

IMPACT OF IDOL IMMERSION ON WATER QUALITY OF AQUATIC BODIES -2021



STATE POLLUTION CONTROL BOARD, ODISHA
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1. Introduction

Immersion of idols after culmination of pujas is a part of religious practices of Hindu festivals. In general, people worship large size idols in Ganesh Puja, Durga Puja, Kali Puja, Biswakarma Puja, Gajalaxmi puja and immerse the idols alongwith the puja offerings in flowing waters as a ritual of bisarjan. In case of absence of rivers nearby, people immerse these puja left-overs in ponds also. Since these pujas are mostly celebrated in monsoon or post-monsoon seasons, and the flow in rivers are high during this period, immersion of idols and puja offerings in the rivers usually have no significant impact on the water quality. However, with the increase in number and size of idols, use of alternate materials other than clay for making the idols, use of synthetic paints and varnishes rather than natural dyes to decorate the idols in present years and moreover, decreased flow in rivers, has increased the probability of contamination of water bodies. Besides these, dumping of puja left-overs such as vastras on idols, flowers, decorating materials (made of paper and plastic), etc. in water bodies during this immersion process has also increased the risk of contamination of water bodies as well as deteriorates the aesthetic quality of the water bodies. Further, this may also affect the aquatic ecosystem at the immersion sites as well as its down-streams.

With this background, Central Pollution Control Board (CPCB) has prepared the "Guidelines for Idol Immersion" for implementation during immersion of idols in aquatic bodies to minimize the pollution load. During 2020, CPCB has revised the Guidelines for Idol immersion and made it effective from 01.01.2021.

2. Guideline for Idol Immersion

In compliance of the directions of the Hon'ble High Court of Bombay in the matter of PIL W.P. No. 13251325/2003 Janahit Manch Vs the State of Maharashtra and others, the Competent Authority in CPCB had constituted a Committee, vide Order No. A-22011/1/90-Mon dated 10.02.2009, to formulate Guidelines for immersion of idols in natural stream. "Guidelines for Idol Immersion" (PROBES/136/2010) developed by the CPCB encompasses the roles of local bodies/ authorities, Puja Committee Organisers and State Pollution Control Board or Pollution Control committees for implementation of the Guideline to minimize the impact of idol immersion activities on the aquatic bodies.

These guidelines have been prepared with a view to ensure environmental friendly idol immersion without affecting the quality of water bodies while ensuring religious observance. These guidelines emphasize the need for restriction on single use plastic materials for making idols, use of naturally occurring colors for coloring idols, imposing restrictions on size of the idol, construction of temporary synthetic lined ponds of adequate capacity, safe disposal of solid wastes generated during visarjan/immersion activities, etc.

In view of changing scenario for safe disposal of idol immersion in water bodies in cities, towns & rural areas, CPCB has revised the Guideline for idol immersion in the year 2020 after a thorough discussion of comments/suggestions of stakeholders received, emphasizing the need of identification of idol makers for manufacture of environment friendly idols, coloring by natural and biodegradable colours only, use of clay for idol making, ban of thermocol and single use plastics in decoration and prasad sevan, safe practices during immersion to prevent casualties and imposition of fines have been incorporated and earlier guidelines issued by CPCB has been revised. The "Revised Guidelines for Idol immersion (12.5.2020) has been effective from 01.01.2021 (Weblink : http://ospboard.org/wp-content/uploads/2020/06/295_1589273986_mediaphoto24365.pdf). The salient features of the Revised Guidelines are as follows.

(a) General Guidelines for idol makes

- Craftsmen or artisans involved in making idols should be registered with the civic bodies, and should involve in making eco-friendly idols.
- Use of traditional clay for making idols should be encouraged.
- Use of water soluble, non-toxic natural dyes should be encouraged to colour the idols rather than painting of idols.
- In case of large scale Idol manufacturers (at least involved in making more than 100 idols in a day) shall obtain registration from the concerned ULBs (registration fee along with a deposit as decided by the ULB depending on the idol making capacity) and failing to comply with these guidelines or any violation of registration conditions, the deposit shall be forfeited by the ULB apart from prohibition of idol making at least for two years.

(b) General Guidelines for Puja Committee Organisers

- As far as possible, low height and eco-friendly idols (made with natural clay, idols stuffed with eco-friendly food materials, idols decorated with biodegradable, organic colours only should be used for offering poojas to avoid impact on environment.
- In the interest of protection of the environment, Pooja Organizing Committees should procure eco-friendly idols only from the respective ULBs registered or authorised craftsman or artisans.
- Pooja Organising Committees should seek prior permission from concerned ULB as the case may be by providing management plan and the required provisions for ensuring safe idol immersion during festival season in advance for making necessary arrangements in consultation with the concerned departments.
- Ban on use of single use plastic materials, thermocol for decoration and Prasad sevans purposes.
- Worship material like flowers, Patri (leaves), vastras (clothes), decorating materials (made of paper and bio-degradable or compostable plastic but not single use plastic) etc. should be ensured to remove before immersion of idols and segregated in colour coded bins provided at the designated idol immersion areas/spots.

(c) General Guidelines for idol immersion

- Mass awareness programmes should be conducted to aware the Public on ill effects of idol immersion.
- All idols should be immersed in the designated area for idol immersion which is cordoned, barricaded and preferably lined with synthetic liner. After immersion, the liner should be removed to collect the dumped materials for final disposal at appropriate places.

(d) General Guidelines for Local bodies/ Authorities

- In the interest of protection of environment, Urban and Local bodies (ULBs) shall impose restrictions on height of the idol to the idol making agencies or craftsman or artisans (lesser the size of the idol better would be the immersion process and

less consumption of materials required for making idols) depending on the availability of water bodies, provisions made for idol immersions by the ULBs.

- Local bodies/ Authorities should identify adequate number of idol immersion spots to avoid overcrowding and to reduce pollution load on the water bodies. Such spots should be notified and informed to the Puja Committees through awareness programmes.
- At the immersion of sites, burning of solid wastes so generated during the immersion of idols, should be prohibited.
- Within 24 hours of completion of idol immersion activities, the left over materials at the immersion sites should be collected by the local bodies for final disposal at appropriate places.
- In case of immersion of idols in rivers and lakes, arrangements may be made for construction of temporary confined ponds with earthen bunds for the purpose of immersion of idols. After the completion of immersion, supernatant water may be allowed to flow as usual after checking for colour and turbidity. Lime may be allowed to the temporary confined pond.
- Mass awareness programmes may be conducted to educate the people on ill effects of toxic idol immersion.
- Encourage the resident welfare associations in a city or town to create temporary ponds/tanks of suitable size and adequate capacity within their campus with necessary provision for collection and storage of segregated waste prior to immersion. Individual households may be encouraged to utilize such ponds for immersion purpose.

e) Role of State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs)

- Concerned SPCB/ PCC should conduct water quality monitoring of water bodies at the immersion sites preferably in Class-I cities (having population more than one lac), at three stages i.e. Pre-immersion, during immersion and post-immersion. During post-festival, samples should be collected preferably after 3rd, 5th, 7th and 9th day of the festival.

- For ascertaining water quality, physico-chemical parameters such as pH, DO, Colour, BOD, COD, Conductivity, Turbidity, TDS, Chloride, TSS, Hardness, Total alkalinity and Metals such as Chromium, lead, zinc, copper Cadmium, Mercury, Antimony, Barium, Cobalt, Manganese, Strontium may be analysed.
- Apart from the water samples, sediment samples also be collected during pre-immersion, during immersion and post-immersion and collected sediment samples be analysed for the metals (such as Chromium, Lead, Zinc, Copper, Cadmium, Mercury, Antimony, Barium, Cobalt, Manganese, Strontium).
- Detailed reports may be posted on the SPCBs/PCCs website in public domain. Detailed reports also be shared with Ministry of Environment, Forest and Climate Change (MoEF & CC), Ministry of Jal Shakti (MoJS) and CPCB.

3. Actions taken by the State Pollution Control Board, Odisha

Ganesh Puja, Biswakarma Puja and Durga Puja, Kali Puja Gajalaxmi puja are celebrated in massive scale in most of the cities of the State of Odisha. After culmination of puja celebrations, the idols are generally immersed on a single day as decided by the Puja Committee Organisers in coordination with the District administration, at the designated sites of the rivers flowing along the cities. In some places, idols are immersed in ponds, canals and sea in absence of any river nearby. Since last decade, Board has been taking proactive steps to implement the Guidelines for Idol Immersion at all places. Besides these, Board is also conducting the water quality monitoring of four rivers i.e. Kathajodi river along Cuttack city; Kuakhai river and Daya river along Bhubaneswar city ; and Mangala river along Puri city to assess the impact of idol immersion.

In the year 2015, Hon'ble High Court of Orissa have intervened in this matter and vide their order dated 07.10.2015 directed the State Pollution Control Board, Odisha to render necessary assistance to the District Collectors and ensure strict compliances of the Guidelines for Idol Immersion during the Durga Puja and other pujas to follow thereof. In compliance to the order, every year Board is making an intensive as well as proactive approach to ensure the implementation of the Guidelines in all the urban local bodies of the State.

Further, to contain COVID 19 Pandemic situation, since the year 2020, the Revenue and Disaster Management (R & DM) Department in Govt. of Odisha are issuing guidelines for observance of Durga Puja, laxmi Puja , kali Puja and other similar pujas during September-November, wherein it has been instructed to worship idols of maximum size of 4 ft and after completion of the Pujas, these idols may be immersed in the artificial pond(s) created by the local administration for the purpose. During the year 2021, the R & DM Department has issued such guideline vide Order No. 4534/R &DM (DM) dated 09.8.2021 (Annexure-1).

Like previous years, to minimize the impact of idol immersion on the water quality, the State Pollution Control Board, Odisha has taken following steps during 2021, as recommended in the Guideline for idol immersion.

- Created public awareness through Public Notice on safe Idol immersion practices in Local Newspapers and in Board's website and through public address system (Fig.1).

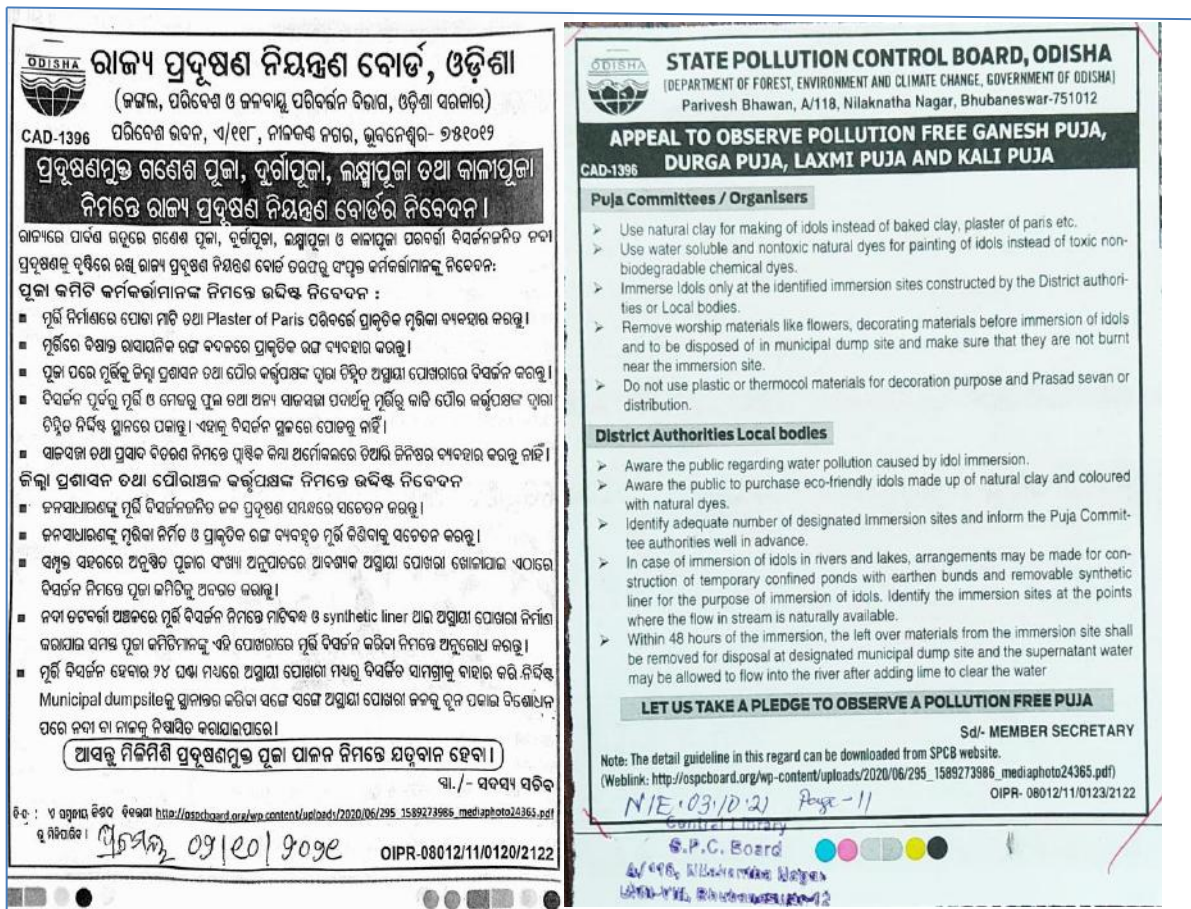


Fig. 1 Appeal to Public to observe pollution free Ganesh puja, Durga Puja, Laxmi Puja and Kali Puja through Public Notice on Newspapers

- Informed all the District Collectors and authorities of urban local bodies of the State prior to Ganesh Puja and Durga Puja to strictly implement the Guidelines of Immersion in their areas of jurisdiction. (Letter No. 13303 dated 02.9.2021) (Annexure-2)
- Guidelines for Idol immersion in Rural Areas were also issued to the Panchayati Raj and Drinking Water Department vide letter No. 14699 dated 17.8.2021 (Annexure-3).
- Made several meetings with the local bodies/ authorities, Puja Committee Organizers to create awareness on ill impacts of Idol immersion in water bodies.
- Coordinated with the local bodies/ authorities for construction of temporary immersion ponds near rivers as prescribed in the Guideline
- Conducted water quality assessment of the water bodies during Durga Puja in three stages i.e. Pre-immersion (07.10.2021), during immersion (16.10.2021-17.10.2021) and post-immersion in all five Municipal Corporation areas such as Bhubaneswar, Cuttack, Sambalpur, Rourkela and Berhampur and also in two municipal areas such as Puri and Sundargarh. The Post-monitoring was conducted on after 3rd day (19.10.2021), 5th day (21.10.2021), 7th day (23.10.2021), 9th day (25.10.2021), 11th day (27.10.2021) and 13th day (29.10.2021) of the festival. The post monitoring day was continued upto 13th day to include the immersion activities during Gajalaxmi puja in the study.



Fig. 2 Construction of Idols with clay and limiting height of idols to 4 ft

4. Actions taken for implementation of the Guideline during immersion of Idols

Generally idols are immersed in flowing waters. In such cases, the Guideline has prescribed to construct temporary ponds having earthen bunds along the river bank for use as idol immersion spots. The ponds are to be lined with removable synthetic liner at its bottom well in advance of the idol immersion. The said liner along with remains of the idols are to be removed within 24 hours of idol immersion. The left over-materials are to be collected by the local bodies for disposal in municipal dumpsites.

In all urban local bodies of the State, temporary immersion ponds were constructed on the bank of the rivers by the district administrations much before the day of idol immersion. Location of the idol immersion sites and route map were also informed to the Puja committee authorities. The temporary ponds were lined with removable synthetic liner (Fig. 3 and 4). Sign boards are fixed at different locations of the ULBs to display route maps to the immersion ponds. Light arrangements around the idol immersion ponds for hassle free idol immersion process (Fig. 5).



Fig. 3 Construction of temporary idol immersion pond on the bank of river



Fig.4 Lining of temporary idol immersion ponds with synthetic liner



Fig.5 Designation of Temporary Idol Immersion site



Fig.6 Lighting arrangement around temporary Idol Immersion sites

As per the information received from different urban local bodies, details of temporary idol immersion ponds constructed for the purpose, approximate number of idols immersed during the process are given below (Table-1).

Table-1 Information on Temporary Idol Immersion Ponds constructed by ULBs

Name of ULB	Temporary Idol Immersion Pond constructed	Approx. size of ponds	Number of Idols immersed
Balasore Municipality	1 number on the bank of river Budhabalanga	21 m x 18 m x 3 m	-
Baripada Municipality	1 number on the bank of river Budhabalanga	102 ft x 66 ft x 8 ft	-
Barbil Municipality	1 pond near River Karo		
Belpahar Municipality	Lilari Nallah, Gourpada	30'-00"x50' 00"	04 nos.
Berhampur Municipal Corporation	1 number near Ambapua Main Road	60 ft × 64 ft × 5 ft	10 Nos.
	1 number near Haridakhandi Main Road	60 ft × 64 ft × 5 ft	30 Nos.
	1 number near Gosaninuagaon	60 ft × 64 ft × 5 ft	25 Nos.
	1 number near Meenakshi Nagar Main Road	60 ft × 64 ft × 5 ft	30 Nos.
Bhadrak Municipality	4 numbers on the bank of river Salandi	Each of size 15 ft x 12 ft x 10 ft	-
Bhuban NAC	1 pond		
Bhubaneswar Municipal Corporation	1 No on the on the bank of river Kuakhai,	130 ft x 80 ft x 10 ft	-
	2 Nos on the on the bank of river Daya	50 ft x 35 ft x 5 ft 50 ft x 20 ft x 5ft	
Boudhgarh NAC	1 no near Bridge Chhack	20 ft x 20 ft	12 Nos.
Brajrajnagar Municipality	Near OMP House	25 m X 20 m X 2 m	10 nos
Cuttack Municipal Corporation	8 numbers on the bank of river Kathajodi		
	3 numbers on the bank of river Mahanadi		170-180 Nos.
Jajpur Municipality	1 number on the bank of river Baitarani	47 ft x 36 ft	43 Nos.
Jatani Municipal Council	1 no at Sandhapaur	150 ft x 75 ft x 10 ft	17 Nos.
Jharsuguda Municipality	Near RTO Office	40 m X 35 m X 2.5 m	12 Nos.
Keonjhar Municipal Council	8 numbers in Keonjhar Municipality	200 ft x 80 ft	

Khordha Municipality	1 no at TLC Pond	-	6 Nos.
Pipili NAC	1 no at Jayapore Killa	30 ft x 60 ft	2 Nos
Puri Municipality	1 pond near Ommkareswara temple on the bank of Magnala river		
Rourkela Municipal Corporation	1 pond on the bank of river Brahmani at Balughat	140 ft x 180 ft x 8 ft	163 Nos.
	1 pond at Tilaknagar	60 ft x 80 ft x 5 ft	11 Nos.
Sundargarh Municipality	1 pond on the bank of river IB at Mahadevpada Village	42 M x 40 M x 2.5 M	5 Nos.
	1 pond on the bank of river IB Near Govt. College Bridge	56 M x 56 M x 2.5 M	4 Nos.
Vyasanagar Municipality	1 number on the backside of the Court	13 m x 12 m x 4 m	7 Nos.

To contain COVID19 pandemic situation, Police authorities in the concerned ULBs have issued time slots for immersion of idols in the temporary ponds. Accordingly, a limited number of idols were immersed at a time, After removal of these idols from the ponds, the next lot of idols were immersed.

Within 24 hours of completion of idol immersion, the left-overs were removed by the volunteers from Puja Committees alongwith personnels from municipalities and transported to the designated municipal dumpsites of the respective areas for disposal. Excavators were also utilized for removal of idols from the ponds. Immersion of idols in the temporary idol immersion ponds, removal of immersion left-overs from the ponds, transportation to designated dumpsites are shown in Figures 6- 10. The pond water was then treated with lime and allowed to settle prior to ultimate discharge into rivers. In some ULBs ponds were filled up with sand.



Fig.7 Filling of water in temporary Idol Immersion sites from nearby river



Fig.8 Removal of immersion left overs by Swechha sevis



Fig.9 Removal of immersion left overs by Scavangers



Fig.10 Collected immersion left overs for disposal at Municipal solid waste dumbsite



Fig.11 Transportation of immersion left overs to Municipal solid waste dumbsite for disposal

(b) Actions taken for implementation of the Guideline during immersion of Idols in Ponds

In absence of rivers in the cities, idols are immersed in the ponds. In such cases, the Guideline has prescribed to use a corner of the pond as idol immersion spot and is to be lined with removable synthetic liner at its bottom well in advance of the idol immersion. The said liner along with remains of the idols are to be removed within 48 hours of idol immersion. The left over-materials are to be collected by the local bodies for disposal in designated dumpsites.

Temporary immersion ponds were created in some of the urban local by cordoning a corner of the pond or abandoned quarry. The temporary ponds were lined with removable synthetic liner. Within 24 hours of idol immersion, the left-overs were removed and transported to the designated dumpsites of the respective areas for disposal.

Copies of the actions taken reports submitted by the urban local bodies and Regional officers of the State Pollution Control Board are enclosed as Annexure-4 – 15.

5. Actions taken by the Puja Committee Organisers

In Odisha, all idols are in general, are made from natural clay as per religious practice. Further, as the State Government has restricted the idol size to 4 ft height, the puja committee organizers also restricted the idol size to the prescribed size and preferred the colourings of the idols with natural colours instead synthetic colours.

Further, as per the state government restrictions to observe Puja in COVID 19 appropriate manner, all puja committee organizers restricted the pujas to indoor-like condition only for observation of rituals without public participation, much pomp and grandeur and therefore the decoration was not much at the puja pandals. This has resulted minimum solid waste generation due to decoration, Prasad sevan during the pujas.

The idols were Immersed at the designated temporary idol immersion ponds on the next day of Durga Puja as per the time schedule provided by the Police authorities. Puja Committee Organizers also engaged volunteers to remove the immersion left overs from the pond within 24 hours of completion of immersion process. The waste materials were handed over to the municipal personnel to dispose at municipal dumpsites.

6. Impact of Idol Immersion on water bodies

To assess the Impact of idol immersion on the water quality of rivers, evaluation of water quality status has been carried out basing upon the use of a particular segment of water body, wherein each use has been assigned with tolerance limits for some defined criteria parameters. As per designated best use classification of surface water bodies by CPCB, water quality is usually assessed in respect of five broad categories from Class –A to Class-E as described below Table-2.

Table-2 Use Based Classification

Class	Use
A	Drinking water source without conventional treatment, but after disinfection.
B	Organised outdoor bathing
C	Drinking water source with conventional treatment followed by disinfection.
D	Fish culture and wild life propagation
E	Irrigation, Industrial cooling or controlled waste disposal

Water quality parameters relevant to the above uses are given in Table-3.

Table - 3 Primary Water Quality Criteria

Parameter	Quality Criteria				
	Class– A	Class – B	Class – C	Class – D	Class – E
pH	6.5 – 8.5	6.5 – 8.5	6.5 – 8.5	6.5 – 8.5	6.5 – 8.0
Dissolved Oxygen (DO) (mg/l) minimum	6.0	5.0	4.0	4.0	-
Biochemical oxygen Demand (BOD) (mg/l) Max	2.0	3.0	3.0	-	-
Total Coliform (TC) (MPN/100 ml) Max	50	500	5000	-	-
Free Ammonia-N (mg/l) Max	-	-	-	1.2	-
Electrical Conductivity (EC) (microSiemens/cm) Max	-	-	-	1000	2250
Sodim Absorption Ratio (SAR) Max	-	-	-	-	26
Boron (B) (mg/l) Max	-	-	-	-	2.0

Besides these, IS 2296-1982 prescribes tolerance limits for other parameters as listed in Table-4 for above mentioned designated uses of surface water bodies.

Table-4 Tolerance limits for other parameters

Parameter	Tolerance limits (mg/l)				
	Class-A	Class-B	Class-C	Class-D	Class-E
Total Dissolved Solids (TDS), max	500	--	1500	--	2100
Lead (Pb), max	0.10	--	0.10	--	--
Cadmium (Cd), max	0.01	--	0.01	--	--
Chromium (VI) (Cr ⁶⁺), max	0.05	0.05	0.05	--	--
Iron (Fe), max	0.3	--	50	--	--
Copper (Cu), max	1.5	--	1.5	--	--
Zinc (Zn), max	15	--	15	--	--

In the present investigation, river water at sampling locations have been categorized under Class-C . Further the standard IS : 10500 (2012) specifies the limits for different parameters for the water used for drinking purposes. Therefore, in the present context, water quality of the rivers have been assessed in comparison with Class-C standard and IS : 10500 (2012) and amendments thereof.

To assess the impact of idol immersion during Durga Puja on water bodies, the Board had conducted water quality assessment studies of the rivers flowing along five Municipal Corporation areas and two municipal areas as mentioned in Table-5. As per the Revised Guidelines, water quality monitoring was conducted in three stages i.e. pre-immersion (07.10.2021), during- immersion (16.10.2021-17.10.2021) and post-immersion period of Durga Puja. Post immersion monitoring was conducted on 19th, 21st, 23rd, 25th, 27th and 29th of October, 2021. At all locations, idol immersion sites were constructed on the bank of the river. Samples were collected from the upstream of the Idol immersion site, downstream and further downstream of the immersion site and also from the temporary immersion sites.

The water samples were analysed for the physico-chemical parameters as recommended by Central Pollution Control Board (CPCB) for such studies, such as pH, Electrical Conductivity (EC), Turbidity, Dissolved Oxygen (DO), Biochemical Oxygen

Demand (BOD), Chemical Oxygen Demand (COD), chloride, alkalinity, total hardness, calcium hardness, Magnesium Hardness, hexavalent chromium, nickel, copper, lead, cadmium, zinc and iron

To assess the impact of idol immersion on sediment quality, samples were also collected from the locations stated above on the same day along with the water samples. Sediment samples were analysed for metals such as nickel, copper, lead, cadmium, zinc, iron and total chromium. Water quality results and sediment analysis the results are presented in following pages as mentioned in Table-5. Impact on sediments were assessed by comparison with the upstream data in pre-immersion period.

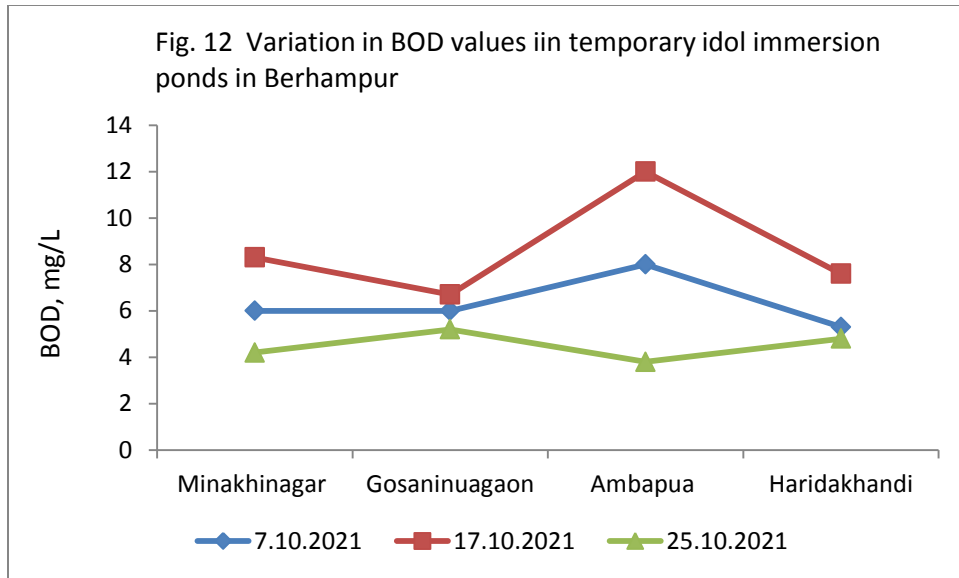
Table-5 Details of Water Quality Assessment and Sediment quality assessment conducted during Durga Puja

Name of ULB	River	Monitoring location	Water quality status given in Table No.	Sediment quality status given in Table No.
Cuttack	Kathajodi	Devighat	Table-6	Table-7
Bhubaneswar	Kuakhai	Hansapal	Table-8	Table-9
		Rasulgarh	Table-10	Table-11
	Daya	Lingipur	Table-12	Table-13
		Tankapani	Table-14	Table-15
Puri	Mangala	Mangalaghat	Table-16	Table-17
Rourkela	Brahmani	Rourkela	Table-18	Table-19
Sundargarh	lb	Sundargarh	Table-20	Table-21
Sambalpur	Mahanadi	Sambalpur	Table-22	Table-23
Berhampur	Ponds	Berhampur	Table-24	Table-25

From the water quality data, it has been observed that

- pH of river water during the study period remained well within the tolerance limit of 6.5-8.5.
- Dissolved Oxygen content always remained above 4.0 mg/L which conform to Class C river quality.

- There is no significant change in Electrical conductivity in river water quality in Pre-, During and Post-phases of monitoring.
- BOD values of river monitoring station also remained within the tolerance limit of 3.0 mg/L specified for Class C river throughout the study period.
- Alkalinity, Hardness content, chloride content, remained well within the acceptable limits of drinking water specification.
- No significant change in metal concentrations also observed during the study. Metal concentrations (Ni, Cu, Zn, Cd, Pb, Fe) mostly remain within the specified limits.
- As idols were not directly immersed in river bodies, rather immersed in temporary immersion ponds created on the bank of the rivers and after immersion period also, water from the ponds were not allowed to flow into the rivers, no impact of idol immersion on the water quality of the rivers has been observed in this study.
- As idols and puja left overs were directly thrown into the temporary immersion ponds, BOD values in the temporary immersion ponds was observed to be very high in the during- immersion phases of monitoring. The high values of BOD in post-phase monitoring at some places indicate the lapse in removal of immersion left-overs from the ponds. The wide variations in BOD values of such ponds in post-phase monitoring may be attributed to the immersion of idols of Gajalaxmi puja in the same ponds.
- Sediment analysis of the river bed also indicate not much variation from the pre-immersion monitoring. However, sediment samples collected from the temporary idol immersion ponds exhibited higher metal concentrations in comparison to the river sediments.
- In Berhmapur municipality all idols were immersed in four numbers of temporary idol immersion ponds constructed within the municipality area. From the graph (Fig. 11), it is observed that the BOD value at all places during immersion phase monitoring (17.10.2021) has been increased significantly. But due to the actions taken for removal of the immersion left-overs from the pond, BOD values in post-immersion phase monitoring (25.10.2021) has been lowered. The administration has later filled the ponds with sand.



- To summarize, because of the preventive measures taken by the district administration not to allow the water of idol immersion ponds to flow into the river, water quality of downstream stations in during-immersion and Post-immersion periods mostly remained well within the tolerance limits of the designated use.
- From the study, it may be concluded that all the parameters specified for the study remained within the tolerance limit for designated class of the river i.e. Class-C (Drinking water source with conventional treatment followed by disinfection). Concentration of heavy metals such as cadmium, chromium, lead, zinc and copper remain much below the tolerance limits and no significant impact is exerted on the heavy metal concentration of the water bodies due to immersion of idols. **Immersion of idols in the temporary immersion ponds has minimized the probability of contamination of the main course of river water.**



Table- 6 Impact of idol immersion during Durga Puja on water quality of Kathajodi river at Cuttack

Location	pH	EC, $\mu\text{S/cm}$	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.8	187	1.6	6	7.8	1.2	6.7	10	84	72	25.7	1.9	<0.002	0.005	0.003	0.018	0.0009	0.010	0.401
Location-2	7.7	291	1.8	8	7.8	1.3	6.7	14	92	88	28.9	3.9	0.002	0.006	0.004	0.017	< 0.0005	0.013	0.219
Location-3	8.1	196	1.1	17	7.8	1.1	6.7	6	80	72	20.8	4.9	0.008	0.006	0.004	0.018	< 0.0005	0.019	0.715
Location-4	8.1	202	1.9	17	8.3	1.3	10.1	10	76	100	20.8	11.7	<0.002	0.005	0.003	0.019	< 0.0005	0.004	0.647
During -Idol Immersion Monitoring (Date of Sampling : 16.10.2021)																			
Location-1	7.9	209	1.6	5	7.6	1.4	6.7	20	96	96	28.9	5.8	< 0.002	0.003	0.002	0.018	0.0005	0.001	0.020
Location-2	7.0	314	2.4	12	7.6	1.8	6.7	24	100	104	30.5	6.8	0.002	0.005	0.003	0.021	0.0011	0.014	0.128
Location-3	7.2	295	2.2	10	7.4	1.4	6.7	10	80	76	22.4	4.9	<0.002	0.002	0.002	0.019	0.0008	0.004	0.110
Location-4	7.0	297	1.8	8	8.6	1.4	10	20	92	100	27.3	7.8	0.007	0.003	0.002	0.020	0.0011	0.003	0.150
Post -Idol Immersion Monitoring (Date of Sampling : 19.10.2021)																			
Location-1	7.3	214	1.3	19	8.4	1.2	7.9	30	92	108	20.8	13.6	<0.002	0.012	0.002	0.026	< 0.0005	0.019	0.127
Location-2	7.2	293	1.4	24	9.2	1.8	11.9	44	92	108	20.8	13.6	0.002	0.010	0.002	0.025	< 0.0005	0.004	0.065
Location-3	7.3	240	1.8	18	7.6	1.4	9.9	32	92	88	16.0	11.7	0.001	0.010	0.002	0.023	< 0.0005	0.018	0.127
Location-4	7.3	295	1.2	17	9.4	1.9	19.8	44	96	112	36.9	4.9	0.007	0.009	0.002	0.026	< 0.0005	0.006	0.104
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	7.5	225	1.4	17	11.9	1.1	7.9	26	92	80	20.8	6.8	0.009	0.010	0.001	0.025	< 0.0005	0.002	0.023
Location-2	7.3	317	1.6	21	10.7	1.6	11.9	28	100	112	32.1	7.8	0.003	0.009	0.002	0.026	< 0.0005	0.011	0.099
Location-3	7.4	313	1.3	11	7.6	1.6	11.9	26	100	104	35.3	3.9	0.003	0.005	0.002	0.022	< 0.0005	0.010	0.040
Location-4	7.3	311	6.8	34	10.9	2	15.9	30	100	100	30.5	5.8	0.005	0.010	0.002	0.024	0.0006	0.007	0.159
Post -Idol Immersion Monitoring (Date of Sampling : 23.10.2021)																			
Location-1	7.9	220	1.1	4	7.6	1.5	7.9	26	80	76	16.0	8.8	0.005	0.013	0.006	0.032	< 0.0005	0.020	0.068
Location-2	8.1	322	1.3	14	7.4	1.7	11.9	8	88	80	17.6	8.8	0.008	0.014	0.012	0.031	< 0.0005	0.022	0.143
Location-3	8.2	204	1.7	16	7.1	1.5	7.9	26	100	92	24.0	7.8	0.008	0.013	0.006	0.032	0.0013	0.036	0.087
Location-4	8.0	327	1.2	17	9.3	1.9	11.9	26	120	104	32.1	5.8	0.007	0.010	0.004	0.024	< 0.0005	0.016	0.109



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location 1	7.9	218	1.1	11	7.5	1.7	15.8	38	92	128	38.5	7.8	0.004	0.011	0.002	0.025	< 0.0005	0.020	0.440
Location 2	8.0	313	2.2	9	8.9	1.9	15.8	26	100	60	16.0	4.9	0.005	0.012	0.003	0.029	< 0.0005	0.029	0.555
Location 3	8.1	214	2.3	23	6.9	1.9	15.8	24	92	92	22.4	8.8	0.007	0.013	0.003	0.027	< 0.0005	0.079	0.451
Location 4	8.0	316	2.5	18	10.9	2.6	23.8	28	192	200	57.7	13.6	0.007	0.009	0.004	0.033	< 0.0005	0.138	1.405
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

Location-1 : U/s of immersion site (100m up)

Location-2 : D/s of idol Immersion site (100 down from temporary site)

Location-3 : FD/s of idol immersion site at Khan nagar

Location 4 : Temporary idol immersion site on the bank of the river

Table- 7 Impact of idol immersion during Durga Puja on sediment quality of Kathajodi river at Cuttack

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
U/s of immersion site (100m Up)	4.483	1.609	6.035	0.077	8.622	6179.8	6.687
D/s of idol immersion site (100m down from temporary site)	5.137	2.351	6.801	0.427	6.873	6295.6	7.886
FD/s idol immersion site at Khan nagar	3.842	1.508	4.596	0.083	4.226	4383.5	4.497
Temporary idol immersion site, Cuttack (on the bank of the river)	9.392	7.218	14.603	1.589	17	7213.9	13.712
During -Idol Immersion Monitoring (Date of Sampling : 16.10.2021)							
U/s of immersion site (100m Up)	2.806	1.269	6.759	0.161	1.981	409.66	3.393
D/s of idol immersion site (100m down from temporary site)	3.981	1.855	9.837	0.27	2.862	868.844	3.827
FD/s idol immersion site at Khan nagar	3.856	1.542	6.374	0.121	2.704	611.797	3.172
Temporary idol immersion site, Cuttack (on the bank of the river)	4.112	2.582	11.767	0.343	3.427	1029.65	4.999
Post-Idol Immersion Monitoring (Date of Sampling : 19.10.2021)							
U/s of immersion site (100m Up)	3.188	3.231	4.258	0.192	3.619	2986.6	12.619
D/s of idol immersion site (100m down from temporary site)	4.351	5.045	5.636	0.293	3.98	3809.9	18.331
FD/s idol immersion site at Khan nagar	2.565	4.352	4.61	0.259	2.243	2282.9	12.512
Temporary idol immersion site, Cuttack (on the bank of the river)	4.815	8.155	5.611	1.459	6.246	6963.4	33.973
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
U/s of immersion site (100m Up)	3.547	1.458	3.31	0.179	3.389	1611.9	4.371
D/s of idol immersion site (100m down from temporary site)	8.094	4.727	4.856	0.216	9.461	2697.1	4.739
FD/s idol immersion site at Khan nagar	6.312	3.14	3.525	0.165	7.202	2097.1	3.356
Temporary idol immersion site, Cuttack (on the bank of the river)	11.628	10.704	7.794	0.647	17.729	8793.6	6.367



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
Post-Idol Immersion Monitoring (Date of Sampling : 23.10.2021)							
U/s of immersion site (100m Up)	3.212	2.176	3.034	0.243	3.984	2354.7	6.217
D/s of idol immersion site (100m down from temporary site)	3.702	2.67	3.781	0.285	4.253	4317.8	7.562
FD/s idol immersion site at Khan nagar	2.891	2.439	2.456	0.187	2.891	3115.7	6.642
Temporary idol immersion site, Cuttack (on the bank of the river)	10.993	10.614	21.785	0.574	6.05	8956.1	18.05
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
U/s of immersion site (100m Up)	2.671	3.186	2.723	0.389	1.894	2282.7	14.523
D/s of idol immersion site (100m down from temporary site)	3.039	3.355	6.002	0.71	3.011	4684.7	18.443
FD/s idol immersion site at Khan nagar	1.827	2.385	5.602	0.499	2.439	2077	17.75
Temporary idol immersion site, Cuttack (on the bank of the river)	10.669	17.409	16.42	1.206	4.7	6000.8	52.569



Table- 8 Impact of idol immersion during Durga Puja on water quality of Kuakhai River at Bhubaneswar (Near Hansapal)

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.5	199	1.3	12	7.9	0.5	6.8	10	88	92	19.2	10.7	<0.002	0.013	0.003	0.003	0.0005	0.007	0.032
Location-2	7.5	221	1.8	18	7.6	1.1	10.2	12	84	80	22.4	5.8	0.005	0.016	0.003	0.004	< 0.0005	0.017	0.477
Location-3	7.5	203	1	16	6.9	<1.0	6.8	12	80	84	17.6	9.7	<0.002	0.007	0.003	0.004	0.0006	0.005	0.517
Location-4	7.6	272	2.1	26	6	1.2	13.6	10	116	100	28.9	6.8	<0.002	0.009	0.005	0.008	0.0007	0.021	2.056
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.4	204	1.7	24	7.1	<1.0	6.6	10	80	72	22.4	3.9	0.005	0.003	0.002	0.019	< 0.0005	0.002	0.080
Location-2	7.7	247	1.9	28	6.9	<1.0	9.9	22	84	80	24.0	4.9	0.008	0.005	0.003	0.019	0.0006	0.012	2.634
Location-3	7.8	205	2	15	7	<1.0	6.6	10	84	80	24.0	4.9	0.009	0.005	0.003	0.018	0.0012	0.006	0.218
Location-4	6.9	481	18	57	0.8	70	165.3	38	144	144	43.3	8.8	0.017	0.015	0.010	0.028	0.0015	0.026	11.125
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	7.4	204	1.2	16	6.2	1.8	7.9	14	88	84	24.0	5.8	0.004	0.007	0.002	0.021	< 0.0005	0.003	0.112
Location-2	7.8	201	1.6	19	8.3	1.1	7.9	10	88	80	17.6	8.8	0.009	0.006	0.003	0.028	< 0.0005	0.008	0.168
Location-3	7.2	231	2.4	27	6	1.3	11.9	12	88	88	16.0	11.7	0.01	0.007	0.002	0.023	< 0.0005	0.013	0.286
Location-4	7.2	472	16	41	2.8	16	51.5	38	148	128	40.1	6.8	0.009	0.016	0.003	0.027	0.0007	0.014	0.510
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location-1	8.3	221	1.4	15	7.4	<1.0	7.9	10	84	88	22.4	7.8	0.004	0.007	0.001	0.025	< 0.0005	0.003	0.044
Location-2	8.3	211	2.5	21	8.2	1.1	11.9	10	80	92	30.5	3.9	0.005	0.009	0.001	0.027	< 0.0005	0.003	0.124
Location-3	8.2	214	1.4	10	7.1	<1.0	11.9	32	84	84	20.8	7.8	0.009	0.009	0.002	0.024	< 0.0005	0.004	0.079
Location-4	8.2	441	13	61	0.8	50	158.4	28	156	108	33.7	5.8	0.008	0.015	0.002	0.032	< 0.0005	0.006	0.610
Post -Idol Immersion Monitoring (Date of Sampling : 27.10.2021)																			
Location-1	7.8	210	2.7	28	8.1	2.6	15.7	12	100	76	17.6	7.8	0.005	0.008	0.001	0.031	0.0007	0.005	0.288
Location-2	8.0	224	2.6	26	8.2	2.8	23.5	10	80	84	24.0	5.8	0.008	0.032	0.001	0.033	0.0010	0.004	0.314
Location-3	7.8	211	4.7	32	8.5	2.1	11.8	10	72	80	16.0	9.7	0.002	0.006	0.001	0.026	< 0.0005	0.002	0.267
Location-4	6.9	420	8	49	0.8	46	117.7	14	80	128	40.1	6.8	0.004	0.014	0.000	0.030	0.0009	0.003	0.398



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 29.10.2021)																			
Location 1	8.1	210	1.9	8	8.3	1.3	11.8	12	100	80	16.0	9.7	0.008	0.011	0.003	0.025	< 0.0005	0.009	0.573
Location 2	8.1	245	3.5	6	8.8	1.2	11.8	12	104	108	20.8	13.6	0.004	0.021	0.012	0.024	< 0.0005	0.061	3.463
Location 3	7.0	217	1.6	4	9.2	1.4	15.7	26	76	88	16.0	11.7	0.003	0.020	0.011	0.029	< 0.0005	0.056	1.054
Location 4	7.1	428	13	46	<0.3	72	196.1	36	108	128	36.9	8.8	0.005	0.019	0.000	0.030	< 0.0005	0.005	0.301
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site (Hansapal bridge)
- Location-2 : D/s of idol Immersion site (Hansapal bridge)
- Location-3 : FD/s of idol immersion site (100 m away from D/s location)
- Location 4 : Immersion site near Hansapal bridge (on the bank of the river)

Table- 9 Impact of idol immersion during Durga Puja on sediment quality of Kuakhai river at Bhubaneswar (Near Hansapal)

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
U/s of immersion site (Hansapal bridge)	4.211	1.949	3.028	0.215	5.492	1822.1	7.836
D/s of temporary immersion site on river (Hansapal bridge)	4.415	2.091	3.847	0.275	5.97	2038.6	8.397
FD/s of immersion site (100 m away from D/s location)	4.32	2.081	2.089	0.24	5.677	1878	7.922
Immersion site (Hansapal bridge)	4.446	2.161	4.963	0.346	6.017	2110.8	9.606
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
U/s of immersion site (Hansapal bridge)	4.321	4.06	12.806	0.156	3.436	902.9	6.556
D/s of temporary immersion site on river (Hansapal bridge)	5.001	4.111	15.392	0.191	3.556	1132.2	10.932
FD/s of immersion site (100 m away from D/s location)	3.839	3.902	11.251	0.145	2.902	748.9	5.893
Immersion site (Hansapal bridge)	13.038	9.26	26.197	0.487	16.023	7106.7	19.13
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
U/s of immersion site (Hansapal bridge)	4.092	3.427	4.119	0.165	4.132	2708.9	5.363
D/s of temporary immersion site on river (Hansapal bridge)	4.862	4.573	4.338	0.563	4.91	2869.6	6.345
FD/s of immersion site (100 m away from D/s location)	4.23	1.231	3.749	0.121	4.016	2182.2	5.477
Immersion site (Hansapal bridge)	5.179	5.251	5.298	1.331	5.676	3507.3	8.759
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
U/s of immersion site (Hansapal bridge)	2.059	0.832	1.929	0.166	2.329	2800.88	4.129
D/s of temporary immersion site on river (Hansapal bridge)	2.345	1.399	2.287	0.34	3.107	2841.55	4.159
FD/s of immersion site (100 m away from D/s location)	1.64	0.848	1.93	0.299	2.286	2035	3.173
Immersion site (Hansapal bridge)	2.412	1.909	2.807	0.663	3.177	2901.6	4.267



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
U/s of immersion site (Hansapal bridge)	6.19	5.03	3.27	0.149	5.75	4068.3	3.05
D/s of temporary immersion site on river (Hansapal bridge)	21.48	7.30	5.88	0.234	6.99	4293.9	4.92
FD/s of immersion site (100 m away from D/s location)	8.68	2.51	4.87	0.177	5.94	4038.9	2.61
Immersion site (Hansapal bridge)	29.54	9.55	7.44	0.401	9.18	5372.6	9.02
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
U/s of immersion site (Hansapal bridge)	8.14	2.447	7.612	0.311	7.846	3165.5	8.33
D/s of temporary immersion site on river (Hansapal bridge)	13.53	7.475	16.843	0.412	11.113	4491.7	12.85
FD/s of immersion site (100 m away from D/s location)	7.7	2.336	9.268	0.268	9.613	4123.7	12.57
Immersion site (Hansapal bridge)	18.53	10.139	36.459	0.538	24.085	16371.5	19.07

Table- 10 Impact of idol immersion during Durga Puja on water quality of Kuakhai River at Bhubaneswar (Near Rasulgarh)

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.0	264	1.2	13	6.8	1.8	13.2	16	116	80	25.7	3.9	0.005	0.017	0.003	0.024	0.0008	0.006	0.247
Location-2	7.1	262	1.9	26	5.9	2.2	19.9	14	120	96	27.3	6.8	0.008	0.063	0.003	0.020	< 0.0005	0.008	0.417
Location-3	7.5	215	4.4	32	7.1	2.1	13.2	16	84	60	20.8	1.9	0.007	0.020	0.003	0.024	0.0008	0.007	0.475
Location-4	7.2	373	21	68	1.6	11	43	22	144	120	38.5	5.8	0.007	0.017	0.005	0.022	0.0010	0.008	0.187
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	7.8	213	2	18	6.2	<1.0	7.9	18	92	88	25.7	5.8	0.003	0.007	0.001	0.022	< 0.0005	0.005	0.094
Location-2	8.1	235	1.2	17	8.3	<1.0	7.9	16	88	84	19.2	8.8	0.004	0.009	0.001	0.025	< 0.0005	0.000	0.035
Location-3	7.0	196	2.2	14	5.3	1.3	15.9	12	92	112	36.9	4.9	0.007	0.007	0.002	0.026	< 0.0005	0.009	0.143
Location-4	8.2	371	1.7	11	5.2	3.2	19.8	26	100	72	24.0	2.9	0.009	0.012	0.002	0.026	< 0.0005	0.004	0.252
Location	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location 1	7.0	203	1.8	17	10.8	1.8	7.9	16	76	76	20.8	5.8	0.006	0.010	0.002	0.025	< 0.0005	0.018	0.255
Location 2	7.4	227	1.4	12	7.8	1.9	11.9	18	76	68	19.2	4.9	0.006	0.011	0.003	0.027	< 0.0005	0.021	0.956
Location 3	7.7	240	2	18	7.5	1.1	11.9	24	108	84	24.0	5.8	0.005	0.009	0.005	0.026	< 0.0005	0.014	0.618
Location 4	8.0	427	1.4	14	1.1	44	118.8	12	140	128	28.9	13.6	0.008	0.020	0.029	0.030	0.0006	0.147	0.206
Post -Idol Immersion Monitoring (Date of Sampling : 27.10.2021)																			
Location 1	7.6	235	14	30	5.9	1.2	7.8	14	180	80	16.0	9.7	0.007	0.004	0.000	0.026	0.0009	0.002	0.160
Location 2	7.5	233	21	49	7.2	2.1	15.7	16	84	84	17.6	9.7	0.008	0.008	0.001	0.025	0.0008	0.001	0.218
Location 3	7.5	230	36	69	7.7	1.2	7.8	18	76	80	16.0	9.7	<0.002	0.008	0.001	0.026	0.0009	0.001	0.208
Location 4	7.5	426	15	87	0.9	39	98.1	26	80	140	35.3	12.7	0.002	0.011	0.001	0.021	0.0008	0.005	0.233



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 29.10.2021)																			
Location 1	7.3	219	2	7	7.3	1.1	7.8	24	112	92	19.2	10.7	0.005	0.011	0.004	0.029	< 0.0005	0.009	0.914
Location 2	7.4	235	1.9	6	7.6	1.7	11.8	14	96	116	27.3	11.7	0.007	0.013	0.005	0.027	< 0.0005	0.024	1.131
Location 3	7.6	216	3	9	6.9	1.3	11.8	18	84	88	16.0	11.7	0.008	0.014	0.002	0.027	0.0006	0.016	0.997
Location 4	8.2	420	8	18	1.2	13	39.2	26	100	132	43.3	5.8	0.005	0.023	0.004	0.040	< 0.0005	0.016	0.960
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site (U/s of Rasulgarh site)
- Location-2 : D/s of temporary immersion site (D/s of Rasulgarh site)
- Location-3 : FD/s of immersion site (100m away from D/s location, Rasulgarh site)
- Location 4 : Temporary Immersion site (Rasulgarh site) (on the bank of the river)

Table-11 Impact of idol immersion during Durga Puja on sediment quality of Kuakhai river at Bhubaneswar (Palasuni, (Rasulgarh side)

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
U/s of immersion site (Palasuni, Rasulgarh side)	4.419	2.244	4.261	0.325	3.449	3532.7	7.495
D/s of temporary immersion site (Palasuni, Rasulgarh side)	5.032	3.905	4.919	0.644	4.216	5146.1	11.12
FD/s of immersion site (100 m away from D/s location)	3.616	2.356	3.396	0.244	2.472	4580.4	7.103
Immersion site (Palasuni, Rasulgarh side)	7.054	5.282	5.405	1.408	6.063	8228.8	14.251
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
U/s of immersion site (Palasuni, Rasulgarh side)	2.478	2.198	3.748	0.159	3.528	3076.03	6.476
D/s of temporary immersion site (Palasuni, Rasulgarh side)	2.558	2.337	3.912	0.22	3.718	3815.37	6.604
FD/s of immersion site (100 m away from D/s location)	2.109	1.582	3.002	0.184	2.799	3289.82	5.763
Immersion site (Palasuni, Rasulgarh side)	3.694	3.389	5.127	0.321	4.606	3902.64	7.408
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
U/s of immersion site (Palasuni, Rasulgarh side)	5.88	1.86	6.4	0.234	7.92	5562.3	7.03
D/s of temporary immersion site (Palasuni, Rasulgarh side)	8.17	6.01	10.47	0.297	9.58	6350.7	17.01
FD/s of immersion site (100 m away from D/s location)	4.37	1.62	9.42	0.225	7.5	5854.9	8.27
Immersion site (Palasuni, Rasulgarh side)	9.69	7.92	11.18	0.353	10.59	8880.4	18.83
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
U/s of immersion site (Palasuni, Rasulgarh side)	6.6	0.806	0.862	0.067	5.072	2220.1	9.36
D/s of temporary immersion site (Palasuni, Rasulgarh side)	7.94	3.25	1.758	0.211	9.727	3512.9	15.85
FD/s of immersion site (100 m away from D/s location)	5.01	1.7	1.75	0.112	5.749	3294.3	8.64
Immersion site (Palasuni, Rasulgarh side)	9.09	3.852	2.978	1.068	15.386	4594.3	21.37

Table- 12 Impact of idol immersion during Durga Puja on water quality of Daya River at Bhubaneswar (Lingipur)

Location*	pH	EC, $\mu\text{S/cm}$	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.6	209	1.8	11	8	<1.0	6.8	8	88	84	20.8	7.8	<0.002	0.007	0.001	0.003	< 0.0005	0.000	0.052
Location-2	7.6	214	2.3	36	7.8	<1.0	10.2	10	88	72	20.8	4.9	<0.002	0.012	0.001	0.008	< 0.0005	0.000	0.452
Location-3	7.7	211	2.9	26	8.2	1.1	10.2	26	80	92	22.4	8.8	<0.002	0.011	0.002	0.009	0.0011	0.008	1.593
Location-4	No Monitoring																		
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.4	201	2.2	26	6.9	<1.0	6.6	8	80	76	20.8	5.8	0.004	0.001	0.003	0.020	< 0.0005	0.006	0.498
Location-2	7.6	214	1.4	14	6.9	<1.0	6.6	12	88	64	22.4	1.9	0.006	0.007	0.003	0.022	0.0010	0.006	0.330
Location-3	7.7	201	2.8	44	10.4	<1.0	9.9	10	88	72	22.4	3.9	0.005	0.018	0.005	0.022	0.0020	0.014	1.216
Location-4	7.1	404	60	149	0.8	52	132.2	32	112	112	38.5	3.9	0.006	0.019	0.007	0.025	0.0012	0.007	1.620
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	7.7	201	2.3	12	7.6	1.1	11.9	12	88	76	16.0	8.8	0.009	0.005	0.002	0.026	< 0.0005	0.008	0.275
Location-2	7.9	226	1.3	11	8.5	1.6	19.8	20	84	92	30.5	3.9	0.007	0.007	0.002	0.024	< 0.0005	0.005	0.091
Location-3	8	199	1.4	5	8	1.4	11.9	16	80	80	17.6	8.8	0.008	0.012	0.003	0.029	0.0007	0.006	0.244
Location-4	8	384	14	38	3.4	4.3	23.8	10	128	124	38.5	6.8	0.009	0.016	0.006	0.032	0.0009	0.016	2.548
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location-1	8.3	277	4.8	74	8.7	<1.0	11.9	28	80	84	16.0	10.7	0.008	0.007	0.002	0.027	< 0.0005	0.004	0.069
Location-2	8.2	292	1.3	74	8.1	1.1	11.9	36	72	92	25.7	6.8	0.009	0.012	0.002	0.028	< 0.0005	0.006	0.626
Location-3	8.2	308	1.9	18	8.4	1.1	11.9	60	80	80	16.0	9.7	0.009	0.009	0.006	0.026	< 0.0005	0.013	0.227
Location-4	No Monitoring																		
Post -Idol Immersion Monitoring (Date of Sampling : 27.10.2021)																			
Location-1	7.3	199	3.6	19	7.9	1.4	11.8	10	120	120	32.1	9.7	0.004	0.008	0.002	0.027	< 0.0005	0.004	0.166
Location-2	7.5	206	3.9	41	8	2.3	19.6	10	68	72	22.4	3.9	0.003	0.010	0.003	0.029	< 0.0005	0.004	0.769
Location-3	7.5	201	1.3	18	8	2.2	15.7	12	84	80	16.0	9.7	0.006	0.008	0.003	0.026	< 0.0005	0.003	0.270
Location-4	7.1	500	64	84	<0.3	75	215.7	40	80	84	25.7	4.9	0.01	0.021	0.003	0.033	< 0.0005	0.011	0.543



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Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 29.10.2021)																			
Location 1	7.3	204	2.2	16	7.9	1.6	11.8	10	120	88	25.7	5.8	0.006	0.015	0.002	0.023	0.0007	0.005	0.433
Location 2	7.3	219	2.1	15	8.3	1.8	11.8	10	80	92	28.9	4.9	0.007	0.016	0.002	0.025	0.0011	0.005	0.686
Location 3	7.2	209	1.8	7	8	1.6	11.8	10	80	96	24.0	8.8	0.002	0.014	0.002	0.020	0.0011	0.002	0.315
Location 3	8.4	398	2.6	18	1.1	3.8	23.8	86	156	148	40.1	11.7	0.004	0.012	0.002	0.028	< 0.0005	0.006	0.277
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site (Lingipur)
- Location-2 : D/s of temporary immersion site on river (near idol immersion pond below Daya bridge)
- Location-3 : FD/s of immersion site (100m away from D/s location)
- Location 4 : Temporary idol immersion pond below Daya bridge

Table-13 Impact of idol immersion during Durga Puja on sediment quality of Daya river at Bhubaneswar (Lingipur)

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
U/s of immersion site (Lingipur)	7.205	5.622	9.163	0.339	10.313	7301.9	16.026
D/s of temporary immersion site on river (near idol immersion pond below Daya bridge)	7.443	5.774	9.176	0.385	10.504	7761.9	16.389
FD/s of immersion site (100 m away from D/s location)	7.223	5.523	9.002	0.337	9.022	7260.5	16.251
Immersion site at Lingipur	7.763	6.167	9.759	0.395	10.709	7891.2	16.496
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
U/s of immersion site (Lingipur)	3.749	2.929	14.937	0.176	3.046	2070.6	8.201
D/s of temporary immersion site on river (near idol immersion pond below Daya bridge)	7.406	2.413	26.627	0.416	8.654	3594.6	13.563
FD/s of immersion site (100 m away from D/s location)	4.692	1.714	14.179	0.151	3.907	2469.9	7.734
Immersion site at Lingipur	29.665	4.95	39.249	0.826	34.622	9509.2	32.143
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
U/s of immersion site (Lingipur)	4.109	4.529	6.636	0.063	1.817	4742.5	6.942
D/s of temporary immersion site on river (near idol immersion pond below Daya bridge)	6.862	5.217	13.463	0.115	2.217	6655.6	10.368
FD/s of immersion site (100 m away from D/s location)	4.501	3.622	3.208	0.109	1.203	2170.3	8.338
Immersion site at Lingipur	8.092	7.203	15.464	0.186	3.828	9260.7	11.383
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
U/s of immersion site (Lingipur)	2.379	1.127	2.337	0.083	2.086	3765	4.632
D/s of temporary immersion site on river (near idol immersion pond below Daya bridge)	3.069	2.899	2.836	0.272	4.701	7535.94	5.517
FD/s of immersion site (100 m away from D/s location)	2.785	2.253	1.673	0.218	3.34	3891	3.432
Immersion site at Lingipur	4.929	3.263	3.912	0.595	5.449	14914.1	13.947



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Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
U/s of immersion site (Lingipur)	8.11	3.03	7.39	0.119	8.2	4011.2	16.91
D/s of temporary immersion site on river (near idol immersion pond below Daya bridge)	17.71	4.03	8.1	0.192	9.6	7081.6	26.98
FD/s of immersion site (100 m away from D/s location)	8.24	2.15	4.57	0.127	4.19	6470.9	20.72
Immersion site at Lingipur	18.32	7.54	10.62	0.46	11.91	10114	27.64
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
U/s of immersion site (Lingipur)	4.95	2.305	4.509	0.158	5.672	3306.7	9.18
D/s of temporary immersion site on river (near idol immersion pond below Daya bridge)	5.4	2.404	5.676	0.289	6.676	5514.3	12.92
FD/s of immersion site (100 m away from D/s location)	4.22	1.851	5.44	0.189	4.745	2240.3	10.36
Immersion site at Lingipur	5.63	7.665	6.007	0.836	7.509	8017.6	13.34

Table- 14 Impact of idol immersion during Durga Puja on water quality of Daya River at Bhubaneswar (near Tankapani Road)

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.0	189	1.3	26	7.3	2.4	9.9	12	80	56	19.2	1.9	0.009	0.016	0.002	0.018	0.0007	0.004	0.120
Location-2	7.3	199	2.7	10	5.4	2.8	13.2	8	76	60	19.2	2.9	0.008	0.020	0.004	0.021	< 0.0005	0.008	1.134
Location-3	7.6	199	1.6	5	8.2	1.8	9.9	10	80	60	17.6	3.9	0.004	0.015	0.002	0.027	0.0005	0.005	1.338
Location-4	7.4	254	25	51	2	6.7	26.5	16	108	80	16.0	9.7	0.005	0.016	0.003	0.024	< 0.0005	0.005	0.354
Post -Idol Immersion Monitoring (Date of Sampling :21.10.2021)																			
Location-1	8	200	2.3	13	8.2	1.1	11.9	10	84	88	20.8	8.8	0.009	0.004	0.004	0.023	< 0.0005	0.015	0.050
Location-2	7.9	207	1.8	17	7.2	1.4	11.9	14	60	68	16.0	6.8	0.008	0.008	0.005	0.026	< 0.0005	0.016	0.147
Location-3	7.8	204	1.3	19	8.4	2.8	15.8	16	72	76	17.6	7.8	0.005	0.007	0.002	0.026	< 0.0005	0.007	0.029
Location-4	No monitoring																		
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location-1	8.1	221	1.2	16	8.5	1.2	7.9	12	84	76	24.0	3.9	0.009	0.013	0.003	0.026	< 0.0005	0.014	0.506
Location-2	8	216	1.3	12	9.8	1.3	7.9	10	84	72	17.6	6.8	0.009	0.082	0.063	0.031	0.0007	0.147	0.621
Location-3	8.1	212	1	15	9.9	1.6	11.9	32	84	88	17.6	10.7	0.009	0.072	0.009	0.026	< 0.0005	0.076	0.529
Location-4	8.2	522	22	74	<0.3	85	277.2	12	180	144	36.9	12.7	0.008	0.017	0.002	0.030	0.0006	0.041	0.351
Post -Idol Immersion Monitoring (Date of Sampling : 23.10.2021)																			
Location-1	7.7	214	2.5	17	6.7	1.6	7.8	10	156	84	22.4	6.8	0.003	0.006	0.001	0.024	0.0011	0.001	0.017
Location-2	7.6	222	26	43	6.6	2.4	15.7	12	76	84	20.8	7.8	0.003	0.007	0.001	0.023	0.0010	0.001	0.154
Location-3	7.9	216	19	24	6.7	2.2	11.8	12	80	80	16.0	9.7	0.008	0.005	0.001	0.023	0.0013	0.008	0.130
Location-4	No monitoring																		



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location 1	8.2	206	2.8	15	7.5	2	11.8	12	100	88	17.6	10.7	0.008	0.008	0.002	0.032	0.0008	0.024	0.858
Location 2	8.2	236	9.3	29	7.3	2.2	11.8	12	104	132	40.1	7.8	0.009	0.008	0.000	0.025	< 0.0005	0.006	0.231
Location 3	8.2	208	6	22	7	2.3	11.8	14	76	80	16.0	9.7	0.007	0.010	0.002	0.032	< 0.0005	0.023	0.437
Location 4	No monitoring																		
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site (Lingipur, Tankapani road)
 Location-2 : D/s of temporary Immersion site on river (near idol immersion pond below Daya bridge), Tankapani Road
 Location-3 : FD/s of immersion site (100m away from D/s location), Tankapani Road
 Location 4 : Immersion site, Tankapani Road

Table- 15 Impact of idol immersion during Durga Puja on sediment quality of Daya river at Bhubaneswar (Tankapani Road)

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
U/s of immersion site (Tankapani)	4.139	2.521	7.094	0.493	2.774	2227.5	2.021
D/s of temporary immersion site (near Idol immersion pond below Daya bridge)	4.16	3.006	10.464	0.63	3.908	3662.4	6.837
FD/s of immersion site (100 m away from D/s location)	3.629	2.893	8.099	0.308	3.433	2391.3	4.339
Immersion site	8.083	4.564	10.685	0.827	5.885	8286.6	14.905
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
U/s of immersion site (Tankapani)	3.441	1.613	3.334	0.179	4.481	3074.8	10.597
D/s of temporary immersion site (near Idol immersion pond below Daya bridge)	4.032	2.849	4.595	0.205	4.749	4089.7	8.519
FD/s of immersion site (100 m away from D/s location)	2.112	1.305	2.578	0.186	2.454	2775.2	7.393
Immersion site	4.845	4.349	8.216	0.526	7.079	8557.9	12.24
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
U/s of immersion site (Tankapani)	3.904	2.685	0.977	0.071	1.883	2216.72	12.543
D/s of temporary immersion site (near Idol immersion pond below Daya bridge)	4.719	3.278	1.939	0.309	3.218	2540.34	14.717
FD/s of immersion site (100 m away from D/s location)	2.056	1.159	1.234	0.075	2.393	2120.24	10.302
Immersion site	5.647	6.072	2.732	1.085	4.445	8684.19	15.181
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
U/s of immersion site (Tankapani)	3.01	1.6	3.83	0.207	5.07	2048.3	17.68
D/s of temporary immersion site (near Idol immersion pond below Daya bridge)	6.06	1.8	7.88	0.348	10.91	12305.5	35.52
FD/s of immersion site (100 m away from D/s location)	3.09	1.57	6.54	0.293	9.43	4572.7	23.93
Immersion site	7.83	2.24	15.21	0.589	23.99	13471.9	61.15



Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
U/s of immersion site (Tankapani)	7.97	0.936	2.789	0.139	7.383	4465.56	5.71
D/s of temporary immersion site (near Idol immersion pond below Daya bridge)	8.46	2.375	6.615	1.088	10.653	5409	9.2
FD/s of immersion site (100 m away from D/s location)	7.47	1.624	3.615	0.505	6.8	4165.56	5.01
Immersion site	10.08	5.624	8.349	2.088	14.8	8585.3	29.9

Table- 16 Impact of idol immersion during Durga Puja on water quality of Mangala River at Puri

Location*	pH	EC, $\mu\text{S/cm}$	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.8	210	2.6	18	8	1.1	6.8	8	84	76	17.6	7.8	<0.002	0.007	0.003	0.011	0.0011	0.004	0.117
Location-2	7.6	215	1.8	21	7.1	1.8	10.2	10	84	72	22.4	3.9	0.002	0.010	0.002	0.012	0.0006	0.003	0.281
Location-3	7.6	226	2.1	28	6.9	1.2	6.8	16	84	88	19.2	9.7	<0.002	0.002	0.002	0.011	<0.0005	0.009	0.201
Location-4	7.3	312	18	58	4.8	2.5	17	96	196	132	33.7	11.7	0.003	0.017	0.003	0.019	0.0010	0.007	0.580
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.3	254	1.8	14	6.1	1.4	6.6	28	84	68	17.6	5.8	0.009	0.018	0.003	0.013	<0.0005	0.005	0.350
Location-2	7.2	310	2.2	21	5.3	2.6	16.6	40	84	80	16.0	9.7	0.008	0.028	0.003	0.019	0.0006	0.005	0.435
Location-3	7.4	296	2.4	26	5.1	2.4	13.2	38	84	72	22.4	3.9	0.009	0.031	0.003	0.018	<0.0005	0.011	0.310
Location-4	7.1	420	60	170	<0.3	13.3	53	52	124	108	25.7	10.7	0.009	0.036	0.006	0.023	<0.0005	0.013	0.376
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	8.0	237	2.1	15	8.9	1.6	11.9	24	80	84	16.0	10.7	0.006	0.006	0.002	0.025	<0.0005	0.006	0.369
Location-2	7.9	287	2.4	16	5.4	2.5	19.8	22	80	80	19.2	7.8	0.005	0.006	0.001	0.022	<0.0005	0.003	0.225
Location-3	7.3	242	2.4	18	5.7	2.4	15.8	36	100	116	36.9	5.8	0.006	0.007	0.002	0.022	<0.0005	0.024	0.068
Location-4	7.4	486	8	37	<0.3	18	79.2	60	200	260	56.1	29.2	0.008	0.013	0.006	0.033	0.0005	0.079	4.117
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location 1	8.3	220	2.6	17	6.7	1.9	11.9	12	76	80	16.0	9.7	0.007	0.009	0.001	0.026	<0.0005	0.006	0.082
Location 2	8.2	207	2.5	15	5.4	2.6	15.8	12	84	72	24.0	2.9	0.009	0.011	0.002	0.026	<0.0005	0.020	0.127
Location 3	8.2	213	5.5	33	5.5	2.3	11.9	16	72	84	17.6	9.7	0.008	0.006	0.002	0.024	<0.0005	0.004	0.122
Location 4	8.2	397	22	69	4.6	3.6	19.8	12	88	104	32.1	5.8	0.006	0.013	0.002	0.030	<0.0005	0.007	0.225
Post -Idol Immersion Monitoring (Date of Sampling : 27.10.2021)																			
Location 1	8	260	18	40	5.6	1.8	7.8	28	92	84	17.6	9.7	0.007	0.009	0.002	0.024	0.0010	0.002	0.040
Location 2	7.8	271	22	50	6	2.6	15.7	28	92	96	22.4	9.7	<0.002	0.008	0.001	0.025	0.0013	0.013	0.083
Location 3	7.7	263	16	47	5.5	2.2	11.8	28	72	76	17.6	7.8	0.005	0.007	0.001	0.024	0.0013	0.002	0.080
Location 4	7.5	515	26	55	<0.3	16	58.8	58	76	76	16.0	8.8	0.003	0.016	0.001	0.029	0.0014	0.010	1.291



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 29.10.2021)																			
Location 1	8.2	310	19	48	6.8	1.6	7.8	38	80	84	17.6	9.7	0.008	0.009	0.009	0.027	< 0.0005	0.006	0.371
Location 2	7.1	304	21	52	10.4	2.4	15.7	28	100	104	32.1	5.8	0.006	0.018	0.011	0.027	0.0008	0.047	0.806
Location 3	7.5	301	14	45	6.5	2	11.8	32	80	88	16.0	11.7	0.01	0.016	0.009	0.031	0.0006	0.021	1.196
Location 4	7.9	520	22	54	< 0.3	14	51	58	120	108	28.9	8.8	0.009	0.026	0.053	0.024	0.0007	0.145	0.218
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site (Malatipatapur)
 Location-2 : D/s of temporary Immersion site on river (Mangalaghat)
 Location-3 : FD/s of Immersion site (Ommkareswar mandir)
 Location 4 : Immersion site (on the bank of the river)

Table- 17 Impact of idol immersion during Durga Puja on sediment quality of Mangala river at Puri

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
U/s of immersion site (Malatipatpur)	3.337	1.921	6.906	0.311	5.047	2525.9	5.894
D/s of temporary immersion site on river (Mangalaghat)	3.446	2.635	6.911	0.378	5.049	2814.1	6.174
FD/s of immersion site (Omkareswar Mandir)	3.384	2.605	6.428	0.303	4.96	2806.2	5.913
Immersion Site on the bank of the river	3.453	3.146	7.901	0.382	5.768	2869.6	6.623
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
U/s of immersion site (Malatipatpur)	3.456	1.658	10.436	0.207	3.006	2343.8	4.942
D/s of temporary immersion site on river (Mangalaghat)	6.618	3.398	12.325	0.325	6.832	4293.7	10.978
FD/s of immersion site (Omkareswar Mandir)	5.97	2.624	10.043	0.309	5.609	3583.4	5.079
Immersion Site on the bank of the river	16.624	10.377	23.756	0.688	21.198	11823.7	14.312
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
U/s of immersion site (Malatipatpur)	3.265	2.401	4.369	0.192	9.795	2777.8	12.868
D/s of temporary immersion site on river (Mangalaghat)	4.774	4.335	5.555	0.217	15.793	3581.5	14.432
FD/s of immersion site (Omkareswar Mandir)	3.736	2.988	4.241	0.205	15.197	2691.2	11.703
Immersion Site on the bank of the river	5.609	6.017	10.242	0.339	17.667	6331.3	16.733
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
U/s of immersion site (Malatipatpur)	1.713	0.988	0.758	0.073	4.876	1104.47	3.394
D/s of temporary immersion site on river (Mangalaghat)	1.861	1.839	1.057	0.099	12.321	1350.61	4.179
FD/s of immersion site (Omkareswar Mandir)	1.823	1.501	0.688	0.031	8.131	1143.66	3.21
Immersion Site on the bank of the river	1.869	2.078	2.484	0.167	31.432	1480.47	5.176



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
U/s of immersion site (Malatipatpur)	6.5	7.68	6.58	0.137	12.82	4340.5	12.59
D/s of temporary immersion site on river (Mangalaghat)	8.44	9.79	8.12	0.33	25.55	4743.1	20.04
FD/s of immersion site (Omkareswar Mandir)	4.82	5.98	6.09	0.253	17.34	4446.1	10.13
Immersion Site on the bank of the river	8.86	11.62	16.39	0.742	44.37	9220.5	22.13
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
U/s of immersion site (Malatipatpur)	6.27	1.605	3.001	0.119	10.239	2228.8	8.54
D/s of temporary immersion site on river (Mangalaghat)	7.45	6.841	10.307	0.225	16.278	2798.1	21.4
FD/s of immersion site (Omkareswar Mandir)	7.15	2.36	5.422	0.216	8.689	1848.3	15.59
Immersion Site on the bank of the river	8.58	7.432	13.68	0.476	18.478	7624.4	27.89



Table- 18 Impact of idol immersion during Durga Puja on water quality of Brahmani river at Rourkela

Location*	pH	EC, $\mu\text{S}/\text{cm}$	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.5	230	1.3	3	7.3	0.5	6.6	14	72	72	22.4	3.9	0.009	0.008	0.003	0.023	< 0.0005	0.011	0.048
Location-2	7.4	270	0.8	3	7.8	1.1	6.6	44	84	120	33.7	8.8	0.01	0.019	0.004	0.028	0.0010	0.016	0.390
Location-3	7.6	200	0.9	2	8.2	1.1	6.6	16	92	76	20.8	5.8	0.006	0.012	0.006	0.022	< 0.0005	0.017	0.023
Location-4	7.3	299	2.6	12	7.2	1.5	9.9	46	92	84	27.3	3.9	0.009	0.016	0.004	0.028	0.0006	0.008	0.327
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.5	226	1.8	19	7.2	0.7	6.6	86	460	68	20.8	3.9	0.01	0.010	0.002	0.022	0.0005	0.005	0.064
Location-2	7.1	233	1.7	2	8.1	1.1	9.9	56	20	80	16.0	9.7	0.009	0.012	0.003	0.025	0.0015	0.008	0.095
Location-3	7.2	238	2.1	2	6.9	1.1	9.9	66	24	88	17.6	10.7	0.011	0.010	0.003	0.025	0.0006	0.006	0.085
Location-4	7.9	365	2.3	12	6.4	1.8	13.2	20	88	80	17.6	8.8	0.008	0.010	0.003	0.025	< 0.0005	0.005	0.132
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	6.9	153	45	128	7.6	1.3	7.8	10	80	76	20.8	5.8	0.008	0.009	0.001	0.024	0.0007	0.004	0.063
Location-2	6.8	279	7.9	41	6.2	1.5	11.8	20	60	68	17.6	5.8	0.007	0.024	0.004	0.028	0.0011	0.012	0.558
Location-3	7.1	135	60	195	8.4	1.2	7.8	16	52	56	14.4	4.9	0.009	0.013	0.001	0.026	0.0009	0.007	0.357
Location-4	6.9	296	6	39	7.6	1.5	11.8	20	92	100	28.9	6.8	0.006	0.012	0.001	0.026	0.0010	0.014	0.081
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location 1	7.4	176	14	66	6.9	1.5	7.8	8	60	68	16.0	6.8	0.008	0.011	0.008	0.025	0.0010	0.126	0.023
Location 2	7.6	220	19	55	7.3	1.7	11.8	12	76	80	14.4	10.7	0.009	0.014	0.015	0.027	0.0008	0.118	0.871
Location 3	7.6	180	23	72	7.2	1.5	7.8	8	76	72	20.8	4.9	0.006	0.011	0.015	0.033	0.0010	0.133	1.067
Location 4	7.8	364	7.6	28	8.1	1.6	11.6	38	100	112	36.9	4.9	0.003	0.010	0.011	0.026	0.0008	0.006	0.270
Post -Idol Immersion Monitoring (Date of Sampling : 27.10.2021)																			
Location 1	7.4	194	4	16	8.9	1.1	7.8	8	88	80	14.4	10.7	0.007	0.010	0.007	0.026	< 0.0005	0.069	0.196
Location 2	7.2	294	21	43	7.6	1.5	11.6	22	88	80	17.6	8.8	0.006	0.010	0.009	0.026	0.0008	0.126	1.112
Location 3	7.0	202	15	11	8.2	1.6	11.6	12	96	92	24.0	7.8	0.002	0.010	0.008	0.025	0.0010	0.073	0.276
Location 4	7.0	352	33	77	8.8	2.8	19.4	32	100	132	36.9	9.7	0.003	0.040	0.022	0.023	< 0.0005	0.120	0.483



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 29.10.2021)																			
Location 1	7.8	209	5.8	12	7.5	1.5	7.8	10	100	132	36.9	9.7	0.004	0.009	0.002	0.023	< 0.0005	0.013	0.470
Location 2	8.0	219	18	24	8.1	2.2	15.5	12	92	96	20.8	10.7	0.006	0.012	0.002	0.028	0.0009	0.024	1.167
Location 3	8.0	203	16	17	6.5	1.7	11.6	10	92	104	27.3	8.8	0.003	0.009	0.005	0.027	0.0008	0.047	0.778
Location 4	7.8	358	26	39	6.2	2.7	19.4	32	200	216	77.0	5.8	0.004	0.021	0.002	0.029	0.0005	0.113	0.179
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site
 Location-2 : D/s of temporary Immersion site on river
 Location-3 : FD/s of Immersion site
 Location 4 : Immersion site (on the bank of the river)

Table- 19 Impact of idol immersion during Durga Puja on sediment quality of Brahmani River at Rourkela

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
U/s of immersion site	16.711	17.355	24.573	0.988	20.577	14633.9	16.926
D/s of temporary immersion site on river	17.892	17.861	24.899	1.199	21.583	14984.5	17.168
FD/s of immersion site	17.365	17.165	23.903	1.119	20.847	14168.4	16.93
Immersion site on the bank of the river	20.899	18.261	25.807	1.599	21.995	15311.9	17.756
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
U/s of immersion site	20.299	24.105	30.35	1.073	30.399	24885.3	16.346
D/s of temporary immersion site on river	22.475	24.767	33.915	1.366	34.896	25816.9	18.472
FD/s of immersion site	17.424	19.858	29.123	1.269	26.524	23331.7	17.918
Immersion site on the bank of the river	24.736	28.198	34.268	1.592	36.399	28242.2	19.532
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
Immersion site on the bank of the river	45.464	25.407	32.088	1.551	62.206	25639.7	57.231
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
Immersion site on the bank of the river	39.043	22.373	26.762	1.371	50.467	23230.4	49.249
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
Immersion site on the bank of the river	34.902	20.461	23.996	1.236	46.194	23097.3	44.094
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
Immersion site on the bank of the river	29.932	18.773	22.388	0.842	34.669	11464.94	21.335

Table- 20 Impact of idol immersion during Durga Puja on water quality of Ib river at Sundargarh

Location*	pH	EC, $\mu\text{S/cm}$	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.1	198	1.7	9	7.6	1.1	9.9	16	68	96	20.8	10.7	0.008	0.011	0.003	0.023	0.0016	0.010	0.138
Location-2	7.3	214	2	9	8.2	1.9	13.2	26	72	96	20.8	10.7	0.009	0.017	0.002	0.020	< 0.0005	0.006	0.107
Location-3	7.5	195	3.9	18	7.8	1.6	13.2	12	80	84	22.4	6.8	0.009	0.018	0.019	0.026	< 0.0005	0.015	0.113
Location-4	7.4	319	4.8	23	5.4	1.9	13.2	16	144	112	32.1	7.8	0.007	0.033	0.003	0.025	< 0.0005	0.005	0.277
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.7	198	2.9	17	7.2	1.1	6.6	18	84	80	24.0	4.9	0.007	0.012	0.002	0.023	< 0.0005	0.006	0.102
Location-2	8.1	193	4.4	25	6.8	1.6	13.2	20	84	100	25.7	8.8	0.003	0.011	0.004	0.025	< 0.0005	0.015	0.159
Location-3	7.3	181	3.1	18	8.8	1.3	9.6	18	92	80	25.7	3.9	0.003	0.009	0.002	0.021	< 0.0005	0.006	0.196
Location-4	7.4	277	5.1	29	5.9	1.7	13.2	26	100	104	24.0	10.7	0.002	0.008	0.002	0.022	< 0.0005	0.001	0.016
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	6.9	197	45	78	8.3	1.2	7.8	10	44	40	9.6	3.9	0.007	0.002	0.001	0.025	0.0008	0.004	0.024
Location-2	6.8	218	65	167	7.2	1.5	11.6	10	60	68	17.6	5.8	0.009	0.008	0.001	0.027	0.0009	0.106	0.541
Location-3	6.9	212	45	146	9.2	1.3	7.8	6	60	60	16.0	4.9	0.009	0.011	0.012	0.028	0.0008	0.122	0.376
Location-4	6.7	301	15	43	2.3	10	34.9	16	100	124	40.1	5.8	0.005	0.011	0.001	0.028	0.0007	0.005	0.306
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location 1	8	192	6	18	8.6	1.4	11.6	6	48	52	12.8	4.9	0.003	0.009	0.001	0.026	0.0017	0.001	0.017
Location 2	6.9	238	7.8	30	7.9	1.7	15.5	8	80	80	17.6	8.8	0.002	0.015	0.002	0.026	0.0014	0.003	1.251
Location 3	7.1	240	6.9	29	8.9	1.3	11.6	6	64	60	16.0	4.9	0.004	0.010	0.001	0.024	0.0013	0.003	0.651
Location 4	7.7	362	8.9	42	3.1	8	31.1	16	100	128	35.3	9.7	0.005	0.009	0.003	0.028	0.0006	0.006	0.477



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 27.10.2021)																			
Location 1	7.4	211	4.9	14	7.9	1.3	7.8	12	76	80	17.6	8.8	0.004	0.011	0.004	0.024	0.0008	0.006	0.026
Location 2	7.7	485	5.4	19	9.2	1.8	11.6	48	100	108	35.3	4.9	0.003	0.022	0.006	0.024	< 0.0005	0.009	0.178
Location 3	8.1	414	2.8	11	6.1	1.5	11.6	24	172	188	40.1	21.4	0.003	0.021	0.001	0.023	0.0005	0.006	0.144
Location 4	7.3	625	3.1	17	3.9	7	27.2	66	200	236	80.2	8.8	0.003	0.019	0.010	0.028	< 0.0005	0.026	0.272
Post -Idol Immersion Monitoring (Date of Sampling : 29.10.2021)																			
Location 1	7.8	153	13	43	6.5	1.2	7.8	8	56	60	17.6	3.9	0.003	0.013	0.001	0.026	0.0008	0.008	0.626
Location 2	7.4	274	25	57	7.8	1.6	11.6	22	80	84	25.7	4.9	0.006	0.015	0.001	0.030	0.0016	0.008	0.628
Location 3	7.6	150	19	34	7.2	1.4	11.6	6	52	56	16.0	3.9	0.003	0.018	0.021	0.028	< 0.0005	0.044	0.036
Location 4	7.3	415	68	132	3.4	6.5	27.2	20	140	148	36.9	13.6	0.008	0.031	0.016	0.023	0.0021	0.022	0.338
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site
 Location-2 : D/s of temporary Immersion site on river
 Location-3 : FD/s of Immersion site
 Location 4 : Immersion site (on the bank of the river)

Table- 21 Impact of idol immersion during Durga Puja on sediment quality of Ib River at Sundargarh

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
U/s of immersion site	11.252	15.694	23.207	1.187	20.806	20319.9	11.926
D/s of temporary immersion site on river	14.192	16.677	24.502	1.83	22.709	22022.3	12.981
FD/s of immersion site	13.471	14.439	22.564	1.431	21.377	19403.1	10.293
Immersion site on the bank of the river	18.064	17.586	24.747	2.965	26.101	26540.4	13.309
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
U/s of immersion site	11.924	17.328	23.982	1.476	21.677	22475.32	11.475
D/s of temporary immersion site on river	15.142	18.739	34.078	1.755	33.051	23285.9	18.022
FD/s of immersion site	14.953	15.202	32.609	1.431	30.482	21861.2	9.956
Immersion site on the bank of the river	26.856	27.861	35.427	2.419	40.987	27560.9	23.835
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
Immersion site on the bank of the river	41.796	25.317	51.092	2.359	85.953	38796	44.964
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
Immersion site on the bank of the river	39.433	25.145	45.256	2	81.569	24233.9	40.576
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
Immersion site on the bank of the river	27.189	17.414	29.917	1.182	63.79	11772.6	23.097
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
Immersion site on the bank of the river	24.66	13.126	27.243	0.991	44.792	11511.6	20.909

Table- 22 Impact of idol immersion during Durga Puja on water quality of Mahanadi river at Sambalpur

Location*	pH	EC, $\mu\text{S/cm}$	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.2	184	1.9	12	7	< 1.0	7.9	8	88	96	17.6	12.7	0.007	0.007	0.006	0.025	0.0009	0.010	0.062
Location-2	7.3	223	5.6	16	7	< 1.0	7.9	8	72	68	16.0	6.8	0.008	0.010	0.003	0.025	< 0.0005	0.007	0.174
Location-3	7.6	185	8.5	22	7.2	< 1.0	7.9	8	68	44	12.8	2.9	0.007	0.003	0.007	0.021	0.0016	0.031	0.011
Location-4	7.1	260	3.8	14	3.8	2.6	23.8	16	88	72	20.8	4.9	0.004	0.008	0.007	0.026	0.0011	0.007	1.263
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.7	186	4	18	6.8	< 1.0	7.9	8	92	84	24.0	5.8	0.007	0.012	0.009	0.036	< 0.0005	0.038	0.351
Location-2	7.6	206	9.3	28	6.8	< 1.0	7.9	8	96	72	16.0	7.8	0.009	0.024	0.012	0.023	0.0009	0.006	0.326
Location-3	7.8	184	5.5	22	7	< 1.0	7.9	10	68	68	20.8	3.9	0.009	0.011	0.004	0.022	0.0010	0.003	0.021
Location-4	7.3	256	1.9	15	2.6	2.8	23.8	22	92	68	19.2	4.9	0.008	0.010	0.008	0.026	0.0009	0.007	1.644
Post -Idol Immersion Monitoring (Date of Sampling : 21.10.2021)																			
Location-1	7.5	196	1.8	16	7.2	< 1.0	7.9	8	72	80	16.0	9.7	0.01	0.007	0.004	0.028	0.0010	0.011	0.133
Location-2	7.5	211	1.1	14	7	< 1.0	11.9	10	92	72	16.0	7.8	0.003	0.018	0.008	0.029	0.0010	0.058	0.188
Location-3	7.5	202	1.3	18	7.2	< 1.0	11.9	8	64	72	14.4	8.8	0.004	0.016	0.002	0.026	0.0012	0.007	0.072
Location-4	8.1	235	1.9	21	3.2	5.8	27.7	18	84	76	17.6	7.8	0.009	0.012	0.002	0.031	0.0012	0.010	3.741
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location 1	7.6	190	1.4	12	7.2	< 1.0	7.9	6	84	80	16.0	9.7	0.002	0.012	0.002	0.026	0.0011	0.009	0.079
Location 2	7.3	212	2	17	6.8	1.2	11.9	8	92	80	16.0	9.7	0.003	0.013	0.002	0.029	0.0013	0.004	0.073
Location 3	7.5	192	1.6	16	7.2	1.1	11.9	10	64	76	17.6	7.8	0.003	0.010	0.005	0.026	0.0012	0.004	0.084
Location 4	7.3	236	1.8	21	3.4	6.6	31.7	16	76	72	12.8	9.7	0.005	0.011	0.002	0.026	0.0011	0.007	0.324
Post -Idol Immersion Monitoring (Date of Sampling : 27.10.2021)																			
Location 1	7.5	230	2.4	16	7.4	< 1.0	7.9	12	84	76	19.2	6.8	0.003	0.009	0.004	0.012	0.0009	0.007	1.024
Location 2	7.2	242	1.5	14	6.6	1.1	11.9	14	72	84	24.0	5.8	0.003	0.012	0.005	0.010	0.0008	0.023	2.536
Location 3	7.5	240	2.3	18	7.2	< 1.0	7.9	18	76	72	22.4	3.9	0.002	0.009	0.004	0.007	0.0011	0.008	0.153
Location 4	7.8	257	4.7	29	3.4	4.5	25.6	16	92	80	20.8	6.8	0.004	0.015	0.008	0.009	0.0013	0.024	1.160



Impact of Idol Immersion on Water Quality of Aquatic Bodies-2021

Location*	pH	EC, µS/cm	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Post -Idol Immersion Monitoring (Date of Sampling : 29.10.2021)																			
Location 1	7.5	203	1.4	12	7.6	< 1.0	7.9	14	92	84	22.4	6.8	0.002	0.008	0.003	0.007	0.0012	0.011	0.523
Location 2	7.4	241	2.9	22	7.2	1.2	11.9	16	80	88	24.0	6.8	0.003	0.011	0.005	0.013	0.0013	0.026	0.552
Location 3	7.7	236	1.4	14	7.4	1.1	11.9	12	80	76	22.4	4.9	0.003	0.012	0.005	0.011	0.0008	0.021	0.459
Location 4	7.4	259	1.8	17	3.6	3.7	17.8	16	88	96	24.0	8.8	0.002	0.010	0.005	0.007	0.0013	0.021	0.439
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

- * Location-1 : U/s of immersion site
 Location-2 : D/s of temporary Immersion site on river
 Location-3 : FD/s of Immersion site
 Location 4 : Immersion site (on the bank of the river)

Table- 23 Impact of idol immersion during Durga Puja on sediment quality of Mahanadi River at Sambalpur

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
U/s of idol immersion site at bank of River Mahanadi	13.3	8.216	14.053	0.749	18.248	16283.5	2.5
Temporary immersion site at bank of River Mahanadi	17.542	8.532	17.542	0.768	21.766	17901.7	3.217
FD/s of idol immersion site on River Mahanadi	17.368	8.198	15.454	0.745	21.393	14357	2.454
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
U/s of idol immersion site at bank of River Mahanadi	15.353	8.904	17.517	1.332	24.047	16258.2	8.005
Temporary immersion site at bank of River Mahanadi	24.007	16.78	25.144	1.568	26.138	19903.4	16.509
FD/s of idol immersion site on River Mahanadi	23.199	12.054	16.646	1.004	22.479	18375.9	13.116
Post-Idol Immersion Monitoring (Date of Sampling : 21.10.2021)							
U/s of idol immersion site at bank of River Mahanadi	14.297	9.445	14.48	0.693	12.731	10677.2	2.654
Temporary immersion site at the bank of River Mahanadi	21.372	12.41	24.608	1.043	20.911	15662.3	6.972
FD/s of idol immersion site of River Mahanadi	20.765	9.109	22.139	0.756	15.221	14886.3	3.326
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
U/s of idol immersion site at bank of River Mahanadi	16.949	10.198	23.452	0.78	14.352	2716.8	6.511
Temporary immersion site at the bank of River Mahanadi	21.471	15.216	25.223	1.542	24.436	4566.9	7.886
FD/s of idol immersion site of River Mahanadi	18.557	8.2	22.759	1.168	20.463	2548.27	5.957
Post-Idol Immersion Monitoring (Date of Sampling : 27.10.2021)							
U/s of idol immersion site at River Mahanadi	8.274	9.062	9.646	0.514	3.413	9880.8	2.982
Temporary immersion site at bank of River Mahanadi	12.923	11.534	13.329	0.65	19.363	17335.6	25.094
FD/s of idol immersion site of River Mahanadi	10.491	9.815	7.837	0.577	16.135	12754.5	11.184
Post-Idol Immersion Monitoring (Date of Sampling : 29.10.2021)							
U/s of idol immersion site at River Mahanadi	5.789	6.767	4.299	0.406	12.826	8618.3	4.068
Temporary immersion site at bank of River Mahanadi	13.882	9.138	8.159	1.964	18.792	15578.7	20.599
FD/s of idol immersion site of River Mahanadi	12.337	8.336	7.651	0.761	13.548	11804.2	10.3



Table- 24 Impact of idol immersion during Durga Puja on water quality of Ponds in Berhampur

Location*	pH	EC, $\mu\text{S/cm}$	Turb, NTU	TSS, mg/L	DO, mg/L	BOD, mg/L	COD, mg/L	Cl ⁻ , mg/L	Alk., mg/L	TH, mg/L	CaH, mg/L	MgH, mg/L	Cr ⁺⁶ , mg/L	Ni, mg/L	Cu, mg/L	Pb, mg/L	Cd, mg/L	Zn, mg/L	Fe, mg/L
Pre-Idol Immersion Monitoring (Date of Sampling : 07.10.2021)																			
Location-1	7.9	2361	22	41	6.5	6.0	30.3	245	200	460	160.3	14.6	0.004	0.065	0.010	0.088	0.0063	0.017	0.344
Location-2	8.6	1189	1.3	15	6.8	6.0	30.3	156	288	520	88.2	73.1	0.006	0.042	0.006	0.044	0.0031	0.005	0.231
Location-3	7.4	1175	0.8	41	5.9	8.0	37	96	192	200	43.3	22.4	0.003	0.021	0.005	0.040	0.0025	0.023	0.583
Location-4	7.4	1145	1.4	26	6.2	5.3	26.9	48	220	320	54.5	44.8	<0.002	0.024	0.008	0.041	0.0023	0.012	0.125
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)																			
Location-1	7.1	474	9.7	35	2.7	8.3	39.2	38	76	132	36.9	9.7	0.01	0.017	0.003	0.031	0.0011	0.003	0.171
Location-2	7	473	6.4	42	2.1	6.7	31.4	32	64	168	38.5	17.5	0.003	0.018	0.001	0.032	0.0011	0.003	0.069
Location-3	7.2	603	8.7	21	2.4	12.0	39.2	76	176	184	40.1	20.5	0.006	0.019	0.003	0.033	0.0013	0.009	0.142
Location-4	7.2	609	8	34	2.7	7.6	35.3	76	92	180	40.1	19.5	0.005	0.021	0.003	0.031	0.0013	0.028	3.813
Post -Idol Immersion Monitoring (Date of Sampling : 25.10.2021)																			
Location-1	7.2	505	7.3	67	3.8	4.2	27.5	32	152	164	38.5	16.6	0.008	0.018	0.001	0.030	0.0012	0.003	0.044
Location-2	7.1	478	3.6	53	3.6	5.2	27.5	42	224	140	40.1	9.7	0.007	0.013	0.000	0.025	0.0011	0.004	0.028
Location-3	7.1	474	8.3	25	4.2	3.8	23.5	38	204	136	36.9	10.7	0.009	0.014	0.003	0.033	0.0013	0.004	0.151
Location-4	7.2	479	4.8	45	4.8	4.8	27.5	44	192	152	40.1	12.7	0.009	0.018	0.002	0.032	0.0011	0.004	0.140
Tolerance limits for Class-C inland surface waters (IS : 2296-1982)																			
Tolerance limit	6.5-8.5	--	--	--	4.0, min	3.0, max	--	--	--	--	--	--	0.05	-	1.5	0.1	0.01	15	50
Drinking water specification (IS : 10500 : 2012) and amendments thereof																			
Acceptable limit	6.5-8.5	-	1.0	-	-	-	-	250	200	200	75	30	-	0.02	0.05	0.01	0.003	5	1.0
Permissible limit	No relax	-	5.0	-	-	-	-	1000	600	600	200	100	-	No relax	1.5	No relax	No relax	15	No relax

* Location-1 : Temporary idol immersion pond at Minakhinagar
 Location-2 : Temporary idol immersion pond at Gosaninuagon
 Location-3 : Temporary idol immersion pond, Ambapua
 Location-4 Temporary idol immersion pond,1st gate, Haridakhandi

Table- 25 Impact of idol immersion during Durga Puja on sediment quality of Ponds at Berhampur

Location	Ni (mg/Kg)	Cu (mg/Kg)	Pb (mg/Kg)	Cd (mg/Kg)	Zn (mg/Kg)	Fe (mg/Kg)	T Cr (mg/Kg)
(on dry weight basis)							
Pre -Idol Immersion Monitoring (Date of Sampling : 07.10.2021)							
Temporary idol immersion pond at Meenakhi Nagar	15.808	10.115	19.313	0.888	33.584	17310.6	9.722
Temporary idol immersion pond at Gosaninuagaon	13.844	8.828	14.425	0.989	29.81	23851.5	0.625
Temporary idol immersion pond at Ambapua	13.767	10.195	15.928	0.505	34.506	9924.4	2.531
Temporary idol immersion pond, 1 st gate, Haridakhandi	13.305	9.056	17.254	1.264	43.12	10046.8	4.339
During -Idol Immersion Monitoring (Date of Sampling : 17.10.2021)							
Temporary idol immersion pond at Meenakhi Nagar	25.749	14.826	29.079	1.3	45.986	28064.8	9.921
Temporary idol immersion pond at Gosaninuagaon	21.241	15.044	25.269	0.895	45.924	24389	1.2
Temporary idol immersion pond at Ambapua	21.983	14.721	23.048	0.829	48.386	16885.7	4.236
Temporary idol immersion pond, 1 st gate, Haridakhandi	25.976	19.363	39.083	1.584	48.032	9572.19	7.179
Post-Idol Immersion Monitoring (Date of Sampling : 25.10.2021)							
Temporary idol immersion pond at Meenakhi Nagar	21.007	12.499	20.123	0.904	41.864	20028.6	10.433
Temporary idol immersion pond at Gosaninuagaon	19.586	11.485	20.825	1.048	31.786	26120.8	0.842
Temporary idol immersion pond, Ambapua	18.214	11.706	22.829	1.166	53.866	13289.3	17.608
Temporary idol immersion pond, 1 st gate, Haridakhandi	15.405	9.818	35.377	1.668	47.942	10705.8	20.265

7. Recommendations

- Guidelines of Idol Immersion should be strictly followed by the Puja Committee Organisers during the immersion of idols.
- District Administration/ authorities of ULBs may decide the size of the idols.
- District Administration/ authorities of ULBs may take awareness programme for the idol makers to register themselves with a declaration to make ecofriendly idols.
- District Administration should promote the idol makers/ idol manufactures for making ecofriendly idols.
- Puja Committee Organisers should promote the construction of idols from natural clay only and colouring of the idols with natural colours.
- As Pujas like Ganesh Puja, Saraswati Puja, Biswakarma Puja, Khudurukuni Puja are mostly observed in individual scale, promotion of idols made of natural clay and coloured with natural colours play a vital role in controlling of pollution. School children, young mass may be given major thrust for the awareness programs on ill impacts of idol immersion.
- Use of thermocol, single-use plastic materials for decoration purpose, Prasad distribution/ sevans purposes should be prohibited.
- Adequate number and size of ponds shall be constructed by the local administration for idol immersion purpose and shall be informed to the Puja Committee Organisers with route map.
- Public and individual house holders, resident welfare associations may be encouraged to immerse their idols in these earmarked ponds.
- Resident welfare associations may construct temporary idol immersion ponds in their premises for such purpose. Immersion left overs from the ponds may be recovered from the ponds and handed over to the municipal authorities for proper disposal. Water of the ponds may be used for gardening purpose.
- Awareness may be created among the individual house holders to immerse the idols and puja left overs in a bucket full of water and later the water may be used for gardening.
- Municipal authorities shall cooperate the Puja Committee Organisers for removal of the left-over materials of the idol immersions from the immersion sites within 24 hours of immersion and transportation of these debris to the dumpsites.



- Treatment of temporary immersion pond water with lime and discharge of the settled water to main river channel.
- Burning of left-over materials of idol immersion on the banks of river should be prohibited.
- After discharge of water from the temporary immersion ponds, the empty space should be filled with sand.
- Public awareness shall be given more thrust on the ill-impacts of idol immersion and implementation of the Guidelines.
- Public awareness should be created to limit the size of idols and number of idols in a locality in order to decrease the waste load in the form of puja left-overs.



ANNEXURES

**Government of Odisha****Office of Special Relief Commissioner**No. 4534/R&DM(DM), Dt. 09.08.2021**ORDER**

Whereas, the country continues to pass through COVID-19 and resurgence of infection is observed in some States as well as in many neighbouring countries in Asia and elsewhere in the world;

And whereas, the Ministry of Health and Family Welfare, Government of India vide their DO no. AS(H) Misc/2021 dated 24.03.2021 have strongly advised the States to consider imposing local restrictions in public observance of festivals.

And whereas, the State Government vide Order No.4290 /R&DM(DM) dated 31.07.2021 have issued COVID-19 Guidelines prohibiting all social/ cultural/ religious gatherings.

And whereas, the festivals/ Pujas of **Ganesh Puja, Durga Puja, Laxmi Puja, Kali Puja and other similar Puja/ festivals of other religious communities are falling in August, September, October and November of 2021** and people usually congregate & get in touch with each other to celebrate the Festivals/ Pujas during which it is not possible to adhere to COVID appropriate behaviour and such congregations have a potential to cause spread of the virus;

And whereas, it is felt necessary to issue guidelines/ instructions for observance of Puja/ celebration of festivals well in advance so that the general public as well as the Organisers of such Pujas/ Festivals will be suitably prepared;

Now, therefore, in exercise of powers conferred under Section 24(I) of the Disaster Management Act, 2005 read with Rule 8(1) of the Odisha Disaster Management Rules, 2010 the following guidelines are issued in the interest of health of the general public and for containment of spread of COVID-19:

It is hereby directed that congregation for celebration of the above festivals/puja and associated religious and cultural congregations shall not be allowed in public throughout the State.

However, religious rituals in churches/ temples/mosques/places of worship will continue as usual with limited number of persons with strict adherence to Covid protocols.

The citizens are allowed to observe the said Pujas/ festivals in their premises without causing any congregation at any place and maintaining all safety protocols, such as social distancing, wearing masks, proper sanitisation, etc.

The Puja Committees/ organisers/ in rural and urban areas are allowed to conduct puja in mandaps/ pandals as per the following instructions:

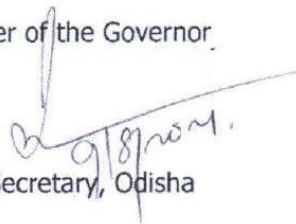
1. For conducting Puja in Puja Pandals/ Mandaps, the organizers shall apply to and obtain necessary permission from the District Magistrate or any other officer authorised by him/ her. For the area under Commissionerate of Police of Cuttack and Bhubaneswar, such permission shall be given by the Commissioner of Police of Cuttack and Bhubaneswar or any other officer authorised by him/ her.
2. Puja(s) shall be conducted in indoor-like condition only for observance of rituals without public participation, pomp and grandeur.
3. Puja Pandals/ Mandaps shall be covered on three sides. The 4th side shall also be covered in a way not to allow any public view of the idols. There shall be no darshan by public/ devotees.
4. The size of idol shall be less than 4 feet.
5. There shall be no use of public address system.
6. At any given point of time, there shall not be more than 7 persons including organisers (Kartas) and priests and support staff present in the Puja Pandal/ Mandap.
7. The persons present at Puja Pandal/ Mandap shall follow all Covid protocols of social distancing, mask use, personal hygiene and sanitation issued by Central/ State Government/ Local Administration in letter and spirit.
8. The organizers and other persons involved in conducting the Puja shall abide by any other condition(s) as imposed by Local Administration/ appropriate authority.

9. There shall be no immersion procession. The idols will be immersed in artificial pond(s) created by the local administration for the purpose.
10. There shall be no religious procession of any kind of any religious community
11. There shall be no musical or any other entertainment programme.
12. **Ganesh puja in educational institutions** is allowed with participation of limited number of students observing COVID appropriate behavior.
13. No community feast associated with any puja/ festival during the period shall be allowed.
14. All the District Magistrates/ Municipal Commissioners/ Commissioner of Police, Bhubaneswar-Cuttack shall strictly enforce the above guidelines.
15. **Penal provisions:** Any person violating these measures will be liable to be proceeded against in accordance with the provisions of Section 51 to 60 of the Disaster Management Act, 2005, the Epidemic Diseases Act, 1897 and Regulations issued there under besides legal action under Section 188 of the IPC and other legal provisions as applicable.

Considering local conditions, Collectors and Municipal Commissioners may impose appropriate restrictions on entry of devotees into churches /temples /mosques/ religious places/ places of worship and in the celebrations in churches/ temples/mosques/ religious places/places of worship. Collectors/ Municipal Commissioners may decide the number of persons to attend any such religious ritual/ festival/Puja in their respective jurisdictions with strict adherence to Covid appropriate behaviour and norms.

Any person found violating this order shall be punished under the provisions of the Disaster Management Act, 2005 and other relevant laws.

By order of the Governor


Chief Secretary, Odisha

Memo No. 4535/R&DM(DM) **Date:** 09.08.2021

Copy forwarded to the Private Secretary to Hon'ble Chief Minister/
Private Secretary to all Ministers/ Chief Secretary/ Development
Commissioner/ Agriculture Production Commissioner for kind information.


9/8/2021
Special Relief Commissioner &
Additional Chief Secretary to Govt.
(Disaster Management)

Memo No. 4536/R&DM(DM) **Date:** 09.08.2021

Copy forwarded to the Addl. Chief Secretary/ Principal Secretary/
Commissioner-cum-Secretary of all Departments/ Director General of Police/
Director General of Police Fire Services/Police Commissioner, Bhubaneswar-
Cuttack/ All RDCs/ All Collectors/ All Superintendents of Police/ All Municipal
Commissioners for kind information and immediate necessary action.


9/8/2021
Special Relief Commissioner &
Additional Chief Secretary to Govt.
(Disaster Management)

Memo No. 4537/R&DM(DM) **Date:** 09.08.2021

Copy forwarded to the Joint Secretary (Disaster Management), Ministry
of Home Affairs (Disaster Management Division), Government of India for kind
information.


9/8/2021
Special Relief Commissioner &
Additional Chief Secretary to Govt.
(Disaster Management)



FAX : 2562822/2560955
TEL : 2564033/2563294
EPABX : 2561909/2562847
E-mail : paribesh1@ospboard.org
Website : www.ospboard.org

STATE POLLUTION CONTROL BOARD, ODISHA
(DEPARTMENT OF FOREST, ENVIRONMENT AND CLIMATE CHANGE, GOVERNMENT OF ODISHA)
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII,
Bhubaneswar – 751 012

No. 13303

Dt. 02.09.2021

VI-SC(LEM)Proj.64 /20-21

To

All Collectors and District Magistrates
Odisha

Sub : Implementation of the guideline prepared by CPCB on practice of idol immersion in sea, rivers and lakes

Ref : This Office letter No. 1026 dated 25.6.2020

Sir,

In inviting a reference to above cited letter, this is to inform that Central Pollution Control Board (CPCB) has directed to implement the "Revised Guidelines for Immersion of Idols- May 12, 2020" with effect from 01.01.2021. The guideline posted in Board's website may be downloaded using the weblink http://ospboard.org/wp-content/uploads/2020/06/295_1589273986_mediaphoto24365.pdf for kind information.

It is requested to take appropriate steps for ensuring implementation of these guidelines in the ensuing festive occasions for idol immersion in seas, rivers and lakes. It is also requested to issue necessary directions to the stakeholders for arranging proper sanitation facility and to ensure that the left over materials at idol immersion points on the banks of rivers, lakes, beaches etc should be collected by the local bodies for proper disposal.

Action taken in this regard may please be communicated to this end within one month of completion for each festive period .

Yours faithfully,


MEMBER SECRETARY

Memo No. 13304 /dt. 02.09.2021

Copy forwarded to Sri A. Sudhakar, Divisional Head, WQM-I, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi 110032 for kind information.

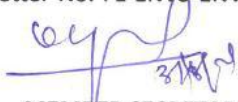

MEMBER SECRETARY

Contd.. p/2

-2-

Memo No. 13305(3) /dt. 02.09.2021

Copy forwarded to the Director, Env.-cum-Spl. Secy. To Government, Forest, Environment and Climate Change Department, Govt. of Odisha for kind information with reference to letter No. FE-ENV3-ENV-0003-2020/14648/ FE&CC dated 17.08.2021.


MEMBER SECRETARY

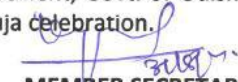
Memo No. 13306 /dt. 02.09.2021

Copy forwarded to the Principal Secretary, H & UD Department, Govt. of Odisha for kind information and necessary action during Ganesh Puja and Saraswati Puja celebration.


MEMBER SECRETARY

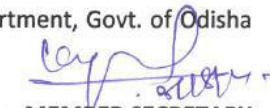
Memo No. 13307(2) /dt. 02.09.2021

Copy forwarded to the Commissioner-cum-Secretary, Higher Education Department, Govt. of Odisha for kind information and necessary action during Ganesh Puja and Saraswati Puja celebration.


MEMBER SECRETARY


Memo No. 13308 /dt. 02.09.2021

Copy forwarded to the Principal Secretary, School and Mass Education Department, Govt. of Odisha for kind information and necessary action.


MEMBER SECRETARY

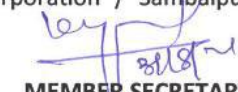
Memo No. 13309(6) /dt. 02.09.2021

Copy forwarded to the Revenue Divisional Commissioner, Central Division, Cuttack / Revenue Divisional Commissioner, Northern Division, Sambalpur/ Revenue Divisional Commissioner, Southern Division, Berhampur for kind information and necessary action.


MEMBER SECRETARY

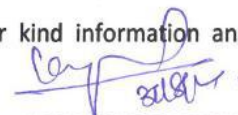
Memo No. 13310(5) /dt. 02.09.2021

Copy forwarded to the Commissioner, Bhubaneswar Municipal Corporation / Cuttack Municipal Corporation / Rourkela Municipal Corporation / Berhampur Municipal Corporation / Sambalpur Municipal Corporation for kind information and necessary action.


MEMBER SECRETARY

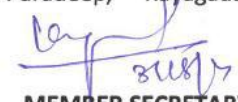
Memo No. 13311 /dt. 02.09.2021

Copy forwarded to the Executive Officer of all Municipalities and NACs for kind information and necessary action.


MEMBER SECRETARY

Memo No. 13312(13) /dt. 02.09.2021

Copy forwarded to the Regional Offices of State Pollution Control Board, Angul, Balasore, Bhubaneswar, Berhampur, Cuttack, Jharsuguda, Kalinganagar, Keonjhar, Paradeep, Rayagada, Rourkela, Sambalpur and Koraput for information and necessary action.


MEMBER SECRETARY



hat the State Rule on Idol immersion...
 are requested to kindly furnish the list of Puja...
 realization of State Rule.

...dated

GOVERNMENT OF ODISHA
FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

No. 668. Date 26/8/21
RECEIVED

No. FE-ENV3-ENV-0003-2020 14649****
 From: Sri Susanta Nanda, IFS,
 Director, Environment-cum-
 Special Secretary to Government

Date: 17.08.2021

To: The Principal Secretary,
Panchayati Raj & Drinking Water Department

CENTRAL LABORATORY
 S.P.C. Board Odisha
 Bhubaneswar-75

Sub: Guidelines for Idol Immersion in Rural Areas.

Sir,

In inviting a reference to the subject cited above, I am directed to enclose herewith the Guidelines for Idol Immersion in Rural Areas for implementation.

Further, it is to intimate that the Hon'ble NGT in O.A. No. 51/2016/EZ in the matter of Ambernath Sengupta Vs. State of West Bengal & Others directed for framing of Idol Immersion Rule during Festive Occasions which is being finalized.

Till that time, it is requested to implement the enclosed guideline for Idol Immersion in Rural Areas.

Yours faithfully,
 [Signature] - 17/08
 Director, Environment-cum-
 Special Secretary to Government

Memo No. 14650, FE&CC, Dt 17.08.2021
 Copy forwarded to the Member Secretary, SPCB for information and necessary action.

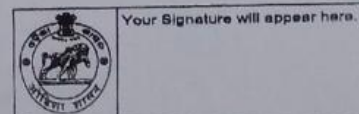
[Signature] 17/08
 Director, Environment-cum-
 Special Secretary to Government

SCB/M...
 23/8
 ES - Lab
 Ac
 25/8/21
 ES (UPD)
 M. Khatiwala
 26/8

GUIDELINES FOR IDOL IMMERSION

IN RURAL AREAS

- i. Idols made up of only natural, bio-degradable, eco-friendly raw materials, without any toxic ingredients should be encouraged / allowed. Idols made up of Plaster of Paris (PoP) shall be banned.
- ii. Use of Single use plastic and the thermocol materials shall not be permitted.
- iii. Use of toxic and non-biodegradable chemical dyes/ oil paints for painting idols are to be strictly prohibited.
- iv. For beautification of idols, removable and washable decorative clothes, made only with natural materials and dyes shall be used in place of disposable materials.
- v. As far as possible, low height and eco-friendly idols should be used for offering poojas to avoid impact on environment.
- vi. Biodegradable plates may be used in place of single use plastic and polystyrene, for Prasad distribution and other purposes.
- vii. Worship materials and decorating materials should be removed before immersion.
- viii. Instead of immersion of idols in water bodies, villages should be encouraged to create temporary ponds/ tanks of suitable size and adequate capacity.
- ix. The temporary 'Idol immersion Ponds/Tanks, with the liner made with well graded/ highly impervious clay or eco synthetic lines, should be arranged on the banks of rivers or stagnant water.
- x. Lime or alum or any other equivalent coagulant should be added in designated temporary lined pond/ tank as pre-treatment.
- xi. Waste collection center in the vicinity of the designated temporary/ artificial idol immersion sites or locations are to be arranged for ensuring collection of segregated materials.





Tel:06726221153
E-mail: rospcb.kalinganagar@ospcbboard.org
Website: www.ospcbboard.org

REGIONAL OFFICE, KALINGANAGAR
STATE POLLUTION CONTROL BOARD, ODISHA
[DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA]
At- Dhabalagiri, PO: FC Project, Jajpur Road,
Dist- Jajpur-755019, Odisha, India

No. 2579/2ab-03

Date. 12.11.2021
By e mail/Speed Post

From,
Er. P.K. Behera
Regional Officer

To,
The Member Secretary,
State Pollution Control Board,
Odisha, Bhubaneswar

Sub: Action taken report in compliance to the Guidelines of Revised Idol Immersion (12.05.2020) during ensuring festivals involving idol immersion- Regarding.

Ref: Your letter no. 15393 dtd. 05.10.2021.

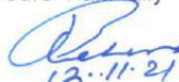
Sir,

In inviting a reference to the above subject, I am submitting herewith the action taken report in compliance to the Guidelines of Revised Idol Immersion (12.05.2020) during ensuring festivals involving idol immersion for your kind information and necessary action.

This is for kind information and necessary action.

Encl-As above

Yours' Faithfully


12.11.21
Regional Officer

ACTION TAKEN REPORT IN COMPLIANCE TO THE GUIDELINES OF REVISED IDOL IMMERSION (12.05.2020) DURING DURGA PUJA IN JAJPUR DISTRICT

Idol immersion has contributed a significant role in water pollution of rivers, nallas and other water bodies. To regulate the issue, many significant steps have been taken by the Central and State Government. Further, CPCB has published guideline on Idol immersion and a revised guideline dated 12.05.2020 has been published for immersion of Idols during ensuing festivals. Further, Government of Odisha has framed a rule i.e. The Odisha Prevention and Control of Water Pollution (Procedure for immersion of idol after Pujas) Rules, 2021 vide notification no. 17937, dated 04.10.2021 in compliance of O.A. No. 51/2016 (EZ) titled as "Ambernath Sengupta Vs the State of West Bengal & Ors".

Based on the seriousness on the above issue, Regional Office, State Pollution Control Board, Kalinganagar, Jajpur communicated the Jajpur Municipality and Vyasaganar Municipality vide this office letter no. 2410 dated 08.10.2021 and asked to submit the compliance to the guidelines of revised idol immersion for the respective municipalities.

Further, officials of the Regional Office, SPCB, Odisha, Kalinganagar attended the Idol immersion meeting conducted by the District Administration and aware the Puja Karyakarta and the Administration on the revised guideline of CPCB on Idol immersion. Further, awareness leaflet was also circulated in the meeting for better awareness.

In Jajpur Municipality, idol immersion was done in the temporary pond at Debigarh ghat of Baitarani River of size 47 ft x 35 ft. The temporary pond was provided with HDPE liner, Hoarding Board and approach road for easy access to the site was provided. Total 43 nos. of idols were immersed in the temporary pond (Photographs of the immersion is attached as Annexure-I). After 42 hours of immersion, the left over material from the immersion site was removed and disposed at the designated Municipal dump site. Temporary pond water was cleaned by adding lime.

Cont...

In Vyasaganar Municipality, idol immersion was done in the temporary pond constructed at the back side of the Court (100m). The temporary pond was of size 13mx12mx4m. The temporary pond was provided with HDPE liner, Hoarding Board and approach road for easy access to the site was provided. Total 7 nos. of idols was immersed in the temporary pond (Photographs of the immersion is attached as Annexure-II). After 42 hours of immersion, the left over material from the immersion site was removed and disposed at the designated Municipal dump site. Temporary pond water was cleaned by adding lime.



Regional Officer

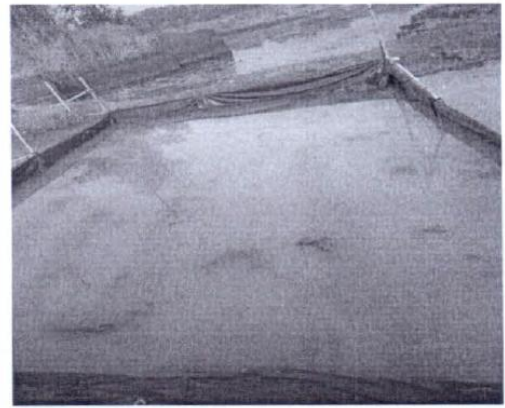
Annexure-I

IDOL IMMERSION BY JAJPUR MUNICIPALITY



Annexure-II

IDOL IMMERSION BY VYASANAGAR MUNICIPALITY





OFFICE OF THE MUNICIPAL COUNCIL: KEONJHARGARH

At/Po: Keonjhargarh, Dist: Keonjhar, Odisha, Pin-758001

Phone/Fax: 06766-255413

Email: keonjharm.hud@rediffmail.com

No. 6238 /KGM Dt. 22-10-2021

To

The Member Secretary,
State Pollution Control Board, Odisha,
Paribesh Bhawan, Bhubaneswar

Sub: Submission of action taken report in Compliance to the guidelines of revised idol immersion (12.05.2020) during ensuing festivals involving idol immersion-regarding

Ref: Your letter No. 15395 dt. 05.10.2021

Sir,

In inviting a reference to the letter on the subject cited above, I am to inform you that for implementation of the revised guideline prepared by the CPCB, New Delhi regarding Idol immersion, a meeting was held among the members of different Puja committees within this Municipality area under the Chairpersonship of Executive Officer, Keonjhargarh Municipality, Where Tahasildar, Sadar, Keonjhar & I.I.C, Town P.S., Keonjhar also participated in the meeting. After thorough discussion, Nua Pokhari (Size-200 feetX80 feet) of Keonjhargarh Municipality in Ward No.5 was identified as Idol immersion spot and all the members of different puja committee were instructed to obey the guidelines prepared by CPCB, New Delhi as well as for immersion of the Idols in the identified spot for safe immersion. Necessary steps were also taken by this Municipality for cleaning, site development of the Pond and other Sanitation work at the pond site to make usable condition as per CPCB guideline. Idols immersion was made as per guideline under the direct supervision of E.O, Keonjhargarh Municipality and other administrative officials. During the Durga Puja Festival, 08(Eight) nos. of Idols were immersed at the pond. The photo copies are attached for your kind reference.

This is for favour of your kind information.

Encl: As above

Yours faithfully

Executive Officer,

Keonjhargarh Municipality

21/10/2021

21/10/2021



1/211

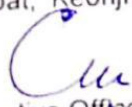
Memo No 6239 /KGM dt 22.10.2021

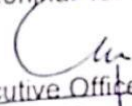
Copy submitted to the Regional Officer, SPCB, Baniapat, Keonjhar for information & necessary action.

Memo No 6240 /KGM

dt 22.10.2021

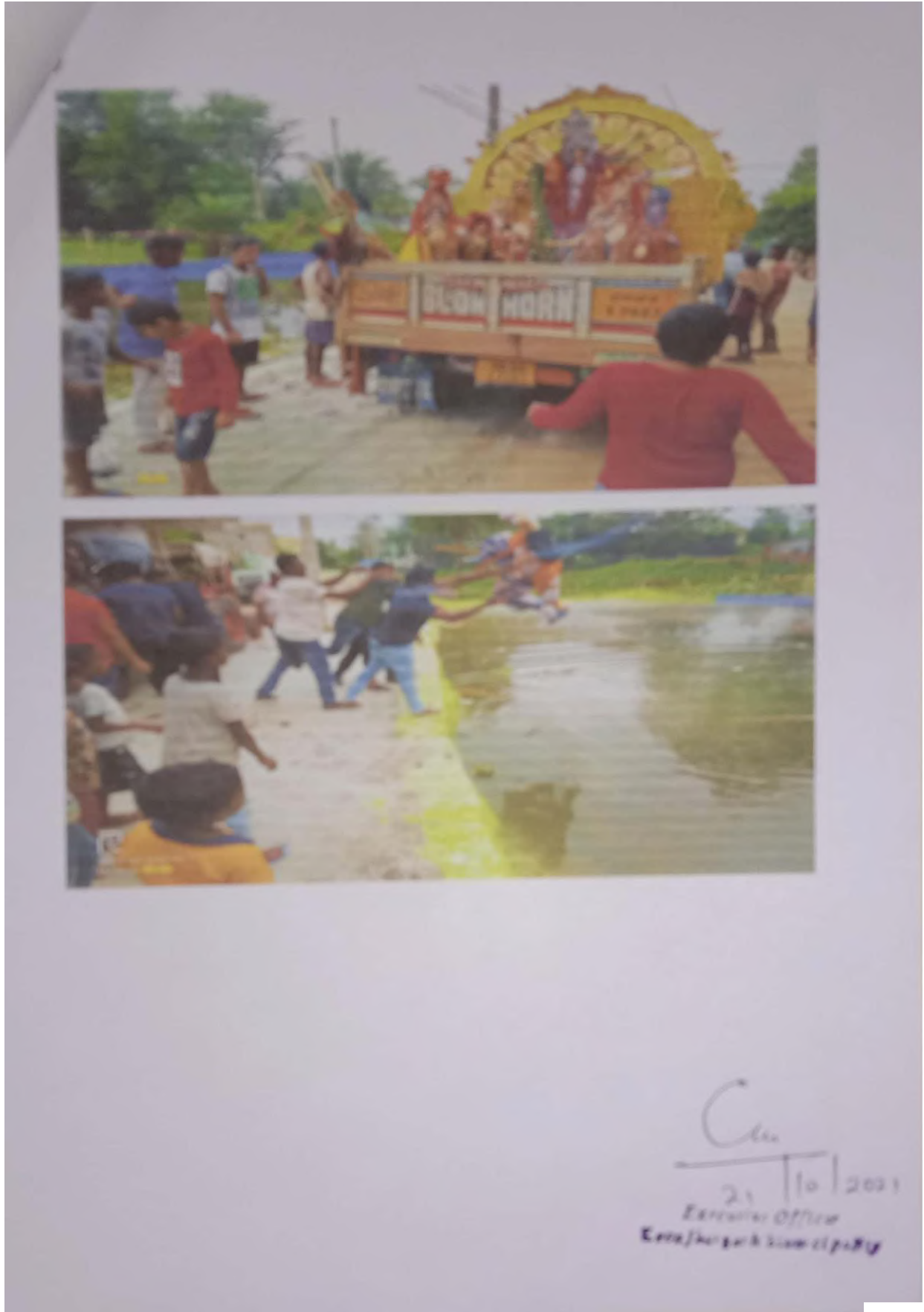
Copy submitted to the Collector & District Magistrate, Keonjhar for favour of kind information.


Executive Officer,
Keonjhar Municipal Corporation
21/10/2021


Executive Officer,
Keonjhar Municipal Corporation
21/10/2021



Cm
21/10/2021
Executive Officer
Keonjhar district panchayat

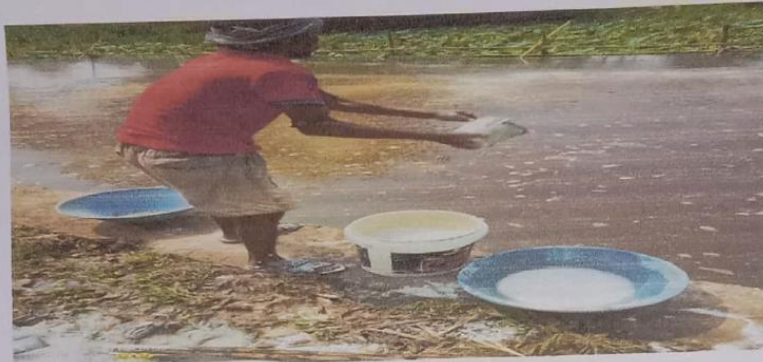


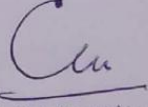
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21 | 10 | 2021
Executive Officer
Eco/Health & Environment





Cus
Executive Officer
Keonjhar Garh Municipality

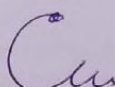


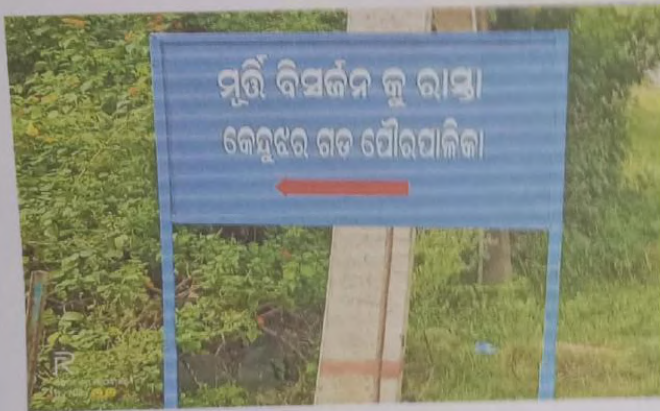

Executive Officer
Keonjhar Municipal Corporation

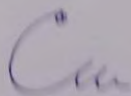


Cu
Executive Officer
Keonjhar Municipal




Executive Officer
Keonjhar Municipal Party




Executive Officer
Kendujhar Garh Municipality



E-mail: rospcbjharsuguda@gmail.com,
rospcb.jharsuguda@ospcbboard.org



REGIONAL OFFICE
STATE POLLUTION CONTROL BOARD, ODISHA
(DEPARTMENT OF FOREST & ENVIRONMENT, GOVT. OF ODISHA)
Plot No. 370/5971, At –Babubagicha (Cox Colony), St. Mary's Hospital Road,
Post – Industrial Estate, Jharsuguda- 768 203

Through E-mail

No. 38 /

Date 06/01/2022

From,

Er H.K Nayak
Regional Officer.

To

The Member Secretary,
State Pollution Control Board, Odisha,
Bhubaneswar.

Sub: Submission of action taken report in compliance to the guidelines of Revised Idol Immersion (12.05.2020) during ensuing festivals involving idol immersion.

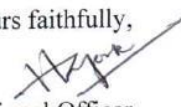
Ref: H.O letter no-15393, dtd:-05.10.2021

Sir,

With reference to the above cited subject and letter under reference. I am submitting herewith the action taken report in compliance to the guidelines of Revised Idol Immersion (12.05.2020) during ensuing festivals involving idol immersion, This is in favour of your kind information and necessary action.

Encl: As above

Yours faithfully,


Regional Officer.

ACTION TAKEN REPORT IN COMPLIANCE TO THE GUIDELINES OF REVISED IDOL IMMERSION (12.05.2020) IN THE FESTIVE OCCASION

There are 3 nos of Municipalities under the jurisdiction of Regional Office, SPCB, Jharsuguda i.e; Jharsuguda Municipality, Brajrajnagar Municipality and Belpahar Municipality. Details of idol immersion site of different municipalities are given as follows:-

Jharsuguda Municipality-

A.

No. of Site	Location of Site	Size of Pond (LXWXD)	No. of idols immersed
1	Near RTO Office	40 m X 35 m X 2.5 m	12 nos

B. Photographs



Brajrajnagar Municipality-

A.

No. of Site	Location of Site	Size of Pond (LXWXD)	No. of idols immersed
1	Near OMP House	25 m X 20 m X 2 m	10 nos

B. Photographs



Belpahar Municipality-

A.

No. of Site	Location of Site	Size of Pond (LXWXD)	No. of idols immersed
1	Lilari Nallah, Gourpada	30 ² -00 ² x50 ² 00 ²	04

B. Photographs



ACTION TAKEN REPORT IN COMPLIANCE TO THE GUIDELINES OF REVISED IDOL IMMERSION (12.05.2020) IN THE FESTIVE OCCASIONS SUCH AS DURGA PUJA, KALI PUJA, LAXMI PUJA ETC IN BERHAMPUR CITY, DIST-GANJAM.

The Berhampur Municipal Corporation (BeMC), Berhampur, Dist-Ganjam had constructed 4 numbers of temporary idol immersion ponds for immersing the clay idols on the festive occasion such as Durga puja, Kali puja, Laxmi Puja-2021. Tentative size of each pond and number of idols immersed in each pond are as follows:

SI No.	Location of Temporary Idol Immersion Pond	Size (L×W×D)	Number of idol immersed
01.	Near Ambapua main road	60'×64'×5' (approx)	10 Nos approx.
02	Near Haridakhandi main road	60'×64'×5' (approx)	30 Nos approx.
03.	Below Gosaninuagaon over bridge	60'×64'×5' (approx)	25 Nos approx.
04.	Near Meenakhi Nagar main road	60'×64'×5' (approx)	30 Nos approx.

A) Water sampling from the temporary ponds:

Water sampling from the temporary idol immersion ponds was carried out by Sri Trilochan Senapati, Junior Scientific Assistant of Regional Office, State Pollution Control Board, Berhamur on dtd. 7.10.2021(Pre idol immersion), on dtd. 17.10.2021 (During idol immersion) and dtd. on 25.10.2021(Post Idol immersion). Sediment samples were also collected by him for analysis. The collected water and sediment samples were submitted along with field protocols at Central Laboratory, SPC Board, Bhubaneswar for analysis.

B) Photographs of temporary immersion ponds as physical evidence of the implementation of the actions:



[Fig-1: Temporary Idol Immersion Pond below Gosaninuagaon Over Bridge]



[Fig-2: Temporary Idol Immersion Pond near Meenakhi Nagar main Road]



[Fig-3: Temporary Idol Immersion Pond near Haridakhandi Main Road]



[Fig-4: Temporary Idol Immersion Pond near Ambapua Main Road]



[Fig-5: Arrangement made for Immersion of Idol at Temporary Ponds]



[Fig-6: Immersion of Idol at Temporary Ponds]

- C) **Status of Temporary Ponds after immersion:** Solid materials were removed from the temporary ponds and sent to the Solid Waste Management site of BeMC. Lime was added to the water for treatment. After 3rd day of treatment all 4 ponds were filled up with soil.

Trilochan Senapati

**Sri Trilochan Senapati, JSA
S.P.C Board, Berhampur**

**OFFICE OF THE NOTIFIED AREA COUNCIL, BHUBAN**e-Mail: bhubann.hud@nic.in

Letter No. 170

Date. 21/01/2022

To

The Member Secretary,
State Pollution Control Board, Odisha,
Paribesh Bhawan, A/118,
Nilakanthanagar, Unit-VIII,
Bhubaneswar-751012.

Sub: Implementation of the guideline prepared by CPCB on practice of idol immersion in sea, rivers and lakes

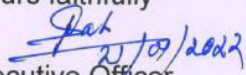
Ref: Your letter no-13303, Dated. 02.09.2021

Sir,

In inviting the subject cited above, I am to inform you that as per the guideline in our ULB we were creating a temporary pond where all the idols were immersed and after immersion we clean that temporary pond and closed it permanently.

This is for favour of your kind information and necessary action.

Yours faithfully


21/01/2022
Executive Officer
NAC, Bhuban



BARBIL MUNICIPALITY

P.O.: Barbil, District : Keonjhar, Odisha, PIN : 758035
Ph.:- (06767)275278, Fax – (06767)275278, 275759
e-mail: eobblmnc@yahoo.com.

Letter No.....5270

Date : 02/11/2021

To

The Member Secretary,
State Pollution Control Board, Odisha,
Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar- 751012.
Mail ID: paribesh1@ospcboard.org

Sub:- Action taken report in compliance to the Guidelines of Revised Idol Immersion (12.5.2020) during ensuing festivals involving idol immersion- Reg.

Ref:- Your office letter No.15393 dt.5.10.2021

Sir,

With reference to the letter on the subject cited above, I am to inform you that there are 5 nos. of Idols (Durga puja) and 4 nos. of Idols (Laxmi puja) has been celebrated in different wards under Barbil Municipality. All the Idols are 4 feet height and immersed in one pond constructed near river Karrow at Chatei hutting in Ward No.12. The photograph of the immersion pond is enclosed herewith for favour of your kind information.

This is for favour of your kind information and necessary action.

Yours faithfully,

Encl.:- As above.


Executive Officer,
Barbil Municipality.

Memo No. 5271 / Date. 02/11/2021

Copy with copy of its enclosure submitted to the Regional Officer, State Pollution Control Board, Odisha, At- Baniapat, P.O.- College Road, Dist. Keonjhar-758001 (Mail ID: rospcb.keonjhar@ospcboard.org) for favour of information and necessary action.


Executive Officer,
Barbil Municipality.



**OFFICE OF THE NOTIFIED AREA COUNCIL, BOUDHGARH.**e-mail: boudhgarhnac@yahoo.co.in, Ph. No-06841-222024Letter No. 5762Date 16 December 2021

To

The Collector and District Magistrate,
Boudh.

Sub:- Regarding implementation of guideline prepared by CPCB on practice of Idol immersion in sea river and lake -Reg.

Ref: Letter No: 18540 datd: 22.11.2021

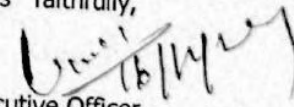
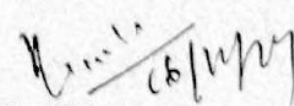
Sir,

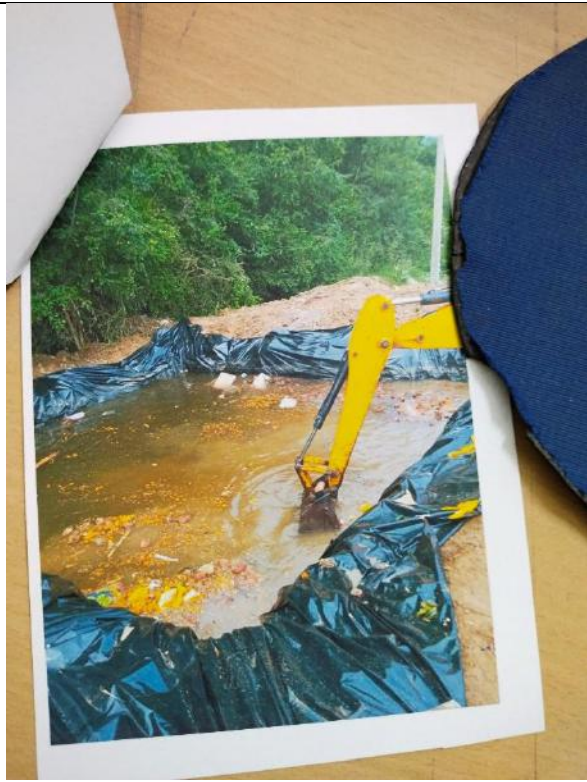
In inviting reference to the letter on the subject cited above, I am to submit herewith the required information in respect of NAC Boudhgarh for implementation of guideline prepared by CPCB on practice of Idol immersion in sea river and lake -Reg.

1. Details of immersion site number and size :- One at near Bridge Chhack size of 20' 0" x 20' 0" and Total No of Idol immersed is 12 nos.
2. Photographs of the physical evidence of the implementation : Photograph is enclosed

This is for favour of kind information and necessary action

Yours faithfully,


Executive Officer,
N.A.C, BoudhgarhMemo No. 5763 /Date 16/12/2021Copy submitted to The Member Secretary State Pollution Control Board,
Odisha Paribesh Bhawan A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar, 751012
for favour of kind information and necessary action.
Executive Officer,
N.A.C, Boudhgarh



Actions taken in Boudh NAC



Annexure-11

E-mail: rospcb.rourkela@ospcbboard.org
Website: www.ospcbboard.org



STATE POLLUTION CONTROL BOARD, ODISHA
(Department of Forest & Environment, Government of Odisha)
REGIONAL OFFICE, ROURKELA
At-Near Panposh Hockey Chowk, Po-Panposh
Rourkela – 769004, Dist-Sundargarh, Odisha

No. 136 / Lab/13/21-22

Date 18/01/2022

"By. post /E-mail"

From

Dr. B B Dash
Regional Officer

To

The **Member Secretary**
State Pollution Control Board, Odisha
A/118, Nilakantha Nagar, Bhubaneswar-12

Sub: Submission of action taken report in compliance to the Guidelines of Revised Idol Immersion(12.05.2020) during ensuring festivals involving idol immersion-reg..
Ref: Head of letter no.15393 dt.05.10.2021.

Sir,

In inviting reference to the subject cited above, please find enclosed here with the action taken report in compliance to the Guidelines of Revised Idol Immersion(12.05.2020) during *Dushera* festival 2021 involving idol immersion under the jurisdiction of Regional Office, Rourkela. This is for your kind information and necessary action.

Yours faithfully

Encl:As above


REGIONAL OFFICER

No. 137 /Date 18/01/2022

Copy forwarded to the Sr. Environmental Scientist(L), Central Laboratory, State Pollution Control Board, Odisha, Plot No.B-59/2 & 59/3, Chandaka Industrial Estate, Patia, Bhubaneswar for kind information.


REGIONAL OFFICER

1 ofc

Implementation of the guideline prepared by CPCB on Practice of idol Immersion by Regional Office, Rourkela

Name of the District	Name of the ULB	Nos. And Size of immersion Pond	Nos. Of Idol Immersed
Sundargarh	Sundargarh Municipality	<ul style="list-style-type: none"> ◆ Bank of Ib River near Mahadevpada Village: The construction of temporary pond having sandbunds and laying of synthetic liner were undertaken by the Sundargarh Municipality . ◆ Size of the pond 42M x 40M x 2.5M 	5
		<ul style="list-style-type: none"> ◆ Bank of Ib River near Govt College Bridge ◆ Size of the pond 56M x 56M x 2.5M 	4
Sundargarh	Rourkela Municipal Corporation	<ul style="list-style-type: none"> ◆ Near Brahamani River at Balughat: The Municipal Corporation has provided one no of pits laying of synthetic liner as immersion pond. ◆ Size of the pond 140Ft x 180Ft x 8Ft 	163
		<ul style="list-style-type: none"> ◆ Tilkanagar: The Municipal Corporation has provided one no of artificial pond laying of synthetic liner on immersion pond. ◆ Size of the pond 60Ft x 80Ft x 5Ft 	11


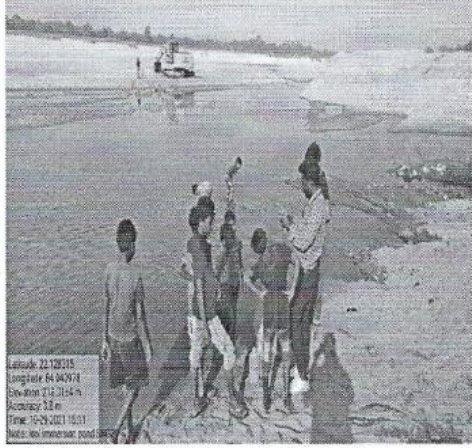
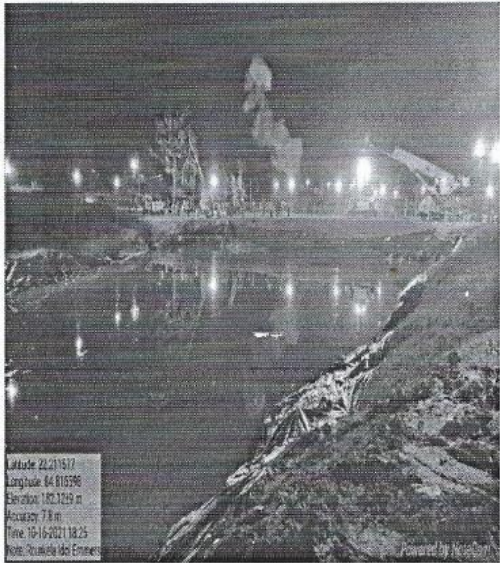



Water Samples and sediments samples were carried out at the designated temporary ponds as well as at upstream and downstream of Ib and Brahamani River as per Head Office letter no.15396 dt.05.09.2021 (Pre immersion, during immersion and post immersion) and the water samples were submitted in the central laboratory for heavy metal analysis.

Necessary photographs are attached as ANNEXURE-I


Regional Officer

Annexure-I

 <p>Latitude: 22.128169 Longitude: 84.040975 Elevation: 220.2443 m Accuracy: 3.8 m Time: 10-25-2021 15:27 Note: Idol immersion pond SNO</p>	 <p>Latitude: 22.128315 Longitude: 84.042974 Elevation: 212.2154 m Accuracy: 3.8 m Time: 10-29-2021 10:31 Note: Idol immersion pond SNO</p>
<p>Idol Immersion Pond with synthetic liner provided by Sundargarh Municipality</p>	<p>Collection of water sample from Ib River</p>
 <p>Latitude: 22.217617 Longitude: 84.915796 Elevation: 182.3219 m Accuracy: 7.8 m Time: 10-16-2021 18:25 Note: Rourkela Idol Immersion Pond</p>	
<p>Idol Immersion Pond with synthetic liner provided by Rourkela Municipal Corporation</p>	<p>Collection of water sample from Immersion Pond</p>



e-Mail - khurda_municipality@yahoo.co.in
Phone No-06755-220674



OFFICE OF THE MUNICIPAL COUNCIL: KHORDHA
H & UD Department, Govt. of Odisha
Khordha-752055



No. 371

Date. 9.2.2022

From

**Gaurav Shivaji Isalwar, IAS,
Executive Officer,
Khordha Municipality.**

To

**The Regional Officer,
State Pollution Control Board,
Odisha, Bhubaneswar.**

Sub:- Submission of compliance report on Idol immersion of last Durga Puja in favour of Khordha municipality.

Ref:- Your letter No. 18540, dtd. 22.11.2021.

Sir,

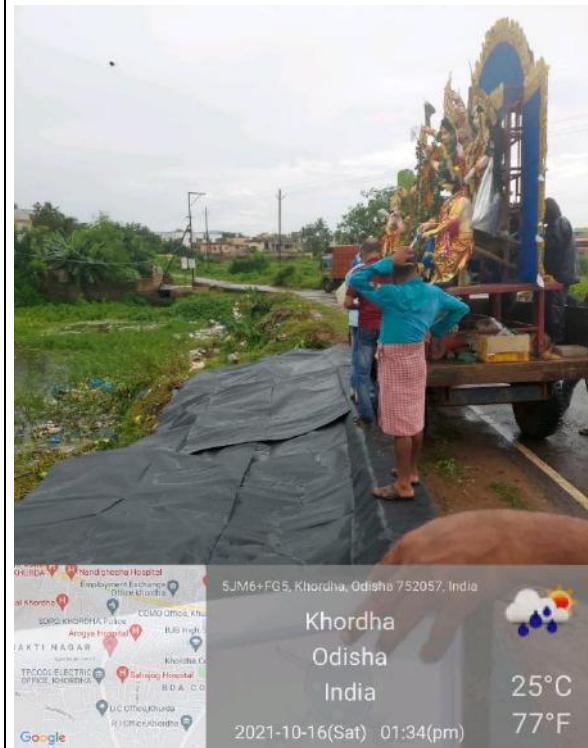
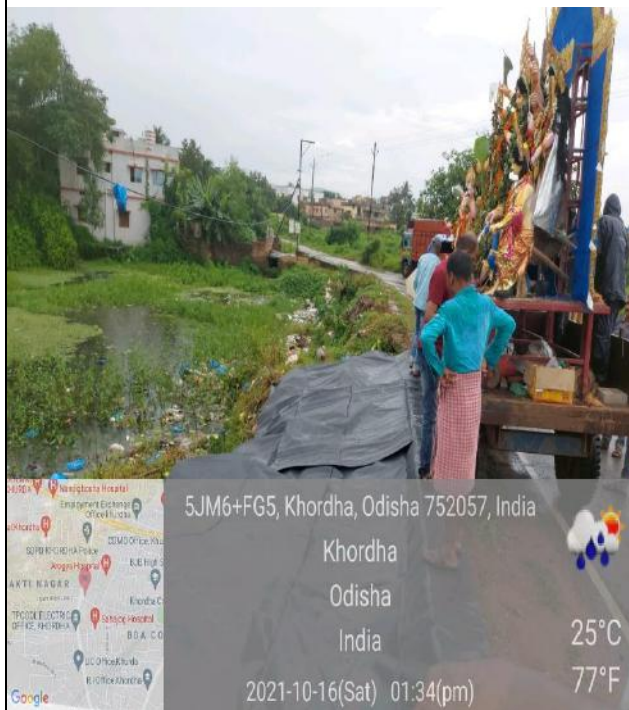
In inviting a reference to the letter on the subject cited above, I am to submit herewith the compliance report regarding Idol immersion on last Durga Puja for the year 2021 in favour of Khordha Municipality and the same has been sent to your mail id centrallab@ospbord.org. The details of immersion are mentioned below.

1. One no of site has been identified at TLC pond.
2. 6 nos of Idols have been immersed at the TLC pond & their sizes are in between 4ft to 5ft.
3. Photographs have already been shared to your mail id centrallab@ospbord.org.
(Photographs as physical evidence is enclosed)

This is for favour of kind information & necessary action.

Yours faithfully


Executive Officer,
Executive Officer,
Khordha Municipality.





REGIONAL OFFICE
STATE POLLUTION CONTROL BOARD, ODISHA, BHUBANESWAR
(Department of Forest & Environment, Govt. of Odisha)

Plot No- B- 59/2 & 59/3, Chandaka Industrial Estate, Patia, Po- KIIT, Bhubaneswar-751024
email: rospcb.bhubaneswar@ospboard.org, website:www.ospboard.org

No 566 /

R.O- MISC-112

Dt 07/03/2022 /

By Email / By Hand

To,

The Senior Environmental Scientist (L-II),
Central Laboratory, SPC Board,
Plot No- B/59/2 & 59/3, Chadana Industrial Estate,
Patia, Bhubaneswar, Odisha,

Sub: Compliance on Action Taken Report on IDOL Immersion activity (2021)
– Reg.

Ref: Email received on dtd.20.01.2022.

Sir,

In inviting to the subject and reference cited above, this is to inform you that during last Durga Puja (i.e 2021) as per the compliance letter received from BMC, Bhubaneswar, NAC Konark, Khurda Municipality, Jatni Municipality, Puri Municipality and Pipili NAC, those which are operating under the jurisdiction of this office have obeyed the guideline of this Board.

In all of the above, ULBs the IDOLS have been immersed in the temporary pond, after immersion the clay of idols and other puja materials along with wooden material, bamboo and straw those had been used for IDOLS making have been taken to respective municipality dump yard and the pond water has been treated disinfected out with bleaching powder. Also the internal polythen lying have been taken out by the concerned ULB authorities in time (Action taken report of ULBs attached).

This is for your kind information.

Yours faithfully,

Encl: As above


REGIONAL OFFICER



Jatni Municipal Council, Jatni

P.O- Jatni Dist- Khordha, Pin- 752050

No-
To

5720

Date- 25.11.2021

The Member Secretary,
State Pollution Control Board, Odisha
Bhubaneswar

Sub- Action taken report on implementation of guideline prepared by CPCB on idol practice in sea, river and lake in respect of Jatni Municipality.

Ref:- SPCB letter no- 18540 dtd 22.11.2021

Sir,

With reference to the subject cited above I am to inform you that in the last festive season mainly there are two festivals were observed in Jatni i.e. Ganesh Puja and Durga Puja. As per the guideline of CPCB this ULB has prepared a pond (size 150ft x 75ft x 10ft) adjacent to the Micro Composting Plant (MCC-2) at Sandhapur for each occasion using eco friendly synthetic liner and all the stakeholders were informed prior to the immersion date. And it was barricaded keeping in view the safety of the public. Proper sign boards were fixed at different points showing direction towards immersion pond. As per the instruction all idols were restricted to maximum height of 4 ft and were made out of eco friendly natural clay materials.

There are around 12 no of Ganesh idols were immersed in the month of September on date 20.09.2021 and 5 no idols were immersed in the month of October on date 16.10.21 on the occasion of Durga puja. One excavator was engaged for immersion of idol and to clear the debris from the pond after immersion. The detail photographs in this regard is attached herewith for reference.

This for your information and necessary action

Yours faithfully,

Executive Officer
Jatni Municipality

Memo No. 5721 / Date. 25.11.2021

Copy submitted to the Collector and District Magistrate, Khordha for kind information.

Executive Officer
Jatni Municipality

Memo No. 5722 / Date. 25.11.2021

Copy submitted to the Director, Municipal Administration and ex-officio Additional Secretary to Govt. for kind information.

Executive Officer
Jatni Municipality

OFFICE OF THE PURI MUNICIPALITY, PURI

NO.1649 DT.28.02.2022

To
The Regional Officer,
State Pollution Control Board,
Odisha, Bhubaneswar.

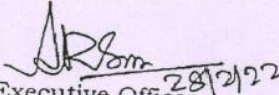
Sub: Following the appropriate guidelines for immersion of idols pertaining to
Durga Puja celebration in Puri Municipality.

Sir,

In inviting a reference to the subject cited above, I am to say that as per directions of Hon'ble High Court and the guidelines of State Pollution Control Board, Odisha, Bhubaneswar, all the idols of Durhga Puja (Gosani Yatra) 2021 has been immersed in the temporary pond created near embankment of Mangala River, Puri. The materials used in the idols has been collected and disposed off at the Municipality dumping site. The pond water was also treated with bleaching solution. All the measures were taken to prevent pollution of water bodies.

This is for your kind information and necessary action.

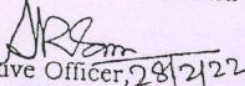
Yours faithfully,


Executive Officer,
Puri Municipality, Puri

Memo No.1650

Dt.28.02.2022

Copy submitted to the Collector and District Magistrate, Puri for kind information and necessary action.


Executive Officer, 28/2/22
Puri Municipality, Puri

Annexure - I

**Office of the
Notified Area Council, Pipli**
Dist - Puri (Orissa), Pin - 752104

☎ : 06758 - 240740 (C)
241442 (E)

Letter No. :.....2/57.....

Date :.....11-10-21.....

ପ୍ରାୟତଃ - ସମସ୍ତଙ୍କୁ, ଯା କନକପୁରୀ ପୁରୀ ଜିଲ୍ଲା
ସମସ୍ତଙ୍କୁ, ଯଦାତ୍ କନକପୁରୀ ଜିଲ୍ଲା କନକପୁରୀ

ମହାଶୟୀ, ଯଦୁପୁରୀ ଧ୍ୟାନକୁ କରାନ୍ତୁ ନିଆରୀ ଧ୍ୟାନକୁ
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[Signature]
Executive Officer
Pipli NAC

ସଂଖ୍ୟା 2/57 21/11-10-21

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[Signature]
Executive Officer
Pipli NAC





email: nackonark@gmail.com
Phone No:- 06758-236826

OFFICE OF THE NOTIFIED AREA COUNCIL, KONARK

No 507

Dt 2/3/2022

To.

The Regional Officer
State Pollution Control Board, Odisha

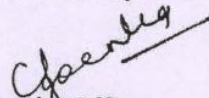
Sub:- Idol Immersion of Konark NAC area during Last Durga Puja 2021

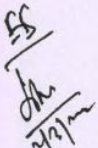
Sir,

With reference to the subject cited above, I am to inform you that during last year Durga Puja 2021 idols immersion of Konark NAC area have been done in the earmarked pond for the purpose following guidelines of SPCB, Odisha.

This is submitted for favour of information and necessary action.

Yours faithfully


Executive Officer
Konark N.A.C







Tel : 0671-2314255
E-mail: rospcb.cuttack@ospboard.org
Website: www.ospboard.org



OFFICE OF THE REGIONAL OFFICER, CUTTACK
STATE POLLUTION CONTROL BOARD, ODISHA
[DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA]
586, SURYAVIHAR, LINK ROAD CUTTACK-753012

No. 54 / (RO/ CTC/ LAB-05) Date. 07/01/2022

To

The Member Secretary,
State Pollution Control Board, Odisha,
A/118, Nilakantha Nagar, Unit- VIII, Bhubaneswar

Sub: Submission of action taken report in compliance to the Guidelines of Revised Idol Immersion (12.05.2020) during Dashera festival, 2021 involving idol immersion – reg..

Ref: Your Letter No. 15393 VI-Sc (LEM) – Proj-64 / 20-21, dt. 05.10.2021

Sir,

In inviting reference to the subject cited above, please find enclosed herewith the action taken report in compliance to the Guidelines of Revised Idol Immersion (12.05.2020) during Dashera festival, 2021 involving idol immersion under the jurisdiction of Regional Office, SPC Board, Cuttack.

This is for your kind information and necessary action.

Yours faithfully

Baashini

Regional Officer

Memo No 55

Dt. 07/01/2022

Copy forwarded to Sr. Env. Scientist (L), Central Laboratory, State Pollution Control Board, Odisha, Plot No—B-59/2 and 59/3, Chndaka Industrial Estate, Patia, Bhubaneswar for kind information.

Baashini

Regional Officer

ACTION TAKEN REPORT IN COMPLIANCE TO THE GUIDELINES OF REVISED IDOL IMMERSION (12.05.2020) DURING DURGA PUJA IN CUTTACK DISTRICT

Idol immersion has contributed a significant role in water pollution of rivers, nallas and other water bodies. To regulate the issue, many significant steps have been taken by the Central and State Government. Further, CPCB has published guideline on Idol immersion and a revised guideline on dated 12.05.2020 for immersion of Idols in the festive occasion.

Based on the seriousness on the above issue, Regional Office, State Pollution Control Board, Cuttack carried out water quality monitoring of rivers and idol immersion ponds to assess the pollution loads on water bodies due to immersion of idols during Durga Puja Festival, 2021 of Cuttack City.

Further, officials of the Regional Office, SPCB, Odisha, Cuttack had collected water and sediment samples from rivers (i.e Up stream - 100m up from temporary pond, immediate of temporary pond, Downstream - 100m down from temporary pond and further downstream of river Kathajodi) on the day of immersion of idol, dt.16.10.2021 & Post-Dushera i.e on 19th, 21th, 23rd & 25th October, 2021 and submitted the samples at Central Laboratory, Patia, Bhubaneswar for analysis of general parameters and heavy metals.

Water and sediment samples were collected from the temporary ponds, constructed in the river bed of Kathajodi at Devigada, on the day of immersion of idol, dt.16.10.2021 & Post-Dushera i.e on 19th, 21th, 23rd & 25th October, 2021. However, water and sediment sample were not collected from the temporary pond site during Pre - Dushera on dt.07.10.2021, as the ponds were not constructed.

Cuttack Municipality had made 08 no of temporary ponds for immersion of idols during Dushera. Out of eight (08) no of temporary ponds, three (03) no of ponds were constructed at Devigada near Purighat, one (01) no of pit at Nuapada Ghat Kula, and one (01) no of pond at Gopalpur near Railway Bridge on the river of Bed of Kathajodi. The other three no ponds were constructed on the river bed of Mahanadi at Kartikeswar near Gadagadia Ghat (02nos) & Maritime Meusum near Jobra of Cuttack City (01 no) as informed by CMC.

As observed During Water Quality Monitoring, the temporary pond was provided with HDPE liner, Hoarding Board and approach road for easy access to the temporary immersion site. However, information received from CMC approximately 170-180 no of idols were immersed in different ponds available at different places as mentioned above. Out of which, most of the idols were immersed in the temporary pond available at Devi Gada near Puri Ghat of Kathjori river (Photographs of the immersion and immersion site is attached as Annexure-I). After immersion, immediately, the left over material from the temporary immersion pond was removed by Dozer and loaded to the Tractor of Municipality for final disposal at the designated Municipal dump site. Temporary pond water was cleaned by adding lime. But, very less no of idols were immersed in the temporary immersion ponds made at other locations of Cuttack City, as mentioned above


Regional Officer







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REGIONAL OFFICE
STATE POLLUTION CONTROL BOARD, ODISHA
(DEPT. OF FOREST & ENVIRONMENT, GOVT. OF ODISHA)
Plot No.1602, Ganeswarpur, Balasore – 756019

No. 85 / Estt-232

Date 12/01/2022

By Speed Post/Email/E-Despatch

To

The Member Secretary,
State Pollution Control Board, Odisha,
Bhubaneswar

Sub: Implementation of the guideline prepared by CPCB on practice of Idol Immersion in sea rivers and lakes - reg.

Ref: Your letter no- 15393 dtd. 05.10.2021

Sir,

With reference to the subject cited above I am submitting herewith a brief report on idol immersion in the Balasore Municipality, Baripada Municipality and Bhadrak Municipality of Balasore, Mayurbhanj and Bhadrak district in both hard and soft copy for your kind information and necessary action.

Enl- as above

Yours faithfully,

REGIONAL OFFICER

A BRIEF ACTION TAKEN REPORT ON IDOL IMMERSION IN BALASORE MUNICIPALITY, BARIPADA MUNICIPALITY AND BHADRAK MUNICIPALITY OF BALASORE, MAYURBHANJ AND BHADRAK DISTRICT IN THE YEAR 2021-22.

In compliance to the Guidelines prepared by the Central Pollution Control Board, Delhi, on practice of Idol Immersion, the Balasore Municipality, Baripada Municipality and Bhadrak Municipality were constructed the Artificial Ponds for ensure implementation of the revised Guidelines for idol immersion dated 12.05.2020 of CPCB, in the festive occasion such as Durga Puja, Kali Puja, Laxmi Puja etc.

ACTION TAKEN BY BALASORE MUNICIPALITY

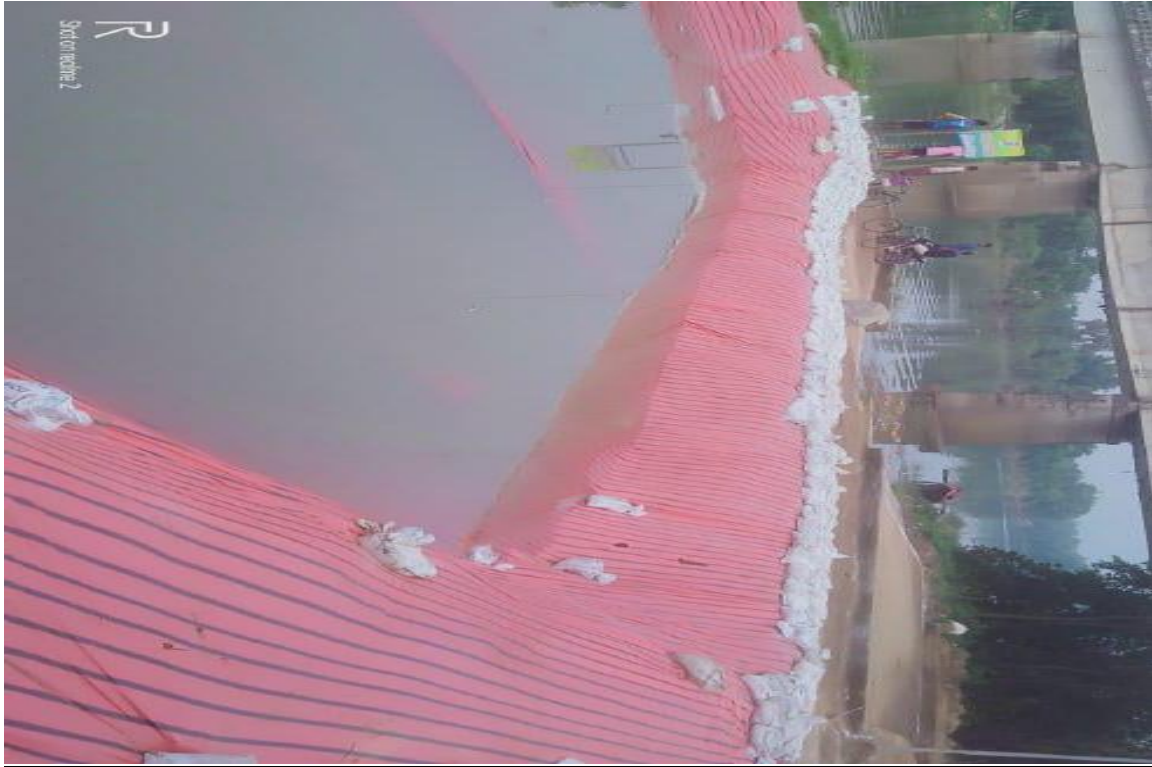
Balasore Municipality, was constructed 01 number of Artificial Pond at Balighat near the bank of River Budhabalanga. As informed by the Municipality authority Balasore, the dimension of the artificial pond was as follows,

01. Length-21m
02. Breadth-18m
03. Depth-3m.

The photographs of the artificial idol immersion pond of Balasore Municipality are given below. The nos. of idol immersed in the artificial pond is not available with the Municipality.









Artificial idol immersion Pond constructed by Balasore Municipality

ACTION TAKEN BY BARIPADA MUNICIPALITY

The Baripada Municipality, was constructed 01 number of Artificial Pond at Madhubana (Astia) near the bank of River Budhabalanga. As informed by the Municipality authority Baripada, the dimension of the artificial pond was as follows,

01. Length-102ft.
02. Breadth-66ft.
03. Depth-8ft.

The photographs of the artificial idol immersion pond of Baripada Municipality are given below. The nos. of idol immersed in the artificial pond is not available with the Municipality.





Artificial idol immersion Pond constructed by Baripada Municipality

ACTION TAKEN BY BHADRAK MUNICIPALITY

The Bhadrak Municipality, was constructed 04 number of Artificial Pond near River Salandi. As informed by the Municipality authority Bhadrak, the dimension of the artificial ponds were equal which were as follows,



01. Length-15ft.
02. Breadth-12ft.
03. Depth-10ft.

The Bhadrak municipality has provided only one no of photograph of the artificial idol immersion pond. The nos. of idol immersed in the artificial ponds is not available with the Bhadrak Municipality.


Er. Anil Kumar Barik
Asst. Env. Engineer


Sri Mitrasen Majhi
Regional Officer