



## Socio-psychological study behind idol and religious waste immersion-A Case Study in Delhi, India

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### Abstract:

*Rivers and water bodies in cities receive various kinds of pollutants including religious waste which include flowers, clothes, pigments used for beautification, decorative, ornaments, plaster of Paris, bamboo sticks and various other articles especially during idol immersion after big festivals like Ganesh Chaturthi and Durga puja. Apart from big specific festivals, hundreds of kilos of religious waste are generated every day at various religious places in Delhi and most of these are disposed off in the local water bodies which are detrimental to the water quality. These add to pollution of the water system (Giripunje et al. 2014, Shahenshah et. al 2011) both surface and the ground water. This affects the aquatic life (Farkas et al. 2003), pass into the food chain from fish to human beings and have a particular significance in eco-toxicology (Reddy et al. 2001). Human health is affected in various ways (Ujjanja et al.2011).*

*Socio-psychology plays a major role behind these activities as people are afraid not to dispose off religious waste in more environment friendly ways and not to reuse such materials in the first place which affect ecosystem consequently aquatic life and human health adversely. A socio-psychological study behind idol and religious waste immersion was carried out in Delhi during the year 2014.*

**Key words:** *Idol immersion, religious waste disposal, rivers, eco-friendly*

### Introduction

Religious beliefs play a strong role in the way's public behave in matters of religious waste disposal. Every year during major festivals like Ganesh Chaturthi, Durga Puja and other festivals large number of idols are prepared and then immersed in the water as part of rituals. Traditionally the idols were made with mud which would melt and mix with the river water. But, with increase in demand, the idols were made with non-eco-friendly substances like plaster of paris, variety of decorative and paints which go to the surface water bodies and ultimately mix with the ground water and increase highly detrimental heavy metal content in the water which ultimately enters humans' body. Apart from specific festivals, whole year round on a daily basis, religious places also generate a large amount of waste which are also likely to affect the water bodies when immersed there. These cause the pH towards acidity and temperature to increase after immersion (Nag et al. 2015). These increase leaching ability of water that is likely to adversely affect the water quality for surface as well as ground water by increasing heavy metals among other effects. Increase in temperature also increases toxicity of heavy metals (Simranjit et al. 2012). After idol immersion heavy metal content increases in water bodies (Vyas et. al., 2007). Heavy metals cause variety of detrimental health effect in humans (Haileslassie et al. 2015; Vaishaly et. al. 2015). The aquatic life too gets adversely affected. To understand the socio psychological thinking of population behind these religious activities, surveys were conducted at three types of places namely, places where idols are made at a large scale, large and popular religious places, and general public.

### Methodology and Objectives of the Study

Some popular religious places in Delhi were visited to interview prominent organizers, idol makers and officials of the festival at those places, to estimate the amount of waste generated there on daily basis, to know the ingredients used to make the idols and decorative and how religious wastes are disposed off.

Questionnaire was prepared and people were surveyed to study the socio-psychology behind following the religious practices that affect water bodies. Present study was carried out in Delhi during the year 2014. Structured interviews were

conducted on 689 people across various age group and religions with heterogeneous economic background using purposive sampling.

## Discussion

It was found that to a large extent heavy metal-based ingredients are used in idol making and their content increases in water on immersion of the idols (Nag et al. 2015). Moreover, clay is not the only base material used in idol making. Due to huge demand of idols, the idol makers use plaster of Paris which is cheap and dries off quickly. This helps them in mass production at a high speed. But it does not melt in water easily on immersion and also increases its hardness. It enters into the ground water wherever the river is influent. So, the ground water is likely to get contaminated and may affect the water system (Nag et al. 2015).

Consequently, it is clear that current practices of idol making and religious waste immersion in water bodies, is harmful for the environment and ultimately to the living beings.

As various religious practices in our country are centric to water, religious wastes are immersed in various water bodies. Religious sentiments of public affect the environment. In general, religious wastes are considered as sacred objects and sacred objects are thought to be essentially pure and worthy of reverence (Belk et al. 1989). Notions of sacred and secular may also affect perceptions of environmental risk and the natural world is considered as sacred (Sachdeva 2016).

There is some awareness about the harmful effect of idol immersion and a few puja committees have started making pits near the puja site to carry out immersion. The biodegradables and non-biodegradables are removed, the idol made of completely eco- friendly material is allowed to melt and then the water is used for irrigation of parks. These initiatives are very much needed at large scale to achieve eco-friendly idol immersion practices.

A majority of the people especially the younger generation believe that the religious practices centric to river are not eco-friendly. Majority of the people believe that traditional waste disposal of religious waste is due to deep rooted fear of God or religion. But still a significant percentage of people are willing to follow more eco-friendly practices of religious waste disposal like reusing idols, flowers and other biodegradables should be recycled.

Apart from idol immersions a large quantity of religious wastes is generated on daily basis as revealed from interviews and visits to some prominent religious places. At some of the worship places hundreds of kilograms of flowers and other religious wastes are generated daily and on special occasions goes up to thousands of kilograms. These are either deposited at the banks of the Yamuna or in pits dug up in their premises to convert it into manure or left to dissolve. There is some awareness that the biodegradables too deteriorate the river water quality.

The assessment report on the basis of data collection regarding the socio-psychological impact upon different age group are summarized in the Table 1.

**Table1: Socio-psychological impact with respect to age**

Sl No	Variables	Age Group wise number of Respondents (% of Respondents)							
		14-18		19-24		25-39		40 & above	
		Yes	No	Yes	No	Yes	No	Yes	No
1	Are you satisfied with the quality of water supplied?	261 (37.8)	428 (62.1)	393 (57.0)	296 (42.96)	334 (48.48)	355 (51.5)	393 (57.0)	296 (42.96)
2	Do you think water centric religious-practices pollute water?	606 (87.95)	83 (12.05)	561 (81.42)	128 (18.58)	552 (80.12)	137 (19.88)	561 (81.39)	128 (18.61)
3	Do you think river water used for religious ceremonies/rituals is eternally pure, no matter what it contains?	69 (10)	620 (89.99)	336 (48.77)	353 (51.23)	130 (18.87)	559 (81.13)	336 (48.76)	353 (51.23)
4	Do you perform religious practice- Immerse flowers/puja material	226 (32.80)	463 (67.20)	489 (70.97)	200 (29.02)	207 (30.04)	482 (69.96)	52 (7.55)	637 (92.45)
5	Do you perform religious practice- Ritual bath	295 (42.82)	394 (57.18)	260 (37.73)	429 (62.26)	264 (38.32)	425 (61.68)	256 (37.16)	433 (62.84)
6	Do you perform religious practice- Achman (ritual sips)	230 (33.38)	459 (66.62)	320 (46.44)	369 (53.56)	181 (26.27)	508 (73.73)	291 (42.24)	398 (57.76)
7	Do you think old/broken puja material like idols etc. should be left under trees?	171 (24.82)	518 (75.18)	328 (47.61)	361 (52.39)	222 (32.22)	467 (67.68)	143 (20.75)	546 (79.25)

8	Do you agree that the current practices of religious waste disposal are the result of deep-rooted fear of God/religion in our mind?	447 (64.88)	242 (35.12)	434 (62.99)	255 (37.01)	375 (54.43)	314 (45.57)	407 (59.07)	282 (40.93)
9	Do you agree- Idols made of metal or stone may be worshipped every year?	335 (48.62)	354 (51.38)	294 (42.67)	395 (57.33)	436 (63.28)	253 (36.72)	189 (27.43)	500 (72.57)
10	Do you agree-“Dry immersion” – the idol is sprinkled symbolically with water and then reused?	435 (63.13)	254 (36.87)	497 (72.13)	192 (27.87)	398 (57.77)	291 (42.24)	382 (55.44)	307 (44.56)
11	Do you agree- Flowers and other biodegradable worship material may be recycled?	330 (47.90)	359 (52.10)	370 (53.70)	319 (46.30)	460 (66.77)	229 (33.23)	485 (70.39)	204 (29.61)

Source: Survey report

The study revealed that majority of the young people (up to 39 years) as compared to older people (40 years and above) believe that religious practices centric to river are not eco-friendly, that traditional way of biodegradable religious waste disposal is due to deep rooted fear of God or religion. People who are 40 years and elder are divided almost in the middle that river water used for religious ceremonies or rituals are always eternally pure. 72.57% of people of age group of 40 and above were not in favour of idol made of metal or stone may be worshipped every year (Figure 1). People, especially the younger generation, is aware that one of the reasons behind deterioration of the quality of water bodies due to these age-old practices. But still the practices are carried out.

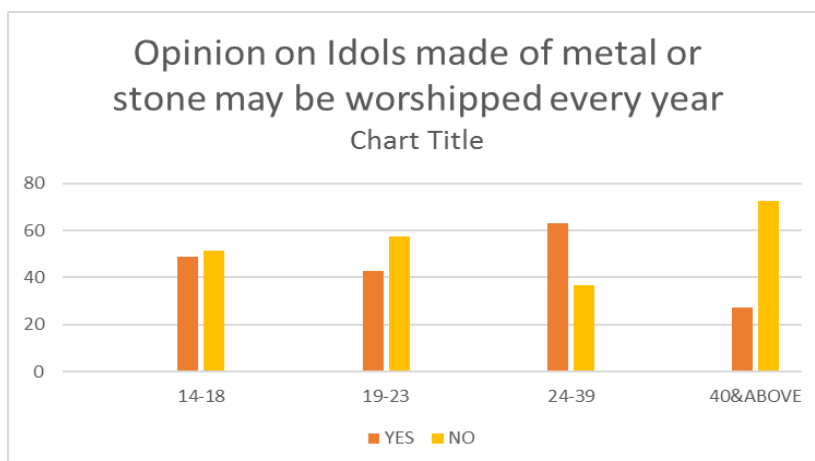


Figure 1(Source: Survey report)

To assess whether there is any association between different age group and opinion on

- (a) Water centric religious-practices pollute water
- (b) Immersion of flowers/puja material
- (c) Flowers and other biodegradable worship material may be recycled

Chi square test of independence is used. Tabulated Chi- square at 5% level of significance and 3 Degrees of Freedom is 7.815.

Table 2

Serial No	Hypothesis	Chi- Square
1	Opinion of water centric religious-practices pollute water is independent of age grouping	18.10111
2	Opinion of immersion of flowers/puja material to the waterbodies is independent of age grouping	626.1318
3	Opinion of flowers and other biodegradable worship material may be recycled is independent of age grouping	97.22783

We may reject the null hypotheses as calculated Chi square is greater than tabulated



Chi square, indicating that there is some association between the variables not due to random variation. Hence, we concluded that there is some association between the opinion of

- (i) Water centric religious-practices pollute water
- (ii) immersion of flowers and puja materials in river/ waterbodies
- (iii) flowers and other biodegradable worship material may be recycled and various age group.

### Conclusions and Suggestions

This study shows that idol immersion and religious waste immersion in rivers deteriorate its water quality both directly as well as indirectly. Rivers supply water not only directly at the surface, but also indirectly to ground from where it is drawn.

The immersion should be done symbolically by sprinkling water, and that idols should be recycled. Many believe that idol immersion should be done in such a way (e.g., in pits and purified and used for irrigation) so that it does not pollute the water bodies. This shows that a large section of the society especially the future generation is aware of the ill effects of current practices and are willing to switch over to more eco-friendly ways of religious waste disposal. We have a bright future to work for smart cities where water bodies will be clean and not polluted due to religious beliefs and practices.

The following steps should be taken to minimize the harmful effect of idol and religious waste immersion.

- Mass awareness should be carried out about the harmful effects of current idol and religious waste immersion.
- The number of idols being prepared and sold should be minimized, their size should be small and recycling of idols should be encouraged.
- The material used in idol making should be strictly regulated and eco-friendly.
- Immersion should not be allowed in water bodies but specially prepared pits and the water treated before being released preferably for irrigation.
- Flowers, leaves etc. should be used for manure, perfume making, handmade paper etc.
- Non biodegradables should be recycled.
- More eco-friendly ways of religious waste disposal should be made readily available.

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### References

1. Sachdeva Sonya (2016) The Influence of Sacred Beliefs in Environmental Risk Perception and Attitudes. Sage Publications, Environment and Behavior 1–18.
2. Haileslasse, T and Gebremedhin, K. (2015) Hazards of Heavy Metal Contamination in Ground Water. International Journal of Technology Enhancements and emerging Engineering Research, (3(2), 1-6.
3. Nag S, and Pande P (2015) Effect of Idol Immersion on Water Quality of Yamuna River in Delhi and its Potential Influence on Ground Water Quality. Indian Journal of Geomarine Sciences ISSN No. 0379-5136, 44(10), 1545-1553.
4. Vaishaly, A.G., Mathew B. B. and Krishnamurthy N.B., (2015) Health effects caused by metal contaminated ground water. International Journal of Advances in Scientific Research, 1(02), 60-64.
5. Manisha D Giripunje, Abhay B Fulke and Pravin U Meshram (2014) Effect of idol immersion on water quality and Tilapia fish in Futala, Gandhisagar and Ambazari lakes of Nagpur, India. Springer Plus 2014, 3:669.
6. KaurSimranjit, Mehra, Pragati (2012) assessment of heavy metals in summer and winter seasons in rive Yamuna segment flowing through Delhi, India. Journal of Eenvironment and Ecology, ISSN 2157-6092, Vol. 3, No. 1. 149-164.
7. Shahenshah, Bhat M.M., Andrabi S.F., Shukla, S. (2011) Effect of Idol Immersion on some Water Quality Parameters of SaryuRiver. European Journal of Experimental Biology, 1 (3): 97-100.
8. Ujjania NC, Multani AA (2011) Impact of Ganesh idol immersion activities on the water quality of Tapti River, Surat (Gujarat) India. Res J Biology 1(1):11-15.
9. Vyas Anju, Bajpai A., Verma N., Dixit S. (2007) Heavy metal contamination cause of idol immersion activities in urban lake Bhopal, India Journal of Applied Sciences and Environmental Management, Vol. 11, No. 4, 37-39.



10. Farkas A, Salanki J, Specziar A (2003) Age -size –specific patterns of heavy metals in the organs of fresh water fish *Abramisbrama L.* populating a low contaminated site. *Water Res* 37:959-964.
11. Reddy V., Kumar V. (2001) Effects of Ganesh-idol immersion on some water quality parameters of Hussainsagar Lake. *Current Science*. 81-11.
12. Belk, R. W., Wallendorf, M., & Sherry, J. F. (1989). The sacred and the profane in consumer behavior: Theodicy on the Odyssey. *Journal of Consumer Research*,
13. 16(1), 1-38. Retrieved from <http://www.jstor.org/stable/2489299>.