

## PoP idols are eco-friendly too

CSIR-NCL



Two months before Ganesh Chaturthi, 35 artists of Hardev Arts, situated opposite Chhabildas School in Dadar, start an exhibition of makhars. Made of thermocol, makhars are used for decoration by people who bring Ganpati home.

These artists start making makhars in January every year. For 15 years now, Hardev Arts has been hiring artists from the Muslim community to make handcrafted designer makhars.

Every year, over 7,000 makhars of various sizes and designs are made for the festival by them. When dna photojournalist Aadesh Choudhari visited the exhibition, artists were busy giving their final touches to the decorative artwork. Artist Faiyaz Khan (36) has been coming from Gulbarga in Karnataka for 12 years because of his interest in making makhars for the festival

This year, Ganpati idols made up of Plaster of Paris (PoP) too can be eco-friendly. One can buy the PoP Ganpati idols of their choice and immerse it to make fertilizer and cement out of it.

This innovation has been created by the Pune Municipal Corporation (PMC) with the help of National Chemical Laboratory (NCL) and Cummins India Ltd.

Talking about how a PoP idol can be eco-friendly, Shubhangi Umbarkar, senior scientist, NCL, explains the process: "One needs to take a container/bucket in which the idol can be immersed in, fill it with water and add ammonium bicarbonate powder which is the same measure as the weight of the idol. Later, mix the mixture and immerse the idol in the solution. After every three hours stir the water. The PoP idol will dissolve in approximately 48 hours."

"After the idol is dissolved, the base layer is filled with calcium carbonate which can be used as cement and to make chalk. While the upper layer of water contains ammonium sulphate which is a fertilizer and can be used to water plants," he added.

PMC is trying to create awareness about this initiative through social media. "We are forwarding the videos on WhatsApp so that many people become aware about this initiative. The NCL students have also volunteered to go to various schools to demonstrate the experiment to the school students."

The idol-makers are happy with this solution innovated by these organisations. Ramesh Rawle, idol-maker in Lalbaug, said, "Using this method will help to make water bodies pollution free. They should create more awareness about this solution so that other people can follow the experiment and make PoP eco-friendly too."

While BMC officials are reacting positively to this initiative, Anand Wagralkar, BMC's Deputy Municipal Commissioner, said, "Every year, over all 2.17 lakh idols are immersed in the city. We have heard about the initiative and next year, we will be talking with the PMC about the success rate of the project. We need to check the experiment before taking it up in our city."

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Source: [www.dnaindia.com/mumbai/report-pop-idols-are-eco-friendly-too-2250182//](http://www.dnaindia.com/mumbai/report-pop-idols-are-eco-friendly-too-2250182//)

## ‘Tsunami engulfed Harappan-era town in Gujarat’

CSIR-NIO

In what can be called as a major achievement for the CSIR–NIO, the organization has found that Dholavira, in Gujarat, could have been destroyed by a tsunami.

Dholavira in Gujarat was a site of an ancient metropolitan town of the Harappan period. Dholavira was the largest port-town of the Harappans, and is the second largest Harappan site located within the present borders of India. “This well-planned urban settlement flourished for about 1500 years from about 5000 BC to 3450 BC before present archaeological excavations show that the township comprised three parts of the castle, the middle town, and the lower town,” said Dr SWA Naqvi, Director, CSIR – National Institute of Oceanography (NIO).

He said that a unique feature of Dholavira is the presence of a 14-18 metres thick wall, apparently built as a protective measure.

Intriguingly, Dr Naqvi added, walls of such thickness are not found even in historic times when the conflicts have been more common and the weapons have become increasingly more destructive.

“Therefore, the real purpose of the Dholavira wall has been a topic of considerable debate,” he said. Another scientist, Dr. Rajiv Nigam in a presentation said that recently a group of scientists deputed by Dr SWA Naqvi, Director, CSIR–National Institute of Oceanography (NIO), Goa and led by himself, had proposed that the thick wall was built to protect the town from extreme oceanic events such as storm surges and tsunamis.

“CSIR-NIO has carried out additional work at this site. A team of palaeoclimatologists, archaeologists and geophysicists from the Institute surveyed a hitherto unexcavated area using Ground Penetrating Radar and systematically collected soil samples,” he said.

Dr Nigam said that the GPR records show 2.5 - 3.5 meters thick homogenous soil layer (without any layering) below the surface, which suggests its episodic deposition, possible due to an extreme event. He said with the permission of the Archaeological Survey of India (ASI) a 2.5m x 2.5 m trench was dug in the north western corner of the Middle Town to a depth of 3.65 m.

“Fresh vertical section of the homogeneous soil thus exposed was sampled at regular intervals to infer the depositional history. The soil samples have been found to contain fossils of ‘foraminifera’ microscopic organisms that builds calcareous shells and live only in seawater,” he said adding “this presence of shells of marine organisms in the soil strongly suggests and episodic deposition of marine sediments in the area, which could have occurred as a result of a massive tsunami.”

Dr Nigam said Tsunamis are known to have hit the region during the historical period.

“For example, the Makran Earthquake of 28th November 1945 generated a huge tsunami, over 10 meters in height that devastated large areas along the northern shores of the Arabian Sea,” he said.

However, Dr Nigam stated, the exact timing of the sediments deposited in Dholavira is yet to be established. However, he added, the results clearly indicate that massive tsunamis are not uncommon in the region.

“The thick wall in Dholavira shows that Harappans were not only aware of the potential threats from tsunamis, but they were also pioneers in coastal disaster management. Most importantly, results of this study opens be possibly that Dholavira, at least in part, could have been destroyed by such a tsunami.”

The CSIR–NIO team comprised of Dr. V.J. Loveson, Dr. A.S. Gaur, Sundaresh, S.N. Bandodkar, Ryan Luis, Gurudas Tirodkar and. Rupal Dubey.

August 30, 2016

Source: [heraldgoa.in/Goa/%E2%80%98Tsunami-engulfed-Harappanera-town-in-Gujarat%E2%80%99/105747.html//](http://heraldgoa.in/Goa/%E2%80%98Tsunami-engulfed-Harappanera-town-in-Gujarat%E2%80%99/105747.html//)

**More media coverage can be seen on following links:**

<http://www.ndtv.com/india-news/worlds-first-ancient-settlement-destroyed-by-tsunami-discovered-1452009>

<http://www.americanbazaaronline.com/2016/08/30/nio-scientists-finds-tsunami-engulfed-dholavira-town-in-gujarat416805/>

<http://www.thehindu.com/news/cities/mumbai/news/harappans-built-barriers-for-tsunamis-at-dholavira/article9046745.ece>

<http://timesofindia.indiatimes.com/city/goa/NIO-finds-Dholavira-treasure/articleshow/53918649.cms>

<http://indianexpress.com/article/india/india-news-india/tsunami-might-have-destroyed-gujarats-dholavira-port-town-study-3003809/>

<http://indiatoday.intoday.in/story/dholavira-port-town-harappan-period-tsunami-gujarat/1/752074.html>

<http://www.indiantribune.com/science/did-a-tsunami-destroy-gujarats-dholavira-port-town-3575.html>