

Comparative Study of Physico Chemical Parameters of Lakes of Virar Region before and After Ganesh Festival, Dist-Palghar, (M. S) Bharat

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Abstract: *The study was conducted to assist water quality from three different lakes from Virar. Water samples were collected before and after Ganesh Chaturthi festival, this water samples were analyzed for basic physiochemical properties which can give brief idea on changes occurring on hydrological parameter before and after festival period.*

Keywords: Physiochemical, Pollution, water quality, Ganesh Chaturthi.

1. Introduction

Water is one of the vital components of physical environment and thus it is closely associated with human health (A. E. Patil et. al). Due to its so many important uses water is considered as precious gift to human kind. It is establish fact that polluted water is one of the biggest killers and is responsible for 27000 deaths a day in the poorest countries (Verandani et. al). Lakes have played a vital role to villagers and are considered as a life line of village people and thus restoring the health of these lake is need of an hour. Lake water study is extremely important to interpret the fresh water ecosystem (Gayatri oak et. al).

Now with all the basic amenities provided by the local self government, people hardly use this water for domestic purpose thus this has resulted into beautification at the lakes by the gov. and this has resulted into that, these lakes are been used for idolimmersions, which affects the water parameters and the water quality of the lake. Lakes, rivers, dams, sea have been used for idol immersions since ancient India. In the past decades, the idol of Shree Ganesh was made of clay; however, with the advent of new materials like

Plaster of Paris (POP), plastic, cement, paper, etc. the idol does not dissolve completely in the water after the immersion. In addition to this, the toxic paints are used to decorate the idol (Gadhia Mohini et. al). Thus this has resulted into adverse effect on water quality of the lakes.

2. Materials and methods

Water samples were collected from three different lakes in Virar, in plastic bottles which were rinsed with distilled water. All lakes are on the east side of Virar, Lake 1 is located at Virar Station known as station talav, lake 2 is known as Rani Talav and lake 3 is known as Manvel pada talav. Samples were collected before Ganesh Chaturthi and after Ganesh visarjan. Following Parameters were estimated:- Temperature, pH, TDS, Odour, Colour, D. O, Total Hardness, COD, BOD, Total Alkalinity, Turbidity. All parameters were analysed in laboratory and were analysis was carried out according to Indian standard method (APHA 1996, Trivedi and Goel 1986).

Lake 1 (Station Talav)

Lake 2 (Rani Talav)

Lake 3 (Manvel pada Talav)



Manvel pada Talav



Station Talav



Rani Talav

3. Result and Discussion

Atmospheric temperature was constant during the water collection but change in water temperature affects chemically and biologically. If the temperature rises unexpectedly it may show adverse effects of aquatic life, the temperature has raised in all three lakes by 3 degree. pH of water has badly affected after immersions of idols in lake 2 (Rani Talav) which was 5.6 (acidic) and lake 3 (Manvel pada

Talav) 8.3 (base but exceeding permissible limit). D. O. of water is slightly increasing after immersion of idols which indicate aquatic life is under stress. B. O. D is high after immersion of idols indicates that increased of organic matter in water. All three lakes show rise in B. O. D. Turbidity was within permissible limit but has slightly increased in lake 2 and lake 3. C. O. D has increased which may affect the phytoplanktons of the lakes.

Table

Parameter	One Week Before Visarjan			Units	Next Day after Visarjan		
	Lake 1	Lake 2	Lake 3		Lake 1	Lake 2	Lake 3
Temperature	23	22	21	°C	21	25	26
pH	6.9	8.5	7.3		7.6	5.6	8.3
TDS	125	158	130	mg/l	250	280	300
Odour	Odourless	Odourless	Odourless		Odourless	Odourless	Odourless
Colour	Colourless	Colourless	Colourless		Colourless	Colourless	Colourless
D. O	9	4.6	3.7	mg/l	11	5.8	6.7
Total Hardness	80	78	98	mg/l	130	150	143
C. O. D	28	24	30	mg/l	30	33	36
B. O. D	10	15	9	mg/l	31	40	42
Turbidity	1	1	2	NTU	3	3.2	3.6

4. Conclusion

As the water bodies play important role in religious activities all the major activities are carried out near lakes

which cannot be stopped but can be reduced by various methods such as creating public awareness. There have been various reason for deterioration of water such as Kesh Mundan, Asti visarjan etc. It is been observed that the

parameters of all three lakes after Ganesh visarjan were quite higher than before immersion and it is quite evident that is this continuous it will affect the quality of water with regards to all the aquatic life.

Solution to problem

As we all know necessity is solution to all problem. There are various activities which can bring good results in which quality and can save the lake from getting it deteriorate, the remedies are as follows.

- 1) Avoid using clay soil and POP as they can highly harm the water quality of lake as clay soil also known shadu maati can affect the bed of lake creating problems for bottom dwellers.
- 2) Make excessive use of farm soil as it mixes well with the original soil and does not create any problem to bottom dwelling aquatic animals and plants.
- 3) Use of natural colours on idols.
- 4) Reduce the height of idols so it can be easy to immerse at home or in manmade tanks.
- 5) Dispose all the Nirmalya in Dustbins instead of letting them in water.
- 6) Avoid using of newspaper for idol making as its ink may affect the water quality.

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