



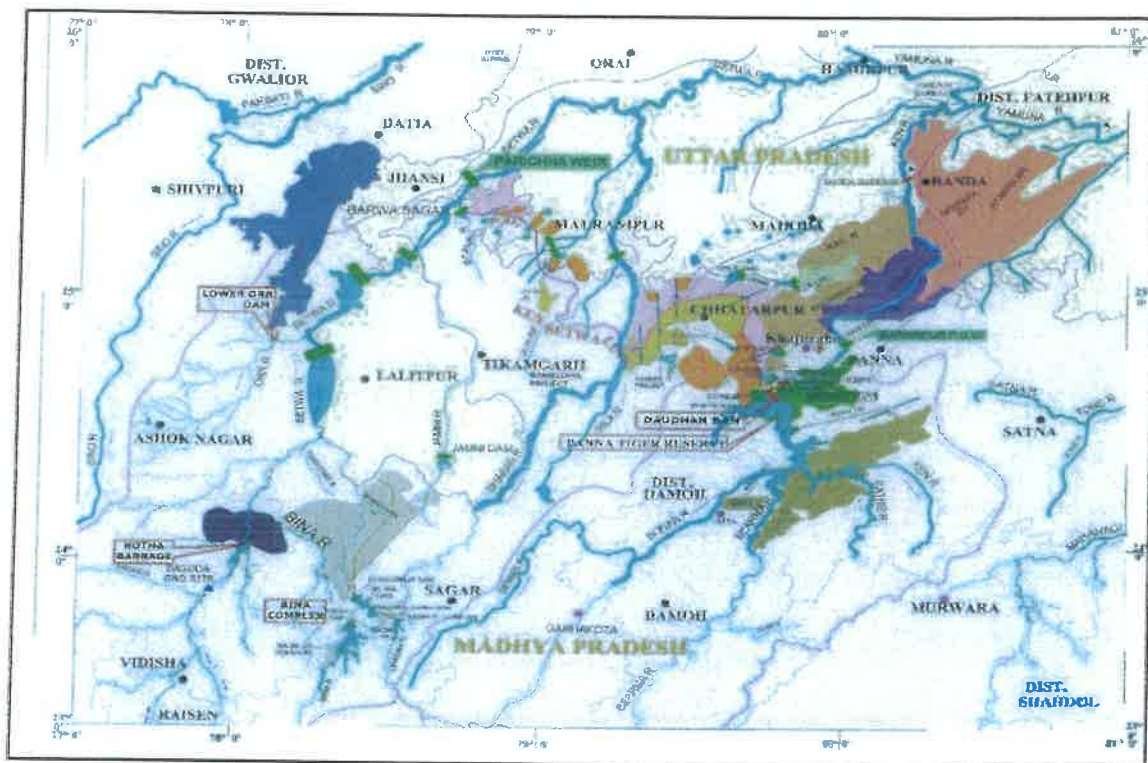
KEN - BETWA LINK PROJECT



Monitoring of Environmental Components under

Ken - Betwa Link Project : Phase - I

Memorandum of Understanding (MoU)



Madhya Pradesh Pollution Control Board, Bhopal

Department of Environment, GoMP

&

Ken - Betwa Link Project Authority, Bhopal

Ministry of Jal Shakti, GoI

October 2025

Memorandum of Understanding (MoU) between

**Madhya Pradesh Pollution Control Board
Department of Environment, GoMP, Bhopal, M.P.**

&

**Ken-Betwa Link Project Authority, Bhopal, M.P.
Ministry of Jal Shakti, GoI
Department of Water Resources, River Development & Ganga Rejuvenation**

for

Monitoring of Environmental Components under Ken-Betwa Link Project : Ph-I

1. Background :

The Ken-Betwa Link Project (KBLP) is a critical initiative designed to address water scarcity and provide irrigation and drinking water to the Bundelkhand region of Madhya Pradesh and Uttar Pradesh. This MoU establishes a framework for monitoring and analysis of environmental components, viz. water, air, and noise quality during both the construction and operational phases of the project. As the construction activities of projects are yet to begin, testing of environmental parameters is crucial for comparing the changes in the coming future.

2. Objective :

This MoU outlines the environmental monitoring plan, which includes baseline testing, for water, air, and noise quality. The Madhya Pradesh Pollution Control Board (MPPCB) will conduct these tests before project activities begin, as well as during the construction and operational phases. This will ensure protection of environmental integrity and necessary guidance for taking timely corrective measures, as and when required.

3. Study Area :

The study area for environmental monitoring includes the following project components:

- Daudhan Dam Site
- Upstream and Downstream of Daudhan Dam
- Lower Level Tunnel
- Upper Level Tunnel
- Proposed Reservoir Area
- Near Bhusor gate
- Near Ghat road
- Plant Area

4. Work Components & Monitoring Details :

The data will be collected at the locations attached at Annexure - I.

The list of parameters to be tested is outlined in Annexure - II.

Frequency:

- a) **Three times a year** : Pre-monsoon, monsoon, and post-monsoon seasons for water and air quality.
- b) **Once in three months** : Noise quality monitoring.

5. Time Schedule :

- i) **1st Testing**: To be conducted immediately after signing of MoU.
- ii) **Water Quality, Air Quality, and Noise Monitoring**: As outlined above, testing will be done throughout the construction and operational phases of project.
- iii) **Reports**: Testing reports shall be submitted by the MPPCB after each monitoring season, viz. Pre-monsoon, Monsoon and Post-Monsoon.

6. Fees and Payments :

An estimated amount of Rs 1,23,04,800/ (Rupees One crore twenty three lakh four thousand eight hundred only) for laboratory testing will be paid by KBLPA to the MPPCB. The payment shall be made in installments, as outlined below, during the project timeline of six years, which may be extended due to situational or unforeseen circumstances.

- i) **First Installment**: 20% (₹ 24,60,960/-) upon signing of the MoU.
- ii) **Second Installment**: 20% (₹ 24, 60,960/-) after 1st year of work.
- iii) **Third Installment**: 15% (₹ 18, 45,720/-) after 2nd year of work.
- iv) **Fourth Installment**: 15% (₹ 18, 45,720/-) after 3rd year of work.
- v) **Fifth Installment**: 10% (₹ 12, 30,480/-) after 4th year of work.
- vi) **Sixth Installment**: 10% (₹12, 30,480/-) after 5th year of work.
- vii) **Final Installment**: 10% (₹12, 30,480/-) upon completion of the Project.

The field and laboratory testing charges shall be based on the prevailing rates applicable during execution of work for the actual work under taken. In the event of extension of project timeline, the work modalities and payment terms shall continue on the similar lines. The existing rates can be referred at Annexure – III.

7. Roles and Responsibilities :

A. M.P.P.C.B. :

- i) Conduct laboratory testing for air, water, and noise quality.
- ii) Provide monitoring data in the prescribed test report.
- iii) Samples and measurements taken to meet the monitoring requirements specified above shall be representative of the volume and nature of monitoring discharge.
- iv) Following promulgation of new guideline establishing test procedures for analysis of pollutants, it should be ensured that all sampling and analytical methods confirm to the new guidelines. It shall conform to the latest edition of the Indian Standard specifications, and where it is not specified, the guidelines as per standard methods for the examination of Water and Waste latest edition of the American Public Health Association, New York U.S.A. shall be followed.
- v) Recording of Monitoring Activities & Results :

The MPPCB shall maintain record for each measurement of samples taken pursuant to the requirements as follows:

- (a) The date, exact place and time of sampling along with geo-coordinates.
- (b) The dates on which analysis was performed.
- (c) The analytical techniques or methods used and standards against each parameter.
- (d) The result of all required analysis.
- (e) The calculation and reporting of values should be summarized and submitted as required in the discharge monitoring reports.
- (f) The MPPCB shall retain all records of monitoring activities, including records of calibration and maintenance of instrumentation, and the same shall be provided as and when required by KBLPA.
- (g) Submit reports to the KBLPA after every monitoring season and an annual compiled report after every year.

B. K.B.L.P.A. :

- (i) Provide relevant information on Ken-Betwa Link Project, if required, to facilitate monitoring and testing activities.
- (ii) To ensure site access for all the monitoring locations and ensure safety of the MPPCB staff too.
- (iii) Transfer of payments as per agreed terms.
- (iv) Provide all requisite on-site support to the MPPCB officials during monitoring period.

8. Authorized Representatives :

For MPPCB : In-charge, Central Laboratory, Bhopal

For KBLPA : Executive Engineer, Bhopal

9. Validity :

This MoU will remain valid for Six years from the date of signing, subject to any extension/amendments as agreed upon by both the parties.

10. Ownership of Monitoring Data :

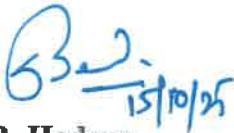
All data and test results collected by MPPCB will become the property of KBLPA. The MPPCB may publish the data for research and academic purposes, provided it does not conflict with the interests of KBLPA, with prior permission.

11. Amendments :

Any changes or amendments to this MoU must be made in writing and agreed upon by both parties. The changes will be effective from the date of execution unless otherwise agreed.

For and on behalf of KBLPA

For and on behalf of MPPCB


15/10/25

Name: R.R. Hedao

Designation: Executive Engineer

Date: 15/10/2025


15th Oct '25

Name: Dr. Rajendra Chaturvedi

Designation: Scientist

Date: 15.10.2025

Witness :


15/10/25

Name: Chandrekesh Meena

Designation: Junior Engineer


15/10/2025

Name: Dr. HARISH WANKHADE

Designation: SCIENTIST

Location Details for Monitoring of Water, Air and Noise Parameters

S.No.	Location Description
A	Water Testing sites
1.	Immediate Upstream of Proposed Dam
2.	Immediate Downstream of Proposed Dam
3.	500 meters Upstream of proposed dam
4.	2000 meters Upstream of proposed dam
5.	500 meters downstream of proposed dam
6.	500 meters downstream of Gangau Weir
B	Ambient air and Noise Testing sites
1.	Upper level tunnel entry
2.	Upper level tunnel exit
3.	Upper level tunnel road crossing
4.	Lower level tunnel entry
5.	Lower level tunnel exit
6.	Plant area – I
7.	Bhusor gate
8.	Bhusor Daudhan road
9.	Gangau Weir road crossing
10.	Left bank of dam site
11.	Right bank of dam site
12.	1000 meters dam axis
C	Sewage Treatment Plant
1.	At construction site
2.	At Bamitha colony

Parameters for environmental components monitoring

S.No.	Components and parameters
A	Water Testing
1.	pH
2.	Temperature
3.	Electrical conductivity
4.	Biochemical oxygen demand (BOD)
5.	Chemical oxygen demand (COD)
6.	Total suspended solids (TSS)
7.	Total dissolved solids (TDS)
8.	Turbidity
9.	Calcium
10.	Magnesium
11.	Total hardness
12.	Calcium hardness
13.	Chloride
14.	Sulphate
15.	Nitrate
16.	Phosphate
17.	Fluoride
18.	Oil & grease
19.	Iron
20.	Copper
21.	Arsenic
22.	Zinc
23.	Manganese
24.	Fecal Coliform
25.	Total Coliform
B	Ambient air Testing
1.	Respirable suspended particulate matter (RSPM/PM10)
2.	Particulate matter (PM2.5)
3.	Sulphur dioxide (SO ₂)
4.	Nitrogen dioxide (NO ₂)
5.	Carbon monoxide
C	Noise level Testing
1.	Noise level monitoring at first location (8-24 hrs)
2.	Noise level monitoring at construction site (within same premises)

Annexure – III

Monitoring Charges for Environmental Components

(I) Ambient Air Monitoring

S. No.	Parameters	Analysis Rate / Parameters	No. of sample	Freque-ncy	Amount (Rs.)
1.	Sample Collection charges RSPM (PM.10) 24 hrs.	10000	12	03	360000.00
2.	Sample Collection charges PM (PM.2.5) 24 hrs.	10000	12	03	360000.00
3.	Sampling Charge SO ₂	1500	12	03	54000.00
4.	Sampling Charge NO ₂	1500	12	03	54000.00
5.	Sampling Charge CO	1500	12	03	54000.00
6.	RSPM (PM.10) (Analysis Charge)	1000	12	03	36000.00
7.	PM (PM.2.5) (Analysis Charge)	1000	12	03	36000.00
8.	SO ₂ (Analysis Charge)	1000	12	03	36000.00
9.	NO ₂ (Analysis Charge)	1000	12	03	36000.00
Sample collection & transportation charge, outside HQ, Bhopal		4000	12	03	144000.00
Total (₹) Eleven Lac Seventy Thousand Only.					11,70,000.00

(II) Noise Level Monitoring.

S. No.	Parameters	Rate / Parameters	No. of samples	No. of Times	Amount (Rs.)
1.	Noise level Monitoring at First Location (8-24 hrs.)	5000	12	04	240000.00
	Consecutive Noise level Monitoring (within same premises)	3000	12	04	144000.00
Sample collection & transportation charge, outside HQ, Bhopal		3000	12	04	144000.00
Total (₹) Five Lac Twenty Eight Thousand Only.					5,28,000.00

(III) Water Monitoring.

S.No.	Parameters	Rate / Parameters/ sample	No. of samples	No. of Times	Amount (Rs.)
1.	pH	200	06	03	3600.00
2.	BOD	1000	06	03	18000.00
3.	COD	600	06	03	10800.00
4.	Total Suspended Solids	250	06	03	4500.00
5.	Total Dissolved Solids	150	06	03	2700.00
6.	Turbidity	150	06	03	2700.00
7.	Calcium	1500	06	03	27000.00

8.	Magnesium	500	06	03	9000.00
9.	Total Hardness	200	06	03	3600.00
10.	Calcium Hardness	200	06	03	3600.00
11.	Chloride	200	06	03	3600.00
12.	Sulphate	350	06	03	6300.00
13.	Nitrate	350	06	03	6300.00
14.	Fluoride	300	06	03	5400.00
15.	Phosphate	350	06	03	6300.00
16.	Iron	1500	06	03	27000.00
17.	Zinc	1500	06	03	27000.00
18.	Copper	1500	06	03	27000.00
19.	Arsenic	1500	06	03	27000.00
20.	Manganese	1500	06	03	27000.00
21.	Electrical Conductivity	200	06	03	3600.00
22.	Temperature	100	06	03	1800.00
23.	Oil & Grease	500	06	03	9000.00
24.	Total Coliform	1000	06	03	18000.00
25.	Fecal Coliform	1000	06	03	18000.00
Sample collection & transportation charge, outside Bhopal.		3000	06	03	54000.00
Total (Rs):- Three Lac Fifty Two Thousand Eight Hundred Only.					3,52,800.00
Grand Total (I+II+III) (Rs):- Twenty Lac Fifty Thousand Eight Hundred Only.					20,50,800.00