extent than city treatment plants. Reverse osmosis and distillation two of these alternatives are moderately successful at removing some contaminants, but they are expensive and wasteful.

**5.6 REMEDIAL MESAURES:**

- Use of such water for salt tolerance crop is recommended based on special study.
- Before letting out to the down stream reservoir such source of water to be taken into consideration for the specific use.
- Classification of source may be as per use of water for irrigation based on Sodium Absorption Ratio, Percent Sodium, and Residual Sodium Carbonate.
- Effluent from non point sources to be treated before discharging into the river, Use of direct source of water to be avoided



## CHAPTER – VI OTHER ACTIVITIES

## **CHAPTER-VI**

### **OTHER ACTIVITIES**

#### **6.1 REVENUE GENERATION TO GOVERNMENT OF MAHARASHTRA**

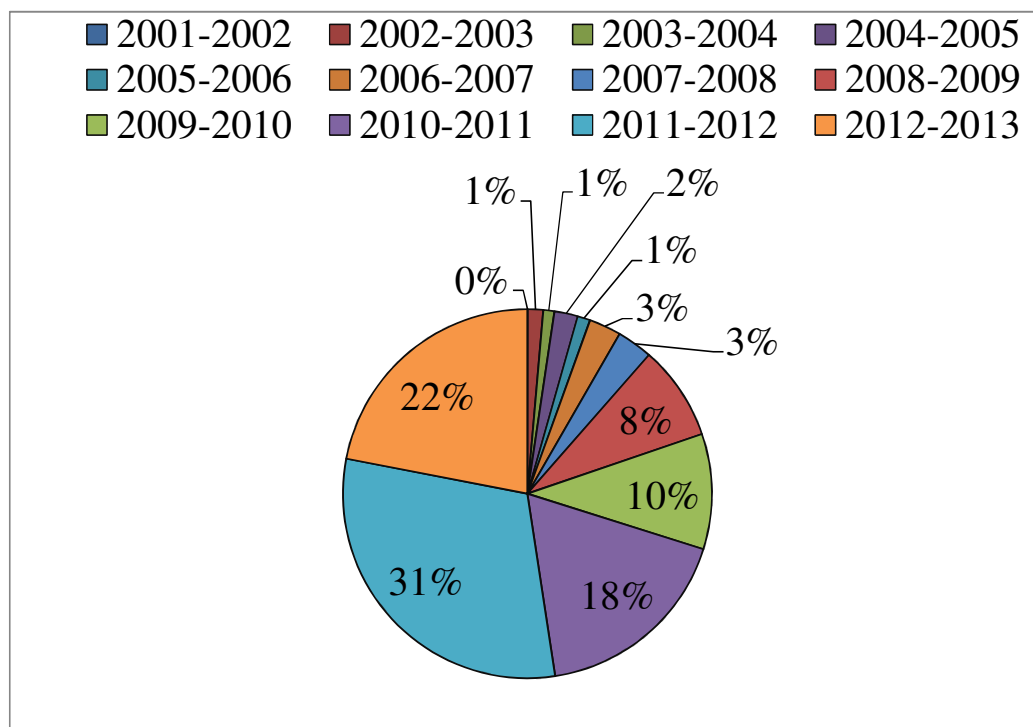
Apart from monitoring of water quality network for Water Quality lab level II at Aurangabad, the infrastructure facility is made available to the users from various Government, Non Government, Private sector as well as individuals.

The facility is availed by many users with testing of sample towards drinking purpose, ice factory, construction purpose, swimming tanks, irrigation purpose & study purpose. During the year 2012-13 many clients approached to the laboratory. The valuable clients availed the facility of the laboratory are as below;

### Revenue Received from year 2001-02 to 2012-13

Year	Amount
2001-02	408
2002-03	35,995
2003-04	25,941
2004-05	54,248
2005-06	29,557
2006-07	74,652
2007-08	82,879
2008-09	2,20,243
2009-10	2,67,252
2010-11	4,70,278
2011-12	8,06,846
2012-13	5,82,127

**Pie Diagram Of  
Revenue Received from month year 2001-02 to 2012-13  
Water Quality Lab Level II Aurangabad**



## Annual Report

### Water Quality Monitoring Through Water Quality Lab Level-II Aurangabad for the Year 2012-13

#### ANNEXURE - II

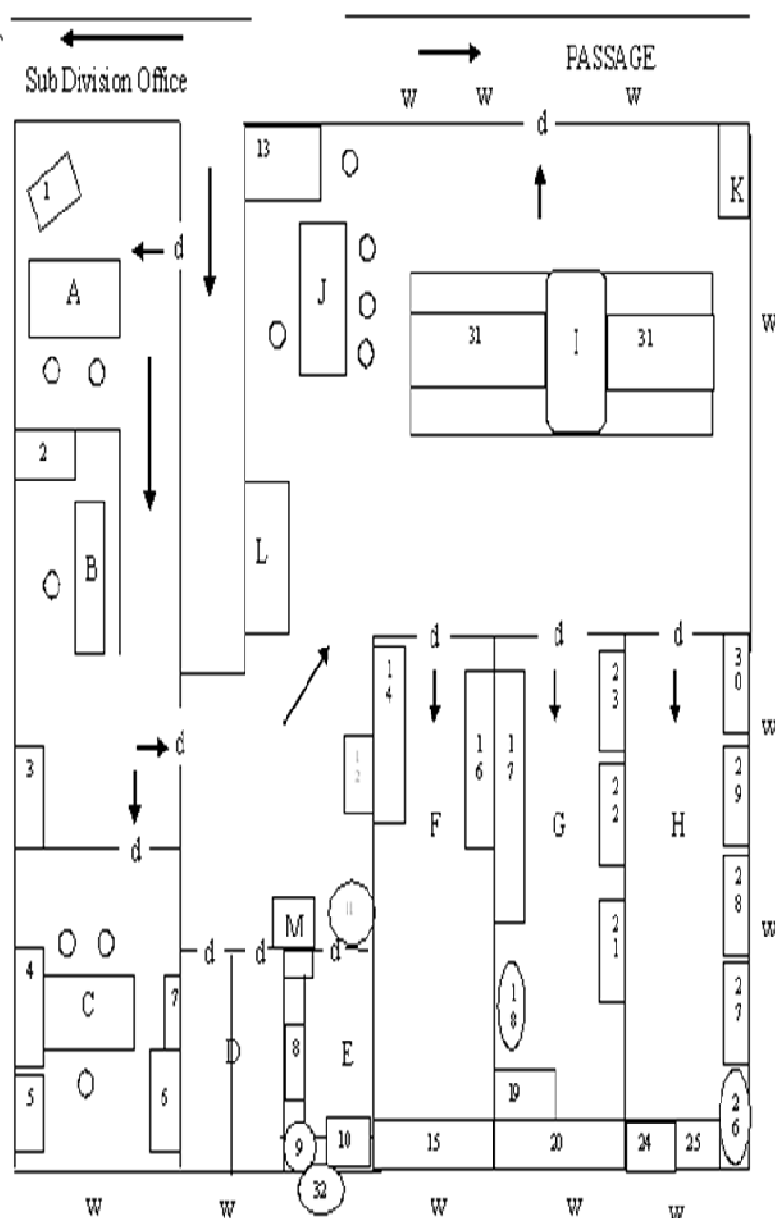
Chapter	Particulars	Page No.
I	LIST OF CLIENTS 2012-13	56 - 57
II	LAY OUT OF LAB LEVEL- II	58
III	PAPER CUTTINGS	59 - 60
IV	VISITORS COMMENTS	61 - 62
V	PHOTOGRAPHS	63 - 64



List of Selected Clients of 2012-13  
Analyzed Water Sample

Sr. No.	Name of Clients	Purpose
	<b>Government Bodies</b>	
1	Airport Authority of India, Aurangabad	Drinking
2	Section Officer, MIDC, Paithan	Drinking
3	Nagar Parishad AUSA	Drinking
4	Nagar Parishad, Gangakhed	Drinking
5	Dy Engineer MIDC EM sub division Abad	Drinking
6	Executive Engineer MIDC Abad	Drinking
7	AGM, NBCC, Latur	Construction
8	Grampanchayat Office, Gangapur	Drinking
9	Grampanchayat Office, Partur	Drinking
10	Grampanchayat Office, Phulambri	Drinking
11	Executive Engineer MIDC Dhule	Drinking
12	Municipal Corporation Aurangabad	Drinking
13	AE, CPWD, A'bad	Construction
	<b>Industries</b>	
14	Ajeet Seeds Ltd, Chitegaon Tq. Paithan Dist. A'bad	Drinking
15	Varroc Engineering Pvt. Ltd. A'bad	Industrial
16	Morganite Crucible Ltd. A'bad	Drinking
17	Akar Tools Ltd. Waluj	Drinking
18	Jolly Board Ltd, A'bad	Drinking
19	Aurangabad Electricals Ltd., A'bad	Industrial
20	Nirlep Appliances Ltd. Chikalthana	Industrial
21	Trend Electronics, A'bad	Industrial
22	Bhoomi Associates, A'bad	Industrial
23	Dhoot Transmission Pvt. Ltd. Aurangabad	Drinking
24	Greaves Cotton Ltd. A'bad	Research
25	Endurance Technology Ltd, A'bad	Drinking
26	Wockhardt R & D, A'bad	Drinking
27	Franke India Pvt. Ltd. A'bad	Drinking
28	Kesari Chemical Industry	Research
29	Good Year South Asia Tyres, A'bad	Industrial
30	Amulet Coating Pvt. Ltd A'bad	Drinking
31	Jailakshami Casting Alloy	Drinking
32	Jaylaxmi casting, Farola	Industrial
33	Kashvi Chemicals, A'bad	Drinking
34	Kaygaon Paper Mill	Drinking
35	Radiant Indus Pvt. Ltd., A'bad	Drinking
36	Ajanta Pharma Ltd.	Industrial
37	Mukteshwar Sugar Mills Ltd	Drinking
38	NHK Automobile Components Pvt. Ltd. A'bad	Industrial
39	United Breweries Ltd. A'bad	Drinking
40	Laxmi Agni Components & Forgings Pvt. Ltd. A'bad	Drinking
41	OMR Bagla Automotive A'bad	Industrial
42	Metalman Auto Pvt. Ltd. A'bad	Drinking
43	Millenium Beer Industry Pvt. Ltd. Waluj	Agriculture
44	RADICO NV Distilleries, Shendra, A'bad	Industrial
45	Monsanto Holdings Pvt. Ltd., A'bad	Drinking
46	Savera Auto Comps Pvt. Ltd.	Drinking
47	Marathwada Auto Pvt. Ltd. A'bad	Drinking
48	Shree Swami Samarth Industries, Chikalthana, A'bad	Drinking
49	NRB Industrial Bearings Ltd.	Drinking
50	Shradha Energy & Infraprojects Pvt. Ltd. Partur	Drinking
51	Videocon Ltd. A'bad	Drinking

52	Radhey Machining Pvt. Ltd. Pune	Drinking
53	Janta Seva Ice Factory, A'bad	Drinking
	<b>Hospitals &amp; Hotels</b>	
54	Bembde Hospital A'bad	Drinking
55	Kamalnayan Bajaj Hospital	Drinking
56	Hedgewar Hospital, A'bad	Drinking
57	Ciigma Instiitute of Medical Science, A'bad	Drinking
58	Hotel Shivneri, A'bad	Drinking
59	Lemon Tree Hotel A'bad	Drinking
60	Welcom Hotel Ram International A'bad	Drinking
61	Hotel Shree Ganesh, A'bad	Drinking
62	City Care Super Specialist Hospital A'bad	Drinking
	<b>Educational Institute</b>	
63	Deogiri College A'bad	Drinking
64	Dr. Babasaheb Ambedkar Marathwada University A'bad	Drinking
65	St. Lawrence High School, A'bad	Drinking
66	M. G. M. J. N. E. College	Drinking
67	Podar School Jalna	Drinking
68	Podar International School, A'bad	Drinking
69	Ambarwadikar Institute Waluj	Drinking
70	MIT College A'bad	Drinking
71	Omkar Balwadi A'bad	Drinking
72	MGM Polytechnic College	Drinking
73	Spandan Pratishthan Acadamy, Vaijapur	Drinking
74	New Arts ,Science, Commerce College, Shevgaon Dist. Ahmadnagar	Drinking
75	Gulista Urdu School, A'bad	Drinking
76	Vishwashanti Dnyanpith Junior College, Parbhani	Drinking
77	Narmada Convent School, A'bad	Drinking
78	Kilbill Primary School, Karmad	Drinking
	<b>Other Prominent Clients</b>	
79	Balaji Mineral Supplier, A'bad	Drinking
80	Iskcon Food Relief Foundation, A'bad	Drinking
81	Fortrees Infrastructure A'bad	Drinking
82	Godavari jaldhara, A'bad	Drinking
83	Jalsamrudhi Water Purification Systems, A'bad	Drinking
84	Aditi Water Supplier A'bad	Drinking
85	Ion Exchange India Ltd. Dapoli Pune	Drinking
86	Areena Aqua, A'bad	Construction
87	Satyam Water Supplier, A'bad	Drinking
88	Sai Water Purification System, A'bad	Drinking
89	Fame India Ltd. Abad	Drinking
90	More Mega Store A'bad	Drinking
91	Shopper Stop A'bad	Drinking
92	Neel Operations, Abad	Industrial
93	Nirmal Water System	Drinking
94	Pantallons Retail Prozon Mall	Drinking
95	Sakal Papers Pvt. Ltd. A, bad	Drinking



LAYOUT PLAN OF WATER QUALITY LEVEL - II LABORATORY,  
HYDROLOGY PROJECT, AURANGABAD

### LEGENDS

1	Display Board
2	Cup Board 1
3	Cup Board 2
4	Computer Table
5	Inverter
6	Cup Board 3
7	Cup Board 4
8	Distilled Water Assembly
9	Sink
10	Kjaldahl Distillation Unit
11	Sink
12	Refrigerator
13	Cupboard Lab 1
14	Non Hazardous Chemicals
15	Desigatior, Weighing Balance
16	Hazardous Chemicals
17	Working Table
18	Autoclave
19	Distillation Unit
20	Centrifuge & Water Bath Unit
21	BOD Incubator
22	Deep Fridge
23	Bacteriological Incubator
24	Computer
25	Spectrp Photometer
26	Sink
27	Turbidity Meter
28	pH Meter
29	EC Meter
30	COD Digester Unit
31	Analysis Platform
32	Exhaust
A	Reception Table
B	INWARD & OUTWORD
C	Lab Office
D	Toilet
E	Distillation Unit/Pantry
F	Chemical Storage Room
G	Microbiological Room
H	Instrumental Room
I	Washing Bath
J	Chemist Table
K	Waste Disposal Area
L	Received Sample Location
M	Field Kit Cupboard



## Paper Cuttings

### आयएसओ प्राप्त जलगुणवत्ता प्रयोगशाळेतून ३ हजारांहून अधिक पाणी नमुन्यांची तपासणी

महाराष्ट्र शासन, जलसंपदा विभागातर्गत औरंगाबाद येथे जलविज्ञान प्रकल्पातर्गत आयएसओ १००१-२००८ प्रमाणित जलगुणवत्ता प्रयोगशाळा स्तर-२ ही सन २००१-०२ या वर्षापासून औरंगाबाद येथे कार्यान्वित असून आयएसओच्या निर्देशानुसार नियमित तपासणीसह नुतनीकरण झालेले आहे.

या जलगुणवत्ता प्रयोग शाळेने सन २००१ ते २०१२ च्या जुलै अखेरपर्यंतच्या कालावधीत एकूण ३०३७ पाणी नमुन्यांच्या तपासणी पोटी शुल्क म्हणून २१ लाख ५७ हजार ९४२ रुपयांचा महसूल मिळविला आहे. महसूल मिळविणे हा प्रयोग शाळेचा उद्देश नसून समाजातील विविध घटकांच्या माध्यमातून जनतेला जनतेला जलगुणवत्ता चाचणीच्या माध्यमातून शुद्ध पाणी मिळवून देणे हा होय.

महाराष्ट्रात कृष्ण, गोदावरी, तापी, नर्मदा आणि पश्चिम वाहिनी नद्यांची खोरी येतात. जलविज्ञान प्रकल्पात पर्जन्यमापन केंद्रे, हवामान केंद्रे व सरितामापन केंद्रे, जलगुणवत्ता प्रयोगशाळा स्तर-१ व २, पाणी नमुना संकलन केंद्रे, महाराष्ट्रात औरंगाबाद, नाशिक, ठाणे, पुणे, कोल्हापूर, नागपूर येथे जलगुणवत्ता प्रयोगशाळा स्तर-२ कार्यरत आहेत.

औरंगाबाद शहरातील मारखेडा परिसरात हेडगेवार रुग्णालयाजवळ ही जलगुणवत्ता प्रयोगशाळा मराठवाड्यातील एकमेव असून प्रयोग शाळेची इमारत व अत्याधुनिक उपकरणे ही जागतिक बँकेच्या प्रमाणानुसार आहेत.

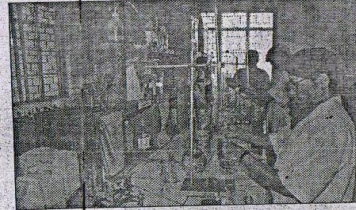
मुख्य अभियंता श्री.गोसावी आणि अधीक्षक अभियंता अशोक सुर्यवंशी, कार्यकारी अभियंता व्ही.एल.जोशी, उप विभागीय अधिकारी विनायक कुलकर्णी व प्रयोगशाळा प्रमुख म्हणून आशय महाजन यांच्या अंशदर्शनाखाली तसेच प्रशिक्षित प्रयोगशाळा कर्मचारी या प्रयोग शाळेच्या

पाणी नमुने तपासणीचे काम पृथक्करण गुणवत्ता चाचणी नुसार करतात. याकामी केंद्रीय प्रदुषण नियंत्रण मंडळ, नवी दिल्ली यांचा मार्च २००९ पासून पृथक्करण गुणवत्ता चाचणीत सहभाग लाभलेला आहे.

प्रयोग शाळेमार्फत पिण्याच्या व सांडपाण्या संदर्भातील जवळपास ५७ प्रकारच्या चाचण्या करता येतात. जलगुणवत्ता चाचणीत शासकीय, निमशासकीय, स्वयंसेवी संस्था, ग्रामपंचायती, खाजगी व्यवसायिक, उद्योजक, घरगुती, शहरी व ग्रामीण भागातील ग्रामस्थ, शेतकरी, कारखानदार यांच्याकडे वापरण्यात येणाऱ्या जलाची अद्ययावत पद्धतीने पृथक्करणासह तपासणी केली जाते. यासह २००१ पासून नदीच्या पाण्याचे नमुने संकलीत करून त्यांच्या चाचण्या करण्यात येतात मराठवाड्यातील जायकवाडी, सिध्देश्वर, मानार, येतदरी, माजलगांव, मांजरा, उध्दनिगंगा, निम्मेतरणा यासह बुलढाणा जिल्ह्यातील लोणार सरोवरातील पाणी नमुन्यांची तपासणी करण्यात येऊन त्यांच्या निष्कर्षांची नोंद ठेवण्यात येते.

मराठवाड्यातील, मोठ्या नद्या व जलाशय (घरणे) यांची जलगुणवत्ता तपासणीची माहिती (पृथक्करण गुणवत्ता चाचणी) २००१ पासून उपलब्ध असल्याने या माहितीचा (डाटा) संशोधक व अभ्यासकांसाठी उपलब्ध आहे. मोठ्या नद्या व जलाशयाबरोबरच लहान जलाशयातील पाण्याची गुणवत्ता तपासणीसाठीही प्रयत्न होत आहे. मराठवाड्यातील ही एकमेव जलगुणवत्ता प्रयोगशाळा असल्याने औरंगाबाद जिल्ह्याव्यतिरिक्त जळगांव, लातूर, व अन्य जिल्ह्यातील नागरिक, व्यावसायिकांकडून पाण्याचे नमुने तपासणी करून घेण्यासाठी सहभाग नोंदविण्यात आलेला आहे.

या प्रयोग शाळेचे कामकाज जागतिक आरोग्य संघटना भारतीय मानकानुसार होत असल्याने गंगवतापुर्ण सेवा देण्यास ही संस्था

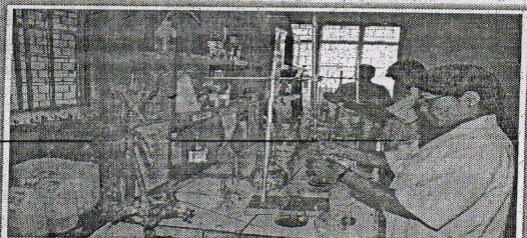


कटीबंध असून गुणवत्ता विषयक माहितीचा उपयोग प्रदुषण नियंत्रण व पर्यावरण संतुलनासाठी होणार आहे. या प्रयोग शाळेत विविधित बिंदूवरील पाणी नमुना पृथक्करण व्यतिरिक्त उपभोक्ता व सामान्य नागरिकांना भावरयक असल्यास पाणी तपासणी देण्याची सुविधा नाममात्र दरात उपलब्ध करून दिली जाते. प्रचार,प्रसार व प्रसिद्धी माध्यमांकडील वेळोवेळच्या सहकार्यामुळे जलगुणवत्ता प्रयोग शाळेकडे नागरिकांचा प्रतिसाद सातत्याने वाढत असल्याचे प्रयोगशाळा प्रमुखांनी अधिक माहितीत विशेषत्वाने सांगितले.(संपर्क दुध्दनी क्रमांक ०२४००२३२१४२८.

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- सुभाष घोडके  
(माहिती सहाय्यक,  
माहिती केंद्र, औरंगाबाद)

### आयएसओ प्राप्त जलगुणवत्ता प्रयोगशाळेतून ३ हजारांहून अधिक पाणी नमुन्यांची तपासणी



महाराष्ट्र शासन, जलसंपदा विभागातर्गत औरंगाबाद येथे जलविज्ञान प्रकल्पातर्गत आयएसओ १००१-२००८ प्रमाणित जलगुणवत्ता प्रयोगशाळा स्तर-२ ही सन २००१-०२ या वर्षापासून औरंगाबाद येथे कार्यान्वित असून आयएसओच्या निर्देशानुसार नियमित तपासणीसह नुतनीकरण झालेले आहे.

या जलगुणवत्ता प्रयोग शाळेने सन २००१ ते २०१२ च्या जुलै अखेरपर्यंतच्या कालावधीत एकूण ३०३७ पाणी नमुन्यांच्या तपासणी पोटी शुल्क म्हणून २१ लाख ५७ हजार ९४२ रुपयांचा महसूल मिळविला आहे. महसूल मिळविणे हा प्रयोग शाळेचा उद्देश नसून समाजातील विविध घटकांच्या माध्यमातून जनतेला जनतेला जलगुणवत्ता चाचणीच्या माध्यमातून शुद्ध पाणी मिळवून देणे हा होय.

महाराष्ट्रात कृष्ण, गोदावरी, तापी, नर्मदा आणि पश्चिम वाहिनी नद्यांची खोरी येतात. जलविज्ञान प्रकल्पात पर्जन्यमापन केंद्रे, हवामान केंद्रे व सरितामापन केंद्रे, जलगुणवत्ता प्रयोगशाळा स्तर-१ व २, पाणी नमुना संकलन केंद्रे, महाराष्ट्रात औरंगाबाद, नाशिक, ठाणे, पुणे, कोल्हापूर, नागपूर येथे जलगुणवत्ता प्रयोगशाळा स्तर-२ कार्यरत आहेत.

औरंगाबाद शहरातील मारखेडा परिसरात हेडगेवार रुग्णालयाजवळ ही जलगुणवत्ता प्रयोगशाळा मराठवाड्यातील एकमेव असून प्रयोग शाळेची इमारत व अत्याधुनिक उपकरणे ही जागतिक बँकेच्या प्रमाणानुसार आहेत.

मुख्य अभियंता श्री.गोसावी आणि अधीक्षक अभियंता अशोक सुर्यवंशी, कार्यकारी अभियंता व्ही.एल.जोशी, उप विभागीय अधिकारी विनायक कुलकर्णी व प्रयोगशाळा प्रमुख म्हणून आशय महाजन यांच्या अंशदर्शनाखाली तसेच प्रशिक्षित प्रयोगशाळा कर्मचारी या प्रयोग शाळेच्या पाणी नमुने तपासणीचे काम पृथक्करण गुणवत्ता चाचणी नुसार करतात. याकामी केंद्रीय प्रदुषण नियंत्रण मंडळ, नवी दिल्ली यांचा मार्च २००९ पासून पृथक्करण गुणवत्ता चाचणीत सहभाग लाभलेला आहे.

प्रयोग शाळेमार्फत पिण्याच्या व सांडपाण्या संदर्भातील जवळपास ५७ प्रकारच्या चाचण्या करता येतात. जलगुणवत्ता चाचणीत शासकीय, निमशासकीय,

स्वयंसेवी संस्था, ग्रामपंचायती, खाजगी व्यवसायिक, उद्योजक, घरगुती, शहरी व ग्रामीण भागातील ग्रामस्थ, शेतकरी, कारखानदार यांच्याकडे वापरण्यात येणाऱ्या जलाची अद्ययावत पद्धतीने पृथक्करणासह तपासणी केली जाते. यासह २००१ पासून नदीच्या पाण्याचे नमुने संकलीत करून त्यांच्या चाचण्या करण्यात येतात मराठवाड्यातील जायकवाडी, सिध्देश्वर, मानार, येतदरी, माजलगांव, मांजरा, उध्दनिगंगा, निम्मेतरणा यासह बुलढाणा जिल्ह्यातील लोणार सरोवरातील पाणी नमुन्यांची तपासणी करण्यात येऊन त्यांच्या निष्कर्षांची नोंद ठेवण्यात येते.

मराठवाड्यातील, मोठ्या नद्या व जलाशय (घरणे) यांची जलगुणवत्ता तपासणीची माहिती (पृथक्करण गुणवत्ता चाचणी) २००१ पासून उपलब्ध असल्याने या माहितीचा (डाटा) संशोधक व अभ्यासकांसाठी उपलब्ध आहे. मोठ्या नद्या व जलाशयाबरोबरच लहान जलाशयातील पाण्याची गुणवत्ता तपासणीसाठीही प्रयत्न होत आहे. मराठवाड्यातील ही एकमेव जलगुणवत्ता प्रयोगशाळा असल्याने औरंगाबाद जिल्ह्याव्यतिरिक्त जळगांव, लातूर, व अन्य जिल्ह्यातील नागरिक, व्याव

सायिकांकडून पाण्याचे नमुने तपासणी करून घेण्यासाठी सहभाग नोंदविण्यात आलेला आहे.

या प्रयोग शाळेचे कामकाज जागतिक आरोग्य संघटना भारतीय मानकानुसार होत असल्याने गंगवतापुर्ण सेवा देण्यास ही संस्था कटीबंध असून गुणवत्ता विषयक माहितीचा उपयोग प्रदुषण नियंत्रण व पर्यावरण संतुलनासाठी होणार आहे. या प्रयोग शाळेत विविधित बिंदूवरील पाणी नमुना पृथक्करण व्यतिरिक्त उपभोक्ता व सामान्य नागरिकांना आवश्यक असल्यास पाणी तपासणी देण्याची सुविधा नाममात्र दरात उपलब्ध करून दिली जाते. प्रचार,प्रसार व प्रसिद्धी माध्यमांकडील वेळोवेळच्या सहकार्यामुळे जलगुणवत्ता प्रयोग शाळेकडे नागरिकांचा प्रतिसाद सातत्याने वाढत असल्याचे प्रयोगशाळा प्रमुखांनी अधिक माहितीत विशेषत्वाने सांगितले.(संपर्क दुध्दनी क्रमांक ०२४००२३२१४२८.

ई-मेल : eehpd.aurangabad@mahaph.org

सुभाष घोडके  
(माहिती सहाय्यक,  
माहिती केंद्र, औरंगाबाद)



शुद्ध पाण्यासाठी जागृती

# पाणी तपासण्यासाठी मोजले साडेआठ लाख

सोपनरक्स प्रतिनिधी

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औरंगाबाद, दि. २९ - पाण्याच्या गुणवत्तेबाबत औरंगाबादकर जागृत करण्याचे विस्तृत येत आहे. पाणी नळाचे असे तो वा बोअरचे त्याची गुणवत्ता पाहण्याकडे कळ सादर आहे. शहरातील जल गुणवत्ता प्रयोगशाळेत गेल्या वर्षी ९४६ जणांनी पाण्याच्या नमुन्यांची तपासणी करून घेतली. याला अधिक वर्णत आतापर्यंत खडे पाचशेपेक्षा जास्त नमुन्यांची तपासणी करण्यात आली आहे. पाणी नमुन्यांच्या तपासणीतून गेल्यावर्षी साडेआठ लाख रुपयांचा महसूल या प्रयोगशाळेला मिळाला आहे.

मारशेरा परिसरात जलसंपदा विभागाचे जल गुणवत्ता तपासणी प्रयोगशाळा आहे. जागतिक बँकेने दिलेल्या निधीतून २००९ मध्ये ही प्रयोगशाळा बांधण्यात आली. पाणी उपलब्धीसाठी आवश्यकता येणारी वैज्ञानिक उपकरणे, यंत्रसहित व परिशिक्षित कर्मचारी हे या प्रयोगशाळेत वैशिष्ट्य आहे. या प्रयोगशाळेला आंतरराष्ट्रीय मान्यतादेखील मिळाले आहे. डॉ. बाबासाहेब आंबेडकर नगरपालिका विद्यापीठ, अहमदाबाद, विमानतळ प्राधिकरण, रेल्वे प्रवेश शहरातील विविध रुग्णालये, गुल्लक, गटनिघालने व शाळा औद्योगिक करस्थाने हे या प्रयोगशाळेत शाहक आहेत.

२००९ यावर्षी प्रयोगशाळा सुरू झाल्यानंतर

'वॉटरमार्क'चा वापर

जल गुणवत्ता प्रयोगशाळेत पाण्याच्या तपासणी नमुन्यांचा अहवाल देण्यात कसलीही उडजोड केली जात नाही. दुसरे तसेच पाणी शुद्ध असल्याचा अहवाल देण्यावरून एका ग्रामपंचायतीच्या प्रजाविकासने बचाव आग्रहाबाबत प्रारण केला होता. 'समयमार्क' या मार्गचा अवलंब करूनही पाहिले तर अहवाल मिळत नसल्याने अखेर बोनस अहवाल बघार करण्यात आला. पुढे हे बिग फुटले. या घटनेनंतर प्रयोगशाळेत तपासणी अहवाल देण्यासाठी विशिष्ट कागदाचा वापर करणे सुरू केले आहे. चतुर्थी नोटावर असणाऱ्या 'वॉटरमार्क' सारख्या कामगार अहवाल दिला जात असल्याने योवसमिधेला आळा बसला आहे.

कलच क्षेत्र जगांनी पाण्याची तपासणी करून घेतली होती. त्यातून ५०८ रुपयांचा महसूल मिळाला होता. २०१०-११ या वर्षी साडेचार लाख रुपयांचा महसूल मिळाला. २०११-१२ या वर्षी ८४६ नमुन्यांच्या तपासणीतून साडेआठ लाख रुपये मिळाले. यातून अधिक वर्णत साडेचार लाख रुपयांचा महसूल मिळविण्याचे उद्दिष्ट आहे.

९४६ जिव्यांसाठी तपासणी

या प्रयोगशाळेत विविध ५३ मिकणुलर पाण्याची



तपासणी केली जाते. पाण्याचा रंग, वास, तापमान, सध, विद्युत वाहकता, क्षारचे प्रमाण, आम्लता, तेलराईड, सल्फेट, सोडियम, फ्लोराईड, नयट्रेट, अमोनिया, बॉरॉन, डेल्टामिनियम अदी घटकाने तपासणीबरोबरच विवाणुवोही तपासणी केली जाते. विवाणुव्या तपासणीसाठी पाणी नमुने कंपास प्रयोगशाळेपासून मिळवून घेतले गेलेले वाटेचे वाटली दिली जाते.

वीड वायजारेचे पाणी क्षारमय

वीड वायपास, मरखेडा परिसर, विद्यापीठ परिसर अदी शहरातील विविध भागातील बोअरच्या पाण्याची तपासणी या प्रयोगशाळेत करण्यात आली आहे. वीड वायपास परिसरातील काही बोअरच्या पाण्यात क्षारचे प्रमाण जास्त आढळून गेले असून, विद्यापीठ परिसरातील बोअरचे पाणी मात्र शुद्ध आढळून आले आहे. जमिनीत असणाऱ्या वाळू व मृत्तामूळे हे पाणी मैसमिधेच्या फिल्टर होते. त्यामुळे वाळूतील पाणी अधिक शुद्ध आढळून आल्याचे नुसती लागले.

4 CNX शुद्धता, दि. १३ मार्च २०१३

वाचकसंगत जडिदकाय लक्षात घेऊनच वाच

## पाणी तपासणीबाबत नागरिकांमध्ये जागरूकता वाढली

तीन महिन्यांमध्ये तपासले २२४ नमुने

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औरंगाबाद, दि. २९ - पाण्याच्या गुणवत्तेबाबत औरंगाबादकर जागृत करण्याचे विस्तृत येत आहे. पाणी नळाचे असे तो वा बोअरचे त्याची गुणवत्ता पाहण्याकडे कळ सादर आहे. शहरातील जल गुणवत्ता प्रयोगशाळेत गेल्या वर्षी ९४६ जणांनी पाण्याच्या नमुन्यांची तपासणी करून घेतली. याला अधिक वर्णत आतापर्यंत खडे पाचशेपेक्षा जास्त नमुन्यांची तपासणी करण्यात आली आहे. पाणी नमुन्यांच्या तपासणीतून गेल्यावर्षी साडेआठ लाख रुपयांचा महसूल या प्रयोगशाळेला मिळाला आहे.

मारशेरा परिसरात जलसंपदा विभागाचे जल गुणवत्ता तपासणी प्रयोगशाळा आहे. जागतिक बँकेने दिलेल्या निधीतून २००९ मध्ये ही प्रयोगशाळा बांधण्यात आली. पाणी उपलब्धीसाठी आवश्यकता येणारी वैज्ञानिक उपकरणे, यंत्रसहित व परिशिक्षित कर्मचारी हे या प्रयोगशाळेत वैशिष्ट्य आहे. या प्रयोगशाळेला आंतरराष्ट्रीय मान्यतादेखील मिळाले आहे. डॉ. बाबासाहेब आंबेडकर नगरपालिका विद्यापीठ, अहमदाबाद, विमानतळ प्राधिकरण, रेल्वे प्रवेश शहरातील विविध रुग्णालये, गुल्लक, गटनिघालने व शाळा औद्योगिक करस्थाने हे या प्रयोगशाळेत शाहक आहेत.

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### Visitors visit to the Laboratory and their remarks

## List of some Prominent Visitors

Sr. No.	Date	Name of the Visitor	Designation
1.	11/07/2012	Mr. Ratnakar B. Jadhav	Drugs Control Laboratory Aurangabad
2.	08/05/2013	Mr. N. B. Gauri	SDE, HP Sub. Div. Wada
3.	13/05/2013	Mr. Jadhav L. J.	S.G.G.S.(E & T) Nanded

Visitor's Book				
DATE	NAME & ADDRESS	CONTACTS	E-MAIL	REMARKS
8/05/13	N. B. Gauri SOCHy, P. Subd. Wada	9220520328	nilgauri@gmail.com	<p>1. प्रजाति प्रयोग शोध मंडल</p> <p>2. अद्यतन मंडल, प्रयोग शोध मंडल</p> <p>3. अद्यतन मंडल, अद्यतन मंडल</p> <p>4. अद्यतन मंडल, प्रयोग शोध मंडल</p> <p>5. अद्यतन मंडल, अद्यतन मंडल</p> <p>6. अद्यतन मंडल, अद्यतन मंडल</p> <p>7. अद्यतन मंडल, अद्यतन मंडल</p> <p>8. अद्यतन मंडल, अद्यतन मंडल</p> <p>9. अद्यतन मंडल, अद्यतन मंडल</p> <p>10. अद्यतन मंडल, अद्यतन मंडल</p>
13/05/13	JADHAV L.J. SGGSIE and T, Nanded	9175147269	kantlaxmikant@rediffmail.com	<p>1. अद्यतन मंडल, अद्यतन मंडल</p> <p>2. अद्यतन मंडल, अद्यतन मंडल</p> <p>3. अद्यतन मंडल, अद्यतन मंडल</p> <p>4. अद्यतन मंडल, अद्यतन मंडल</p> <p>5. अद्यतन मंडल, अद्यतन मंडल</p> <p>6. अद्यतन मंडल, अद्यतन मंडल</p> <p>7. अद्यतन मंडल, अद्यतन मंडल</p> <p>8. अद्यतन मंडल, अद्यतन मंडल</p> <p>9. अद्यतन मंडल, अद्यतन मंडल</p> <p>10. अद्यतन मंडल, अद्यतन मंडल</p>



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DATE	NAME & ADDRESS	CONTACTS	E-MAIL	REMARKS
18-05-12	NIKHIL RAUT Student M. Arch (Landscape) C.E.P.T. University, Ahmedabad.	9557673166	niksaut2@gmail.com	Required data of water quality of Jagatnagar.
11-7-12	Mangendra B. Hiremath Analytical Chemist Drugs Control Laboratory (CDL) Aurangabad.	9422380392	mmangendrahiremath@yahoo.co.in	The lab is having all required instrument and setup. The staff was co-op. nature.
11/7/12	Ratnakant B. Jadhav Analytical Chemist Drugs Control Laboratory Aurangabad.	9422463112	ratjadhav @rediffmail..	We soon very nice lab setup, store & instrument room. Ratjadhav 11/7/2012

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DATE	NAME & ADDRESS	CONTACTS	E-MAIL	REMARKS
07/09/12	Vilas Kachau Dave KT. Mahesh Javala TA Ghar-savangi Dist Jalna.	9765447747	asvev.vilas@gmail.com	(1) ह्या पाणी शुद्धीकरणालाचकी अनिशय चांगल्या प्रमानात माहिती दिली (2) लगेचिल मुख्य अधिकारी काकनी व त्याचे सहकाऱ्यांनी एकूण चांगले सहकार्य करून सल्ला चांगल्या प्रकारे व प्रयोग करून माहिती दिली. - वीडक्याने पाणी, वाचनगिरी कोट आशेचे प्रमान, शुद्धीकरणा इत्यादी.
11/9/12	विमलेश शिंदेकर वि. सी. जे. रेड, औरंगाबाद.	M. 9370146411	ishindesagar@gmail.com	विमलेश पावला सकाळी आला चांगल्या प्रकारे माहिती मिळाली व आयात के पाणी पिलो ल शेवट आला तो शेवट शिंदेकर आला पाणी पिलो पण वर आणायवर कळाले कि पाणी शुद्धीकरण

## Photographs





