

# **Environmental Policy and Vinayakar Chaturthi Festivals in Tamil Nadu: When Tradition Collides with Conservation**

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# History of Vinayakar or Ganesh Chaturthi

- Chaturthi or Festival
- Birth of Lord Ganesh
- Ceremony (pooja or puja)
- Idols and dieties are made
- Plants and Flowers as offerings
- At the end, immersion in waterbodies



# 4 stages of Ganesh Chaturthi

## 1. Pranapratishta-

The process of infusing the deity into a statue or idol.



## 2. Shhodashopachara-

Paying tribute to Lord Ganesh with flowers and decoration.



## 3. Uttarpuja- Puja after which the deity could be shifted after its infusion.



## 4. Ganpati Visarjan - immersion of the deity into a body of water.

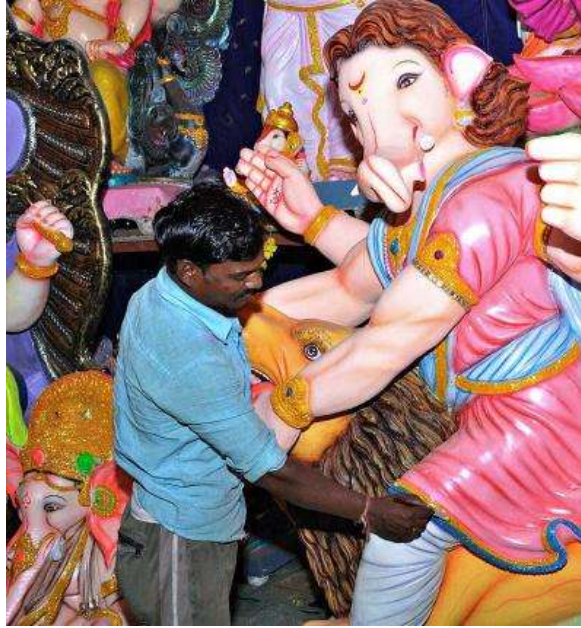


# Historically ...



Photo Credit: Wikipedia Commons

# ... at Present





**bigger, brighter...**

Photos courtesy of: The Hindu Newspaper



**... massive processions**



# Immersion



Photo Courtesy: 1. By Srivatsan (Own work) [CC BY-SA 3.0 (<http://creativecommons.org/licenses/by-sa/3.0/>)], 2. Wikimedia Commons by Suriyan Sai Pattinapakkam, Ganesha is been thrown into sea on Ganesh Chaturthi.



# After the Celebration...



Photo Courtesy: 1. <http://www.youthkiawaaz.com/2016/03/water-crisis-in-india-world-water-day/> 2. Wikimedia Commons 3-4. Wikimedia Commons

# Relatively New Traditions

- Based on current literature
  - bigger idols and paints
  - appear to be a relatively new
  - (in the past 15-20 years) phenomenon
- Lead paints are used widely
  - Information backed by Government and Industry reports

# Environmental Impact

Although this festival takes place only once per year, the effects are lasting due to lead content in paint and other materials used for making the statutes.

# A Closer Look at Ganesh Chaturthi in Coimbatore, Tamil Nadu and Lead Paints



Photo Credit:Wikimedia Commons

# Indian Paint Industry and Lead

- The Indian Paint Industry is a 112 billion Rupees (US\$2.2 billion) sector that has been growing at a 15% rate since 2011 (Mohanty, 2012)
  - 57% - Multinationals and Large Indian Paint Companies (10-12 main players)
  - 43% - Small-scale industries that produce paint for the local markets
- 90-93% overall manufacturing of paint in India is lead based (BIS, Bhowmik, 2012)
- Bureau of Industry Standards in India set the maximum:
  - Reduced from **1,000** ppm to **300** ppm in 2011 (BIS, 2016)
  - In the United States Standards: 90 ppm (US EPA, 2016)

# Impact of lead on the environment

Dispersed primarily by anthropogenic activities:

- Air Pollution: particles and fossil fuel combustion
- Soil Pollution: retained in upper levels of soil
- Water Pollution:
  - high solubility in acidic water,
  - leaches into soil,
  - taken in by plants and aquatic animals

# Impact of lead on human health

- Internationally recognized as a toxic metal (UNEP 2013)
  - Extremely harmful, no benefits to human health at any level
  - Neurological damage and damage to nearly all organs
- Children 6yrs and younger are most vulnerable
  - Lead poisoning effects 600,000 children per year (WHO 2016)

What is being done?



# Government policies:

- Environmental Protection Act (1986)
- Water Prevention and Control of Pollution Act, 1974 (amended in 2003)
- Wildlife Protection Act (1972) – fish and other aquatic organisms
- No literature was found on how they are used to protect waterbodies

# Academic research:

- Peer-reviewed literature on the impact of Pb and other pollutants on water and sediments in Tamil Nadu, India
- Water quality studies
  - Inter Pullum Dam Before and after the festival (Mohan Raj, 2012)
  - In some coastal areas before and after the festival (Borhade, 2013)
- Soil studies
  - Near the Noyyal River (Ansari, Gadhia, Surana, 2015)
- Impact on plants (Agoramoorthy, 2012)
- Impact on fish (Battacharya, 2014)

# Awareness in Popular Media:

- Newspapers
- Blog posts
- Mostly in English
- Some in regional languages

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CITIES - MUMBAI MUMBAI, September 28, 2015  
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Over 50,000 Ganesha idols immersed in Mumbai

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# Recommendations

- Current literature recommends
  - Impose a nationwide ban on lead paint
  - Regulate Small Scale Paint Industry (43% of production)
- Water Quality
  - Collect reliable and annual data
  - Use these data to effect policy change at a local level

# Conservation Efforts

- Eco-friendly materials clay and natural color paints
- Smaller, contained Immersion sites locally



# Planned Trip to India (summer 2016)

- Observation of conservation efforts
  - Gather documents
  - Go to libraries
  - Talk to experts
- Continue researching how traditions contribute to environmental pollution.

Thank you.

Questions?