

CSIR in Media



A Daily News Bulletin
29th to 30th August 2017



CSIR-NEERI

29th August 2017

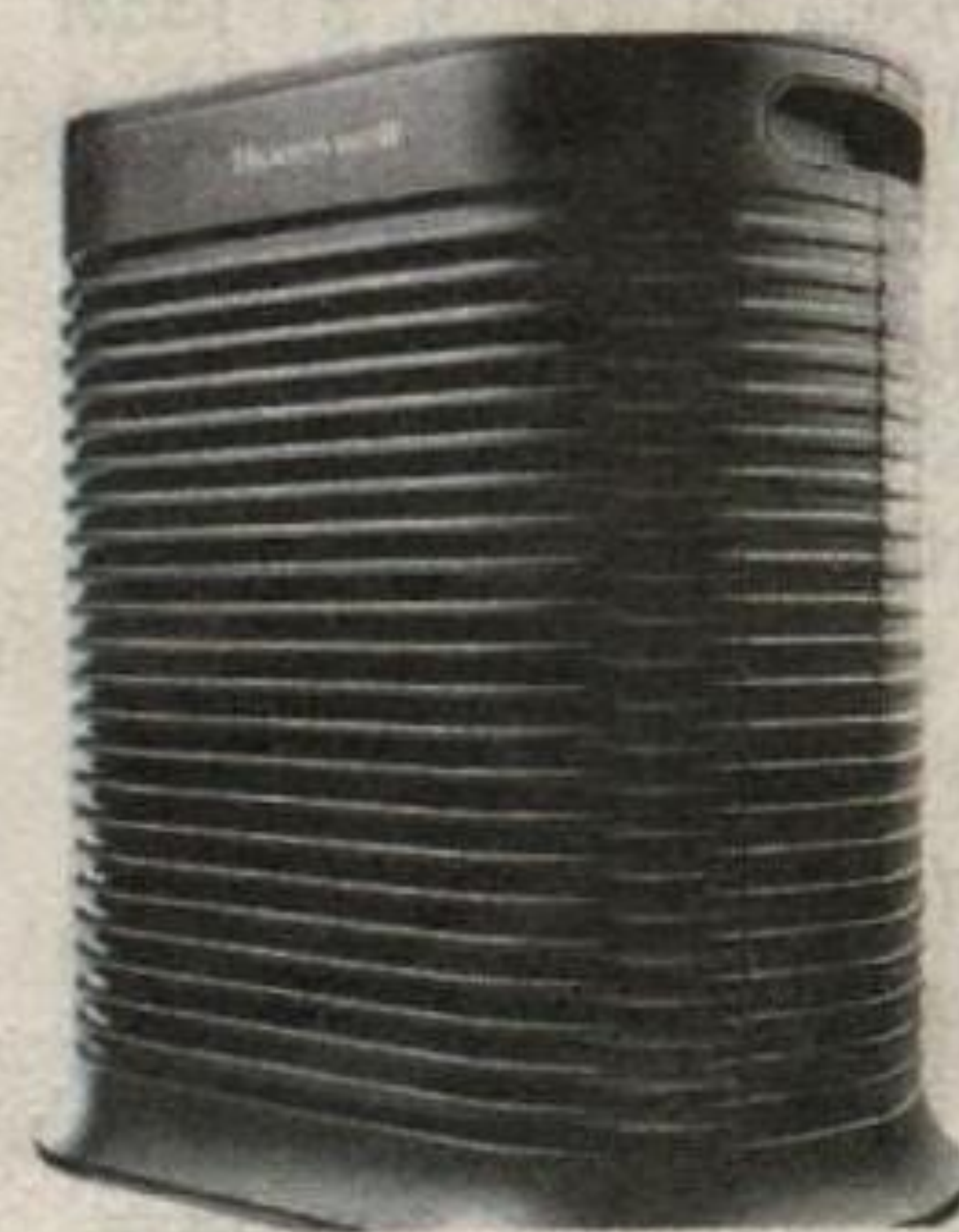
राहत

फिलहाल नीरी ने इसे लगाने के लिए पर्यावरण मंत्रालय से ऐसे पांच जगहों को चिह्नित करने को कहा है, जहां मौजूदा समय में दिन भर भारी ट्रैफिक रहता है।

अरविंद पांडेय, नई दिल्ली

वायु प्रदूषण के बढ़ते स्तर से दिल्ली और आसपास के क्षेत्रों को बचाने के लिए पर्यावरण मंत्रालय के साथ अब नीरी (राष्ट्रीय पर्यावरण इंजीनियरिंग शोध संस्थान) भी आगे आया है। नीरी ने इसके लिए कई उपाय सुझाए हैं। इनमें सबसे अहम भीड़-भाड़ वाले चौराहों पर एयर प्यूरीफायर लगाना है। नीरी ने वायु प्रदूषण स्तर को कम करने के लिए इसे डिजाइन किया है। इसका नाम वायु (विंड आगमेंटेशन एंड एयर प्यूरीफाईंग यूनिट) दिया गया है। फिलहाल नीरी ने इसको लगाने के लिए पर्यावरण मंत्रालय से ऐसे पांच स्थानों को चिह्नित करने को कहा है, जहां मौजूदा समय में दिन भर भारी ट्रैफिक रहता है। वर्तमान में नीरी मुंबई के चार स्थानों पर इस प्रोजेक्ट को सफलतापूर्वक संचालित कर रहा है।

नीरी के निदेशक डॉ. राकेश कुमार के मुताबिक, इस वायु डिवाइस की मदद से प्रति घंटे हवा में घुली करीब 26 ग्राम खतरनाक ठोस अवशिष्ट पदार्थ को अवशोषित किया जाता है। वहीं इसकी मदद से शुद्ध की गई हवा को काफी ऊपर जाकर छोड़ा जाता है।



भीड़-भाड़ वाले पांच स्थानों से होगी शुरुआत, स्थान चिह्नित करने का कहा

नीरी लगाएगा डिवाइस, हवा से प्रति घंटे 26 ग्राम ठोस अवशिष्ट करेगा शोषित

उन्होंने बताया कि फिलहाल मुंबई में चार स्थानों पर इसे लगाया गया है, पर जल्द ही वहां इसे 25 और स्थानों पर लगाया जाएगा। वर्षा ऋतु बीतने के बाद

इन्हें लगा दिया जाएगा। योजना सरकार को सौंप दी गई है। जैसे ही जगह का चयन के साथ ही मंजूरी मिल जाएगी, तुरंत ही इसको लगाने की प्रक्रिया शुरू कर देंगे।

नीरी से जुड़े वरिष्ठ अधिकारियों के मुताबिक, दिल्ली और आसपास के क्षेत्रों को वायु प्रदूषण के बढ़ते स्तर से बचाने की यह पहल पर्यावरण मंत्रालय की देखल के बाद शुरू की गई है। नीरी के मुताबिक, अध्ययन में पंजाब व हरियाणा में फसलों को जलाए जाने से पैदा होने वाली स्थिति को भी शामिल करने को कहा है। नीरी ने दिल्ली व आसपास के क्षेत्रों में मौजूद शवदाह स्थलों को ग्रीन शवदाह स्थलों में तब्दील करने की योजना सौंपी है।

दिल्ली में वायु प्रदूषण को लेकर यह हलचल उस समय शुरू हुई है, जब इसके स्तर में पिछले कुछ दिनों से अचानक वृद्धि देखी जा रही है। वैसे भी पिछले कुछ सालों में अक्टूबर में दिल्ली में प्रदूषण का स्तर काफी बढ़ जाता है, जिसे देखते हुए सतर्कता बरती जा रही है। राजधानी में वायु प्रदूषण करने के सांस के रोगियों को परेशानी का सामना करना पड़ता है।

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Mega science expo inaugurated at Neeri

CSIR-NEERI

29th August 2017

Nagpur: As part of the platinum jubilee of the Council of Scientific and Industrial Research (CSIR) and diamond jubilee celebrations of CSIR, National Environmental Engineering Research Institute ([Neeri](#)) has organized a science and technology mega exhibition. The three-day exhibition, which was inaugurated on Monday by Rajya Sabha MP Ajay Sancheti, showcases CSIR's contribution in areas of Aerospace and Strategic sector, agriculture and floriculture, energy, food and nutrition, ecology, environment etc. On Monday, over 1,200 people visited the exhibition and students of 30 schools and colleges interacted with the scientists. "During the exhibition, people got a chance to understand demonstration of diverse technologies — all developed under one roof. The technologies like solar electrolytic defluoridation technology, phytoid sewage treatment technology, low-cost automatic mechanical urinal toilet flusher, domestic water defluoridation units for rural areas, promising medicinal and aromatic plants and more were explained in details to the visitors," said Neeri's PRO Prakash Kumbhare.

Two popular science lectures were also organized for the students. NK Labhsetwar, senior principal scientist and head of energy and resource management division delivered a lecture on 'Can you contribute towards reducing GHG emissions and global warming' while VV Khaparde, scientist at neeri's air pollution control division spoke on the issues and concerns related to increasing air pollution. On Tuesday, VW Lande, scientist at environmental impact and sustainability division will deliver a lecture on 'The world of microbes' at 11am. Following this, a lecture on 'Water: issues and responsibilities' will be delivered by GK Khadse, senior scientist at water technology and management division.

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Experts confirm Lucky 7 has damaged Miramar beach....

CSIR-NIO

29th August 2017

PANJIM: The Miramar shoreline has started showing signs of damage with augmented soil erosion and wave-cut vertical scarp along the frontal pioneer dune due to the grounding of the offshore casino ship M V Lucky 7. However, the monsoon has also played a major role wherein soil erosion is an annual phenomenon. “There are some changes happening to the shoreline. However, it is the monsoon time and it has its own natural effect. The effect of high waves and high wind is due to the monsoons too and the beach gets eroded but also restored thereafter. From a scientific point of view, this boat has had a tricky effect on the shore,” retired National Institute of Oceanography (NIO) Scientist Antonio Mascarenhas told Herald.

The expert, who is also conducting regular surveys of the beach, revealed that erosion of dunes along the beach strip of 70-80 meters is prior to the grounding of the huge vessel. The 5,000-odd tonne ship has, however, added a further two meters of erosion. “The vessel’s presence has augmented erosion by about two meters. There is also a wave cut vertical scarp along the frontal pioneer dune,” he added. Mascarenhas, also a former expert member of Goa Coastal Zone Management Authority, opined that any obstruction in the coastal area can have unforeseen results. “Erosion of dunes and formation of sand deposit on the northern side of the Caranzalem-Miramar beach are the effects of the casino vessel,” he said. But Gopal Kanda, who is surely no scientist nor an environmental expert, claims that there has been no environmental damage.

“Since the time it is (stranded) at Miramar beach, not a drop of fuel has fallen in the water and neither the environment is damaged. How can I allow damage to happen?” GGHPL owner Gopal Kanda told Herald. His insistence on getting the ship into the Mandovi waters is what caused the damage not just to the ship but to the environment around Miramar beach.

Kanda said that the vessel, once towed from the shores of the beach, will be taken to Mumbai or Ratnagiri dockyard for repairs. He has incidentally refused to take the vessel to MPT before re-floating to the neighbouring state, fearing it could be damaged further.

As pressure mounts to remove the stranded ship, the company has initiated talks with an international salvor after nearly tying-up with Goa's Madgavkar Salvage Pvt Ltd. The salvaging operation is, however, not expected to take place before September 15. Kanda confirmed that officials are in talks with the international agency, whose experts are also inspecting the ship.

No GCZMA officials were available for a comment on the issue.

The High Court of Bombay at Goa has also taken serious cognisance of the delay in salvaging the vessel pointing at potential damage to the environment. "We are acutely mindful of history, not yet faded from public memory is the incident of the MV River Princess at Calangute, and what followed as damage to that beach and shoreline, plus, of course, the ultimate costs of that vessel's removal. We will not permit a repetition here," the court had observed during the case hearing last week. The bench had warned to hold the company responsible for the slightest environmental damage and loss caused to Miramar Beach or any beach downstream. "Casinos will come and go, they are replaceable. But beaches are not," it had said.

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NEERI scientists develop mechanical low-cost flusher to improve rural toilets

CSIR-NEERI

29th August 2017



Recognizing the need for proper household toilet availability, the National Environmental Engineering Research Institute (Neeri) has developed a 'low cost automatic mechanical urinal toilet flusher' after three years of research which can be used in rural as well as urban areas. Developed under 'CSIR 800' project initiated by the Council of Scientific and Industrial Research, the technology aims

Nagpur: Prime Minister Narendra Modi's ambitious target of building toilets in rural India has been facing crippling hurdles like no proper water supply, poor sanitation facility and lack of maintenance. As per various media reports and surveys, 60% of the population in rural areas lacks improved sanitation facility while around 49% doesn't have sanitation facilities. According to the World Health Organisation (WHO), various diseases are caused due to poor sanitation and among them, 99.8% deaths occur globally due to diarrhoea.

at providing a cost-effective and hygienic alternative for flushing. "The mechanical flusher does not need electricity and works on simple mechanism of spring. A platform near the urinal is attached to an overhead water storage tank. When a person stands on the platform to urinate, water automatically starts getting loaded in the flusher. Once the person steps out, water dispenses in the urinal from the flusher," said Sushant Wath, senior scientist at Neeri's Business Development and Technology Transfer division. Wath has been working on the project since last three years.

Twenty seconds after the person steps on the platform, one litre of water gets flushed, which "is sufficient enough for clearing urine." The flusher reduces the requirement of water by 75%, Wath said. "About 28-40% of household water is used for flushing toilets," he added. Though the flusher has been developed specially for urinals, Wath said that the quantity of water can be customized for toilet usages too. "The flusher can be fitted in pre-built toilets, both western and Indian style," he added. The mechanical flusher promises to resolve many problems. "The main reasons behind dirty urinals is shortage of water and non-operational flushing system because of absence of regular maintenance. In urban areas, people have reluctant to touch the flusher as they are worried about contamination," said Ghanshyam Bodkhe, who is the project assistant. On advantages of mechanical flusher, he said that it is low maintenance and leads to compulsory flushing, thus reducing the health risks associated with poor sanitation facility. "As it ensures hands-free flushing, it can also be used in urban public toilets," Wath said.

Neeri plans to issue licenses to industries for commercial use of this technology.

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[Timesofindia.indiatimes.com](https://timesofindia.indiatimes.com)

NEERI develops domestic defluoridator to fight fluorosis

CSIR-NEERI

29th August 2017

Nagpur: In India, endemic fluorosis reportedly affects more than 1 million population and is a major problem in 17 out of the 29 states. To combat health problems due to high fluoride content in groundwater, the National Environmental Engineering Research Institute ([Neeri](#)) has developed a domestic defluoridator called 'Amalneer'. Invented by the institute's Environmental Materials Division headed by chief scientist Sadhana Rayalu, Amalneer is developed under the 'CSIR 800' project initiated by the Council of Scientific and Industrial Research. Amalneer works on adsorption technology. "We have developed a first of its kind composite adsorption material that removes fluoride from water. The cost of the composite is around Rs50 paise per gram," said principal scientist SS Waghmare, adding that the material has exceptionally high fluoride adsorption capacity.

At present, Neeri has developed defluoridator units having capacity of 20 litres. "In the first stage, 20 grams of composite adsorbent has to be mixed in 20 litres of water for 15 minutes. After this, the water has to be filtered and poured inside the ceramic filter unit and kept for 45 minutes where the water's turbidity gets removed, thus purifying it for drinking purpose," said scientist Tanvir Arfim, who is also the project leader. To get users' perception on the innovation, Neeri recently distributed 10 such units in Dongargaon village (Warora). On getting positive feedback from the villagers, Neeri is now working on making units having capacity of 60 and 80 litres. "Right now, the cost of one unit is around Rs12-13,000. We are using an electronic stirrer which itself costs Rs10,000," said Waghmare. To make the unit cost-effective, the stirrer will be replaced by a simple rod or spoon. "After these changes, the unit will cost around Rs2000," Waghmare added. While the units are easy to operate and require very less maintenance, the biggest advantage is that it does not lead to water loss. "In reverse osmosis (RO) water purifiers, around 40-60% of water is lost. In these units, water loss is hardly 1-2%," said Arfim.

CSIR

27th August 2017

Other valuable components, that usually get removed in other purifying technologies, remain present in the water in this process. "The domestic defluoridator can be used in individual households, anaganwadi centres, schools, colleges, restaurants and hospitals," Arfim added.

In 2012, Neeri scientists along with other team members had conducted a research that revealed India was one of the worst fluorosis affected countries. "This is because a large number of Indians rely on groundwater for drinking purposes and water at many places is rich in fluoride," the team had stated.

The team had reviewed the presence of fluoride in drinking water and studied the various processes involved in defluoridation, or the removal of fluoride from water. According to them, millions of people in the world drink water having fluoride content greater than the permissible value of 1.5 mg/litre.

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CSIR-CSMCRI

29th August 2017

जीसीईआरटी प्रेरित गणित-विज्ञान पर्यावरण प्रदर्शन-2017 आयोजित



बांभनिया, मेयर
(भावनगर) एवं
सीएसआईआर-
सीएसएमसीआरआई,
भावनगर के
वैज्ञानिक डॉ. हिरेन
रावल एवं
संदीपकुमार वानिया
उपस्थित रहें। डॉ.

भावनगर। जीसीईआरटी, गांधीनगर प्रेरित
एवं जिला शिक्षण तालीम भवन सिदसर,
भावनगर तथा नगर प्राथमिक शिक्षण
समिति, भावनगर द्वारा गणित-विज्ञान-
पर्यावरण प्रदर्शन-2017 आज (दिनांक
28-08-2017 को) पूर्वाह्न 10.00
बजे भाणजी अबजी प्राथमिक शाला, दीपक
चौक भावनगर में आयोजित किया गया।
जिसमें श्रीमती विभावरीबहन दवे, विधायक
(भावनगर), एवं श्रीमती निमुबहन

हिरेन रावल ने प्राथमिक स्कूल के बच्चों
को विज्ञान के प्रति अपनी रुचि बढ़ाने
एवं समाज की विभिन्न समस्याओं का
विज्ञान एवं टेक्नोलॉजी के द्वारा
कैसे समाधान किया जाए उसके बारे
में व्याख्यान दिया और
सीएसआईआर-सीएसएमसीआरआई
में विभिन्न क्षेत्रों में हो रहे वैज्ञानिक
आविष्कारों के बारे में जानकारी दी।

<https://gujaratvaibhav.com>

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