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CSIR-CMERI developing Mechanized Scavenging System

CSIR-CMERI

31st August, 2021

CSIR-CMERI is developing a Mechanized Scavenging System, which was initiated after intensive studies of the diverse nature of Indian Sewerage Systems and the manner of its chokages. The technology is Modular in design so as to ensure customised deployment strategies as per situational requirements.

The System also focuses upon Sustainable Usage of resources i.e. Water as the System sucks in Slurry Water from the choked Sewerage Systems and after adequate filtration of the same redirects the same for Clearing of Chokages using a Self-Propelling Nozzle.

This, CSIR-CMERI technology provides an in-situ option for Mechanized Scavenging as well as purification of Water. The design of the Technology is such that the Water Filtration Mechanism may be changed/modified as per the customised needs/requirements with the ability to change/redesign the Filter Media. The Vehicle-mounted Filtration Units will be able to augment and use Water from Surface Drain and Flooded Areas and purify it into Water suitable for Agricultural, Household and Drinking Water usage.

The Drinking Water Scarcity prevalent in Flood-Affected regions can be solved to a certain by providing instantaneous and in-situ Water Purification solutions at ease. This provides a consolidated Technology Solution in a Flood-Affected region as it will be able to clear Drainage Chokages in flood-affected regions, which will help in providing an outlet for flood stagnated Water, as well as provide Water Purification solutions in Flood Disaster Zones.

Since Situational Understanding is a continuous process and requires thorough Studying throughout. This continuous Studying and Analysing Process also translated into incremental improvisation of the Technology at CSIR-CMERI. After, the development of the first

Prototype, Subsequent Prototypes were developed to improve the versatility and robustness of the Technology. This Incremental Innovation approach was coupled with the deployment of the Prototypes at various places with diverse situational challenges.

Manathakkali holds hope for liver cancer patients

CSIR-NIIST

31st August, 2021

Never underestimate the unassuming manathakkali (Black nightshade), also called sukuti keerai, growing abundantly in your backyard. Scientists have found that it can treat liver cancer. This discovery by a research team led by Ruby John Anto, senior scientist at the Division of Cancer Research at the Rajiv Gandhi Centre for Biotechnology (RGCB),



Thiruvananthapuram, has received many international patents, including those from the US, Canada, Japan and South Korea. The work has been published in the nature group journal Scientific Reports.

Dr. Anto and her team, including her student Lekshmi R. Nath, identified a natural compound, uttroside B, present in the leaves of manathakkali (*Solanum nigrum* Linn) that has liver-protective properties.

Liver cancer, mainly Hepatocellular Carcinoma (HCC), is the third leading cancer worldwide. “Sorafenib and Regorafenib are the only U.S. FDA-approved drugs currently available for the treatment of HCC. But they have limited therapeutic efficacy and serious toxicity/side effects,” says Dr. Anto.

The study reveals that uttroside B isolated from manathakkali is more potent than Sorafenib and does not have significant side effects. “It does not kill as many healthy cells as Sorafenib does while attacking the cancer cells.” This medicinal plant has been used in Ayurveda for

liver health. In Tamil Nadu, it is used for treating stomach ulcers, piles, and mouth ulcers. In collaboration with L. Ravishankar (CSIR-NIIST, Thiruvananthapuram), who has developed a novel method to isolate the compound from *Solanum nigrum* leaves, Dr. Ruby's team is currently evaluating its efficacy against fatty liver, nonalcoholic steatohepatitis, and liver cancer caused by food toxins.

She is also evaluating the efficacy and pharmacological safety of the compound in volunteers and in patients consuming *Solanum nigrum* leaves as part of their naturopathy and Ayurveda treatment against liver diseases in collaboration with Reny M.K., Chief Medical Officer, Punarjani Naturopathy Hospital, Wadakkanchery, and Siny J. Shaju, Medical Director, Aswini Theertham Ayurkendra, Kunnamkulam.

The preliminary data show promising results, even in patients suffering from chronic liver disease and HCC, says Dr. Anto.

The RGCB has been collaborating with the Oklahoma Medical Research Foundation, U.S., for the research, development, and clinical translation of uttroside B. The compound is being manufactured by Chemveda, Hyderabad.

The technology is now being developed by the U.S.-based biopharma company QBioMed, for which the RGCB has received licensing revenues. Recently, QBioMed's uttroside B program received orphan drug designation from the U.S. FDA against HCC, which allows fast track development and approval of the drug.

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25% of fully vaccinated healthcare workers at Delhi hospital got infected, but no hospitalisations

CSIR-IGIB

31st August, 2021

In an indicator of the diminishing role of vaccines in preventing transmission of the coronavirus, a little over 25% of the fully vaccinated health-care workers of a Delhi hospital contracted a fresh or 'breakthrough' infection. None of the nearly 600 vaccine recipients, however, reportedly required hospitalisation. While previous reports of similar infections have been reported in other studies in India, this is the first time that such a high percentage has been reported as part of a single study.

The study involved health-care workers at the Max group of hospitals in Delhi and Gurugram and was led by scientists at the CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB). It appears as a preprint and is yet to be peer-reviewed. The timing between the first and second dose varied, but 482 received the second dose within 42 days of the first dose. About half the recipients had been previously infected with SARS-CoV-2.

Levels of antibodies

To confirm a reinfection, the researchers relied on levels of antibodies that were directed towards the nucleocapsid region of the coronavirus, which is different from the region (spike protein) that vaccine-generated antibodies normally target. Currently, all the vaccines are designed to produce antibodies against the spike-protein and so high levels of antibodies against the nucleocapsid region were taken to be markers of a fresh coronavirus infection. A breakthrough infection is one where someone tests positive at least two weeks after their second dose.

Shantanu Sengupta of the CSIR-IGIB and one of the scientists who led the study said that 25% was a "conservative estimate" as many of the infections were likely asymptomatic and only a subset of them who manifested symptoms were likely to get themselves tested.

While the infections were mild it could contribute to healthcare workers unknowingly infecting patients, said Dr. Sengupta. For their analysis, the scientists relied on blood samples taken every week - up to 90 - following vaccination and because this period coincided with India's second wave, where most infections were due to the Delta variant, it was most likely that these breakthrough infections too were due to the Delta variant. "Two doses of the vaccine weren't protective against infection but infection followed by vaccination - even a single dose - was significantly protective against fresh infections," he added.

Currently too, Delta and its associated lineages comprise nearly half the coronavirus infections and are believed to be driving the infection in Kerala and Maharashtra. Those health-care workers who were previously infected had a reinfection rate of 2.5% over the same period.

In line with emerging evidence from several countries such as the United States and Israel where in spite of half the population being vaccinated, breakthrough infections are being reported, the study underlines that India too may not be immune to the phenomenon.

"The neutralisation of Delta variant by antibodies to non-Delta spike protein is greatly reduced. This means that neither prior infection by non-Delta variants, nor existing vaccines, are individually sufficient for the path to herd immunity. This also implies that masking is an essential part of any rational COVID control strategy, being agnostic to immune escape," the authors note in their study.

The data indicates an "urgency to explore routes towards more effective use of vaccines," the authors say. Because a single dose of ChAdOx1-nCoV19 to previously infected subjects induces humoral immunity comparable or better than two doses in naïve subjects, a single dose could be optimally directed to populations with high seropositivity.

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आईएचबीटी में केसर एवं हींग की पौध सामग्री का वितरण आत्मनिर्भरता की ओर एक प्रयास

संस्थान ने किसानों को केसर व हींग के बीज की पहली खेप भेजी

पालमपुर 30 अगस्त (जसवंत कठियाल): सीएसआईआर हिमालय जैव सम्पदा प्रौद्योगिकी संस्थान (आईएचबीटी) पालमपुर द्वारा कृषि विभाग किन्नौर को केसर एवं हींग के बीज व पौध का वितरण किया गया। डा. संजय कुमार निदेशक हिमालय जैवसंपदा प्रौद्योगिकी संस्थान द्वारा शनिवार को केसर के बीज की पहली खेप (840 किलोग्राम केसर कोम) व 3250 हींग के पौधे कृषि विभाग के अधिकारियों को वितरण के लिए सौंपे गए। यह बीज एवं पौध सामग्री हिमाचल प्रदेश के जिला किन्नौर के गैर-पारंपरिक क्षेत्रों के लिए सौंपी गई है। हिमाचल प्रदेश सरकार की महत्वाकांक्षी हकृषि से संपन्नता योजना के अंतर्गत आईएचबीटी संस्थान व कृषि विभाग इस वर्ष एक हैक्टर क्षेत्र को केसर व तीन हैक्टर क्षेत्र हींग की खेती के अंतर्गत लाने



संस्थान के निदेशक व वरिष्ठ वैज्ञानिक बीज के ट्रक के साथ।

के लक्ष्य पर काम कर रहा है। इस वर्ष किन्नौर जिले में केसर की खेती 0.24 हैक्टर क्षेत्रफल और हींग की खेती 0.5 हेक्टर क्षेत्रफल में की जाएगी। डा. संजय कुमार ने बताया कि वर्तमान में केसर का केंद्र शासित प्रदेश जम्मू और कश्मीर के पंपोर और किश्तवाड़ जिलों में वार्षिक उत्पादन 6-7 टन तक पहुंच जाता है जो कि भारत में 100 टन की वार्षिक मांग को पूरा करने के लिए पर्याप्त नहीं है। इसी प्रकार देश में प्रति वर्ष 1542 टन से अधिक शुद्ध हींग की खपत होती है तथा देश में प्रतिवर्ष 942 करोड़ रुपये से अधिक हींग के आयात पर खर्च किए जाते हैं। भारत में हींग

की आपूर्ति के लिए अफगानिस्तान, उज्बेकिस्तान तथा ईरान प्रमुख देश हैं। देश में हींग का आयात मुख्यतः (कुल आयात का 90 प्रतिशत) अफगानिस्तान से किया जाता है। अतः प्रदेश सरकार का कृषि विभाग, सीएसआईआर हिमालय जैव संपदा प्रौद्योगिकी संस्थान, पालमपुर के साथ मिलकर केसर व हींग की खेती के पायलट प्रोजेक्ट पर काम कर रही है। इस प्रोजेक्ट के अंतर्गत हिमाचल प्रदेश के कुछ चिन्हित क्षेत्रों में जिनकी जलवायु केसर व हींग के लिए उपायुक्त हो सकती है। वहां पर पायलट योजना के अंतर्गत कुछ किसानों द्वारा संस्था के वैज्ञानिकों एवं

कृषि विभाग अधिकारियों की देख रेख में ही खेती कारवाई जा रही है। निदेशक ने कहा कि गत माह ग्रामीण विकास एवं पंचायती राज मंत्री, हिमाचल सरकार वीरेंद्र कंवर ने संस्थान का दौरा कर हींग और केसर परियोजनाओं के अंतर्गत आईएचबीटी पालमपुर द्वारा किए गए कार्यों की विस्तृत जानकारी ली व विज्ञानियों द्वारा कोविड 19 महामारी के बावजूद इन परियोजनाओं के लिये किये गए कार्यों की सराहना की गई है। उन्होंने कहा कि डा. आरके पुरथी निदेशक कृषि विभाग, हिमाचल प्रदेश सरकार द्वारा गत सप्ताह सीएसआईआर- आईएचबीटी पालमपुर का दौरा किया गया व इन परियोजनाओं के अंतर्गत किए कार्यों की समीक्षा व सराहना की। उनके अनुसार कृषि विभाग, हिमाचल प्रदेश सरकार व सीएसआईआर आई एच बी टी पालमपुर मिलकर किसानों की आजीविका में सुधार करने में मदद करेंगे और केसर व हींग के आयात को कम करके भारत को आत्मनिर्भरता की ओर ले जाएंगे।

CCMB, BSIP conduct genetic study on Roman Catholics of West Coast

CSIR-CCMB

30th August, 2021

Hyderabad: The CSIR-Centre for Cellular and Molecular Biology (CCMB) and BSIP, Lucknow, have conducted a genetic study on Roman Catholic population of the West Coast India. Till date, no such study was done on this group to infer their origin and genetic history. This finding has been published in Human Genetics on August 23.

Dr Kumarasamy Thangaraj, chief scientist, and Director, Centre for DNA Fingerprinting and Diagnostics, and Dr Niraj Rai, senior scientist, DST-Birbal Sahni Institute of Palaeosciences (BSIP), Lucknow, analysed DNA of 110 individuals from the Roman Catholic community of Goa, Kumta and Mangalore.

They compared the genetic information of the Roman Catholic group with previously published DNA data from India and West Eurasia. They concluded that the Roman Catholics of Goa, Kumta and Mangalore regions were the remnants of very early lineages of Brahmin community, a majorly with Indo-European-specific genetic composition. This study found consequences of Portuguese inquisition in Goa on the population history of the Roman Catholics. They also found some indication of Jewish component.

"Our genetic study revealed that a majority of the Roman Catholics are genetically close to an early lineage of Gaur Saraswat community. More than 40 per cent of their paternally inherited Y chromosomes can be grouped under R L A Haplo Group. Such a genetic signal is prevalent among population of north India, West Asia and Europe, and unique to this population in Konkan region," said Dr Thangaraj, senior author of the study.

"This study strongly suggests profound cultural transformations in ancient South West of India. This has mostly happened due to continuous migration and mixing events since last

2,500 years." said Dr Niraj Rai, co- corresponding author of the paper. "This multi-disciplinary study using history, anthropology and genetics information have helped us in understanding the population history of Roman Catholics from one of the most diverse and multicultural regions of our country," said Dr Vinay K Nandikoori, Director, CCMB. The other institutes involved in the study were Mangalore University, Canadian Institute for Jewish Research and Institute of Advanced Materials, Sweden

Mapping groundwater sources by CSIR will help in using it for drinking: Jitendra Singh

CSIR-NGRI

30th August, 2021

New Delhi: This, in turn, will supplement the Jal Jeevan Mission, an ambitious programme of the Narendra Modi government aimed at providing piped potable water to all rural households, he said. Singh said the CSIR, along with National Geophysical Research Institute (NGRI), have undertaken high-resolution aquifer mapping and management in arid regions of northwestern India to augment groundwater



resources. The Heli-borne geophysical mapping technique of CSIR-NGRI provides a high-resolution 3D image of the subsurface up to a depth of 500 metres below the ground.

At a meeting of the CSIR attended by K Vijay Raghavan, the principal scientific advisor, Shekhar Mande the Director General of CSIR and other chief scientists, Singh said the Ministry of Jal Shakti has entrusted CSIR-NGRI with the responsibility of mapping groundwater sources in arid regions.

"The latest state-of-the-art technology is being employed by the CSIR for mapping groundwater sources in arid regions and which would help in using groundwater for drinking to supplement Prime Minister Narendra Modi's ambitious 'Har Ghar Nal Se Jal' scheme," Singh said.

The minister said arid areas in north-western India spread over parts of Rajasthan, Gujarat, Haryana and Punjab cover nearly 12 per cent of the total geographical area of the country

and is home to more than 8 crore people. With annual rainfall in the range of less than 100 to 400 mm, this area faces an acute shortage of water throughout the year.

High-resolution aquifer mapping and management is cost-effective, precise and is useful to map large areas (districts/states) within a short period of time. The entire work will be completed by 2025 covering over 1.5 lakh square kilometres of an area with an estimated cost of Rs 141 crore. He said the aim of this project is to map the potential sites for groundwater withdrawal and conservation and results will be used to meet the broader objectives of aquifer mapping, rejuvenation and management of groundwater resources in the arid areas.

Published in:

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सराहनीय

सीएसआइआर-आइएचबीटी पालमपुर ने भेजे केसर और हींग के पौधे

केसर से महकेगा किन्नौर जिला

संवाद सहयोगी, पालमपुर : सीएसआइआर आइएचबीटी पालमपुर ने कृषि विभाग किन्नौर को केसर एवं हींग के बीज व पौधे का वितरण किया गया। संस्थान निदेशक डा. संजय कुमार ने विभाग को केसर के बीज की पहली खेप (840 किलोग्राम केसर कोर्म) व 3250 हींग के पौधे सौंपे। यह सामग्री किन्नौर के गैर-पारंपरिक क्षेत्रों के लिए सौंपी गई है। हिमाचल प्रदेश सरकार की महत्वकांक्षी कृषि से संपन्नता योजना के अंतर्गत आइएचबीटी व कृषि विभाग इस वर्ष एक हेक्टर क्षेत्र को केसर व तीन हेक्टर क्षेत्र हींग की खेती के अंतर्गत लाने के लक्ष्य पर काम कर रहा है। इस वर्ष किन्नौर जिले में केसर की खेती 0.24 हेक्टर क्षेत्रफल और हींग की खेती 0.5 हेक्टर क्षेत्रफल में की जाएगी।

डा. संजय कुमार ने बताया कि वर्तमान में केसर केंद्र शासित प्रदेश जम्मू और कश्मीर के पंपौर और किश्तवाड़ जिलों में उगाया जाता है। इसका वार्षिक उत्पादन 6-7 टन तक पहुंच जाता है जोकि भारत में 100 टन की वार्षिक मांग को पूरा करने के लिए पर्याप्त नहीं है। इसी प्रकार देश में प्रतिवर्ष 1542 टन से अधिक शुद्ध हींग



सीएसआइआर-आइएचबीटी पालमपुर की ओर से किन्नौर जिले के लिए तैयार किए गए केसर के पौधे • जागरण

की खपत होती है तथा देश में प्रतिवर्ष 942 करोड़ रुपये से अधिक हींग के आयात पर खर्च किए जाते हैं। भारत में हींग की आपूर्ति के लिए अफगानिस्तान, उज्बेकिस्तान तथा ईरान प्रमुख देश हैं। देश में हींग का आयात लगभग 90 फीसद अफगानिस्तान से किया जाता है। अब कृषि विभाग व सीएसआइआर आइएचबीटी मिलकर केसर व हींग की खेती के पायलट प्रोजेक्ट पर काम कर रही है। इस प्रोजेक्ट के अंतर्गत हिमाचल प्रदेश के कुछ चिह्नित क्षेत्रों में

किन्नौर में 0.24 हेक्टर में केसर व 0.5 हेक्टर क्षेत्रफल में की जाती है की हींग की खेती, किसानों को दिया गया है बकायदा प्रशिक्षण

जिनकी जलवायु केसर व हींग के लिए उपयुक्त हो सकती है। वहां पर पायलट योजना के अंतर्गत कुछ किसानों द्वारा संस्थान के वैज्ञानिकों एवं कृषि विभाग अधिकारियों की देख रेख में ही खेती कारवाई जा रही है जोकि भारत को केसर व हींग के उत्पादन में आत्मनिर्भर बनाने की और एक कदम है।

संस्थान के वरिष्ठ प्रधान विज्ञानिक एवं केसर परियोजना के समन्वयक डा. राकेश कुमार ने बताया कि प्रदेश के गैर-पारंपरिक क्षेत्रों संस्थान द्वारा केसर की खेती के प्रयास किया जा रहे हैं। किसानों एवं कृषि अधिकारियों को इसकी खेती के तरीके एवं उन्नत कृषि तकनीक का प्रशिक्षण दिया जा रहा है एवं बीज उपलब्ध किया जा रहा है।

हींग परियोजना के समन्वयक डा. अशोक कुमार ने बताया कि हींग (फेरुला एसाफोईटिडा) मूलतः ईरान व अफगानिस्तान के पहाड़ी इलाकों में जंगली रूप में पाया जाता है।

Published in:

Dainik Jagran, Dainik Savera,

इस वर्ष 1 हैक्टेयर में केसर और 3 हैक्टेयर क्षेत्र में होगी हींग की खेती

आई.एच.बी.टी. पालमपुर ने केसर व हींग के बीज व पौधे कृषि विभाग को सौंपे

पालमपुर, 29 अगस्त (भृगु): प्रदेश में इस वर्ष 1 हैक्टेयर क्षेत्र केसर व 3 हैक्टेयर क्षेत्र हींग की खेती के अंतर्गत लाया जाएगा। इस योजना को सिरे चढ़ाने की कवायद आरंभ कर दी गई है। इस वर्ष किन्नौर जिले में केसर की खेती 0.24 हैक्टेयर क्षेत्रफल और हींग की खेती 0.5 हैक्टेयर क्षेत्रफल में की जाएगी। इसी कड़ी में आई.एच.बी.टी. पालमपुर द्वारा कृषि विभाग किन्नौर को केसर एवं हींग के बीज व पौधे का वितरण किया गया। केसर के बीज की पहली खेप 840 किलोग्राम केसर कोर्म व 3250 हींग के पौधे कृषि विभाग के अधिकारियों को वितरण के लिए सौंपे गए।

वर्तमान में केसर केंद्र शासित प्रदेश जम्मू-कश्मीर के पंपोर और किश्तवाड़ जिलों में उगाया जाता है, जिसका वार्षिक उत्पादन 6-7 टन तक पहुंच जाता है, जो देश में 100



टन की वार्षिक मांग को पूरा करने के लिए पर्याप्त नहीं है। इसी प्रकार देश में प्रति वर्ष 1542 टन से अधिक शुद्ध हींग की खपत होती है तथा देश में प्रतिवर्ष 942 करोड़ रुपए से अधिक हींग के आयात पर खर्च किए जाते हैं। हींग की आपूर्ति अफगानिस्तान, उज्बेकिस्तान तथा ईरान आदि देशों से की जाती है। प्रदेश सरकार का कृषि विभाग आई.एच.बी.टी. के साथ मिलकर केसर व हींग की खेती के पायलट प्रोजेक्ट पर काम कर रहा है।



वरिष्ठ प्रधान वैज्ञानिक एवं केसर परियोजना समन्वयक डा. राकेश कुमार ने बताया कि हिमाचल प्रदेश के गैर-पारंपरिक क्षेत्रों में संस्थान द्वारा केसर की खेती के प्रयास किए जा रहे हैं। जिला किन्नौर के अलावा चम्बा, मंडी, कुल्लू, शिमला एवं लाहौल-स्पीति जिलों के कुछ चयनित क्षेत्रों में भी इस वर्ष केसर की एक हैक्टेयर क्षेत्र में खेती की जाएगी। प्रधान विज्ञानी एवं हींग परियोजना समन्वयक डा. अशोक कुमार ने बताया कि आई.एच.बी.टी. द्वारा वर्ष 2018

इस प्रोजेक्ट के अंतर्गत प्रदेश के कुछ चिन्हित क्षेत्रों में जिनकी जलवायु केसर व हींग के लिए उपयुक्त हो सकती है, वहां पायलट योजना के अंतर्गत संस्थान के वैज्ञानिकों एवं कृषि विभाग के अधिकारियों की देखरेख में खेती करवाई जा रही है, जो देश को केसर व हींग के उत्पादन में आत्मनिर्भर बनाने की ओर एक कदम है।

- डा. संजय कुमार,
निदेशक, आई.एच.बी.टी. पालमपुर

में भारतीय कृषि अनुसंधान परिषद राष्ट्रीय पादप आनुवांशिक संसाधन ब्यूरो नई दिल्ली के माध्यम से हींग के बीजों का आयात ईरान से किया गया। बीज के माध्यम से तैयार किए गए हींग के पौधों का उच्च तुंगता केंद्र, रिबलिंग जिला लाहौल-स्पीति में रोपण किया गया तथा प्रदेश के विभिन्न स्थानों में परीक्षण के तौर पर पौधे लगाए गए।

CSIR-NIScPR Signs MoU with JC Bose University to promote Science Communication and STI Policy Research

CSIR-NIScPR, NISCAIR, NISTADS

29th August, 2021

New Delhi: CSIR-National Institute of Science Communication & Policy Research (NIScPR), New Delhi and J.C. Bose University of Science and Technology, YMCA, Faridabad signed a memorandum of understanding (MoU) for collaboration and networking to advance policy research and science communication by leveraging respective strengths.



CSIR-NIScPR is a constituent laboratory of Council of Scientific and Industrial Research (CSIR) that came into existence on 14 January 2021 after the merger of CSIR-National Institute of Science Communication and Information Resources (CSIR-NISCAIR) and CSIR-National Institute Science, Technology and Development studies (CSIR-NISTADS).

The MoU signing ceremony was organized in the J.C. Bose University on 27 August 2021. The MoU was signed by the Director Prof. Ranjana Aggarwal on behalf of CSIR-NIScPR, New Delhi and the Registrar Dr. S.K. Garg on behalf of J.C. Bose University. The collaboration will open new avenues for knowledge sharing and skill development in science communication and STI policy research.

Speaking on this occasion, Prof. Ranjana Aggarwal said that both the institutes have a prosperous legacy of science communication, policy research and science education of more than 60 years. CSIR-NIScPR has been working at the interface of science, technology and society. It works for behavioural change, inculcation of scientific temper and rationality

among the public. On the other hand, J.C. Bose University has a good hold on Industry-Academia linkage, technological expertise and has a strong alumni network. In this way, both the institutions can strengthen each other with their own capabilities and contributions by sharing resources including libraries, publications, programmes and laboratories.

Prof. Aggarwal said that people have always had a different outlook and perception about science due to which science has not been able to connect with society. In CSIR-NIScPR, our efforts are focused on connecting science with society and we are working to promote science and technology through various endeavors of science communication. She emphasized that with this collaboration, both the institutions can work together in the area of Science, Technology, Innovation, Research, Policy Studies and Science Communication. The University can also make a big contribution in promoting Science Journalism, she added. Besides this, social initiatives by the University and the Community College are areas where both the entities can work together.

On this occasion, Registrar of J.C. Bose University Dr. S.K. Garg spoke about the University and its academic activities. He said that the collaboration between the two institutions will promote scientific and technological research which will ultimately benefit the society.

Speaking on this occasion, the Dean Placement, Alumni and Corporate Affairs, Prof. Vikram Singh said that the University has added new Centres of Excellence to further enhance the skills and employability of students. Also, the University has made significant improvements in research publications. He said that the collaboration with CSIR-NIScPR would help to improve the research quality in the University.

Earlier, Dr. Mohammad Rais, Chief Scientist, CSIR-NIScPR gave a brief introduction about CSIR and its country wide network. He said that CSIR is known for its cutting edge R&D knowledgebase in diverse Science and Technology areas. Having pan-India presence, CSIR has a dynamic network of 37 National Laboratories, 39 Outreach Centres, 3 Innovation

Complexes and 5 units. CSIR's R&D expertise and experience is embodied in about 4600 active scientists supported by about 8000 scientific and technical personnel. It is working with the vision of New CSIR for New India.

The program concluded with a vote of thanks proposed by Dean (R&D) Prof. Rajesh Kumar Ahuja. A collector's edition (August 2021 issue) of the popular science magazine "Science Reporter" of CSIR-NIScPR was also released on this occasion.

NIScPR's Chief Scientist and Dean-Science Communication Shri Hasan Jawaid Khan, Chief Scientist and Dean-Policy Research Dr. Sujit Bhattacharya, Dr. Naresh Kumar, Chief Scientist, Dr. Kanika Malik, Principal Scientist, Dr. Manish Mohan Gore, Scientist and Ms. Shraddha Pandey attended this programme from CSIR-NIScPR. Dean (FET) Prof. M.L. Aggarwal, Dean (FIC) Prof. Komal Kumar Bhatia, Dr Popli and Librarian Dr. P.N. Bajpai were also present on this occasion from J.C. Bose University.

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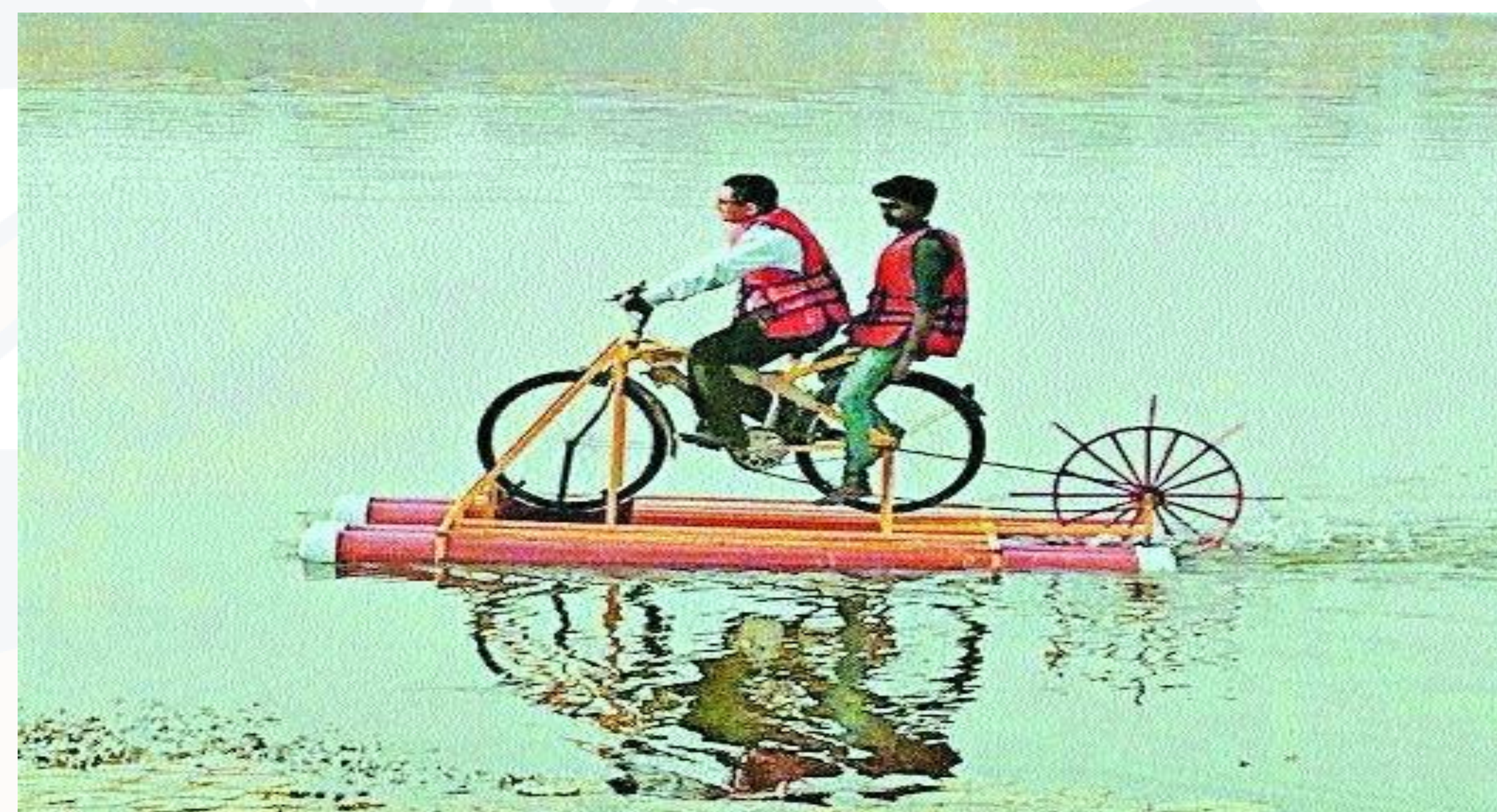
Indiaeducationdiary

Floating bicycles remain idle due to poor maintenance

CSIR-NEERI

29th August, 2021

Necessity is the mother of invention. Technologies go hand in hand with human creativity and their needs in the present situation. But some inventions remain in the dark for lack of their usages and vision of the authorities concerned. The floating bicycle, developed by CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur to



rejuvenate water bodies is the perfect example of 'lost vision' of Nagpur Municipal Corporation (NMC). CSIR-NEERI gave two such machines to NMC for cleaning of Futala lake two years ago, but due to lack of maintenance and proper care it 'rendered infructuous' for people of Nagpur. Today, no one know where these machine are. In the beginning, the machine had caught the attention of other States also. Even, CSIR-NEERI started developing, modifying and making the bicycles more user-friendly.

The manufacturing was to be done by NGO Swacch Nagpur. "Initially we used the floating bicycle at Futala lake and thereafter NGO Swacch Nagpur asked us to maintain the machine. Now, we have no idea where the machine is," said D P Tembekar, Divisional Officer (Electrical Department), Dharampeth Zone to The Hitavada. Anasuya Kale-Chhabrani, President, Swacch Nagpur, said, "The floating bicycle is a great innovation for cleaning the city lakes. But the officials of Dharampeth Zone were least bother about its maintenance and kept it abandoned in a shade near Futala lake." Chhabrani also said, "People started stealing its parts and officials were least bother to take care of the machines.

Then we asked them to handover one of those to us for its maintenance which we have and maintaining well.” “Maintenance of the machine is not a costly affair, but NMC is not in a mood to invest money and man power for its use and promotion,” she added. In April, 2018, the then Director of CSIR-NEERI Dr Rakesh Kumar had handed over the first floating bicycle to NMC for cleaning Futala Lake and another one was handed over for cleaning of other city lakes. The bicycle would not only help clean lakes but also increase the dissolved oxygen level of a water body. After getting good response from other States, CSIR-NEERI had started developing similar but modified bicycles. “We started developing the bicycle as per the demand raised by other states but the COVID-19 pandemic delayed the project. While another CSIR institute based in Bengaluru introduced a boat which can clean water bodies and it is more advanced than our floating bicycle,” said Dr Atya Kaple, Senior Principal Scientist and Head of Director’s Research Cell at CSIR-NEERI.

Published in:

[Thehitavada](https://www.thehitavada.com)

NML organises Teachers' Conclave

CSIR-NML

28th August, 2021

Jamshedpur, Aug 28: CSIR-National Metallurgical Laboratory (NML), Jamshedpur organised the 8th Scientists & Science Teachers Conclave (SSTC) on a virtual platform. The main objective of this online event was to create innovative content for teaching science to school students and also to encourage students to learn science with fun and creativity. The virtual program started at 4 pm. The welcome address was delivered by Dr. Mita Tarafder, Chief Scientist of CSIR-NML. In her address she briefly talked about the idea behind arranging this online event saying that it is a new concept of innovative learning. She requested all participants to share their ideas using this platform.

The keynote address was then delivered by Dr. Sanchita Chakravarty, Chief Scientist & Head, AAC & MNP Division, CSIR-NML on the topic "Role of Advanced Analytical Tools". She discussed in detail different methods of analytical chemistry, the importance of selection of the right analytical method and their characteristics. She concluded her lecture by elaborating on the advantages of several analytical methods for chemical analysis.

This was followed by a demonstration on 'Tinker CAD' by the team members of the CSIR Virtual Lab Team. Demonstrations were done jointly by Dr. Aniket Dutt and Mr. Abhas Mahato of KRIT Division, CSIR-NML. The concept of crystallographic structure of an element was presented. This was then followed by a hands-on demo. The virtual event received a very good response from the participants. The program was attended by more than 40 teachers, students, scientists and professionals. Pragati Jha of KRIT Division, CSIR-NML proposed the vote of thanks and appreciated all organisers for conducting the event successfully.

Published in:

[Avenuemail](#)

୩୦ କୁମ୍ଭକାରଙ୍କୁ ମାଟି ସାମଗ୍ରୀ ପ୍ରସ୍ତୁତି ତାଲିମ

ନବରଙ୍ଗପୁର, ୨୭।୮ (ବି.ପ୍ର.)

ବୈଜ୍ଞାନିକ ଓ ପ୍ରଯୁକ୍ତିବିଦ୍ୟା ପ୍ରଦର୍ଶନ କ୍ଷେତ୍ରରେ ନବରଙ୍ଗପୁର ଜିଲ୍ଲା ପାପଡ଼ାଠାରେ କୁମ୍ଭକାର ଚିଲିକା ଉତ୍ତର ଧରଣର କୁମ୍ଭକାରଙ୍କୁ ନିର୍ମାଣ କରାଯାଇଛି। କୁମ୍ଭକାର ପରାମର୍ଶାଳୟ ଭାବେ ଏହାର କାର୍ଯ୍ୟ ଆରମ୍ଭ କରାଯିବ। ଏହି କାର୍ଯ୍ୟକ୍ରମରେ ଜିଲ୍ଲାପାଳ ଅତିଥି ଭୂମିକା ନିର୍ୱାହଣ କରିଥିଲେ। ଏହି କାର୍ଯ୍ୟକ୍ରମରେ ଆଧୁନିକ ଜ୍ଞାନକୌଶଳ ବିନିଯୋଗରେ ନିର୍ମିତ ଏହି ଲାଟିର ବ୍ୟବହାର ଦ୍ୱାରା ନବରଙ୍ଗପୁର ଜିଲ୍ଲାର କୁମ୍ଭକାର ପରିବାର ଅଧିକ ଲାଭବାନ ହୋଇପାରିବେ ବୋଲି କହିଛନ୍ତି। ଏହା ସାହାଯ୍ୟରେ ଉତ୍ତର ମାନର ମାଟି ସାମଗ୍ରୀ ପ୍ରସ୍ତୁତ ହୋଇପାରିବ ବୋଲି ସେ କହିଛନ୍ତି। ଆଇଏମ୍‌ଏମ୍‌ଟିର ବିଭିନ୍ନ



କୁମ୍ଭକାର ଲାଟି ଉଦ୍ଘାଟନ କରାଯାଇଛି।
 ବୈଜ୍ଞାନିକ ଦେବଦ୍ରତ ସିଂ ଯୋଗଦେଇ ଏହି ଲାଟି ଦ୍ୱାରା ୨୪ ଘଣ୍ଟା ମଧ୍ୟରେ ମାଟି ସାମଗ୍ରୀ ପ୍ରସ୍ତୁତ ହୋଇପାରିବ ବୋଲି କହିଛନ୍ତି। ଏହା ବ୍ୟତୀତ ପାଣି ଫିଲ୍ଟରରେ ବ୍ୟବହୃତ ଜ୍ୟାଣ୍ଡେଲ ମଧ୍ୟ ପ୍ରସ୍ତୁତ କରାଯାଇପାରିବ ବୋଲି

ଉତ୍କଳ ଧରଣର ଲାଟି ଶୁଭାରମ୍ଭ

ସେ କହିଛନ୍ତି। ସମ୍ପୂର୍ଣ୍ଣ ବିଭାଗ ସହାୟକ ନିର୍ଦ୍ଦେଶକ କୁଲୁୟା ସିଂ ଧାରୁଆ ଉପସ୍ଥିତ ରହି ନୂତନ ବଜାର ବ୍ୟବସ୍ଥାକୁ ପ୍ରସ୍ତୁତ କରିବା ଦିଗରେ କୁମ୍ଭକାର ଦେବୀକୁ କହିଥିଲେ। କ୍ରିୟାକ୍ରମର କର୍ମଚିତ୍ର ସଦସ୍ୟ ଲକ୍ଷ୍ମୀନାରାୟଣ ବୈ ନୂତନ ବିକାଶନ ତିଆରି କରିବା ଦିଗରେ ପ୍ରୟାସ କରିବାକୁ ଆହ୍ୱାନ କରିଥିଲେ। ଏହି ତାଲିମ କାର୍ଯ୍ୟକ୍ରମକୁ ଆଇଏମ୍‌ଏମ୍‌ଟିର ବୈଷୟିକ ଅଧିକାରୀ ଏ. କେ. ଶାନ୍ତ ପରିଚାଳନା କରିଥିଲେ। ଏହି ଅବସରରେ ତିଆରିଥିବା ପିଟି ଉତ୍ପାଦର ସାଧୁ ଏବଂ ଓଡ଼ିଆସର ଉପ କାର୍ଯ୍ୟନିର୍ବାହୀ ଏ. ଭନା ମହେଶ ଉପସ୍ଥିତ ଥିଲେ।

Training program of pottery facilitated by CSIR-IMMT Bhubaneswar at Nabarangpur District of Odisha for the benefit of potter community

PGIMER, CSIR-IMTECH scientists discover new pathogenic bacterial species causing sepsis

CSIR-IMTECH

26th August, 2021

Chandigarh, Aug 26 (PTI) The Department of Medical Microbiology at PGIMER in collaboration with CSIR-IMTECH has discovered a new species of a pathogenic bacterium using advanced genomic studies, according to a statement.

Prof. Vikas Gautam, Department of Medical Microbiology, Post-Graduate Institute of Medical Education and Research (PGIMER) here, and Dr Prabhu Patil, principal scientist at the CSIR-Institute of Microbial Technology (CSIR-IMTECH), have announced a new species of a bacterium that causes serious infections especially in ICU patients.

The species was detected in a patient admitted at PGIMER a few years ago, prior to the COVID-19 pandemic. The species has been named "sepilia" as it was isolated from blood infection leading to sepsis, according to the statement issued by the PGIMER.

A high death rate ranging from 20-60 per cent has been found associated with various kinds of infections caused by this bacterium that includes pneumonia and blood infections due to lack of appropriate antibiotic therapy, it said.

"The common high-end antibiotics used in ICU patients don't work on this organism. One has to first of all correctly identify this bacteria and then the right kind of antibiotic is to be given to the patient based on the testing laboratory report," the statement further said.

It further said Prof. Gautam initiated research in 2005 to identify human pathogen. In 2009, to overcome the problem of their identification, Prof. Gautam and his team in collaboration with Peter Vandamme (researcher, Belgium group) standardised simple tests for identification by a routine microbiology laboratory.

Around the same time Dr Prabhu Patil also started working on this bacterium in environmental samples. In 2012, for the first time in India, this team carried out genomic study of a similar bacterium on the samples and linked the infection with its source without any help from foreign counterparts or expertise, the PGIMER statement said.

"Extending their years of meticulous hard work, in 2018, both have reported the new genomospecies of this bacterium. This new species isolated from a clinical specimen has the potential to replace the leading species of this organism as this species has been identified in eight patients at PGIMER," it said.

While several novel species of bacteria have been reported from India, almost all are from environmental samples or resident flora from healthy human body samples.

"This is probably the first report from India reporting a new human pathogenic species in a bacterium. This work has been published in *New Microbes and New Infections*, a leading journal," it said.

"We need to identify such infections correctly and with less turnaround time so that the right antibiotic is started, and patients can be saved timely from its dire consequences," according to the statement. PTI SUN SMN

Free water a poll gimmick, says UGDP

CSIR-NIO

26th August, 2021

Margao: United Goans Democratic Party (UGDP) has termed the government's decision to provide free 16,000 litres of water as nothing more than an election gimmick "to cover up the public reactions to the highly negative publicity that Pramod Sawant-led government earned".

President of UGDP, Jorson Fernandes charged the government with "fooling" the electorate with tall promises "even when the household water which is being supplied is laced with microplastics" as pointed out in a study undertaken by CSIR-NIO and Toxics Link.

"Instead of taking appropriate measures to reduce and even contain the potentially hazardous microplastics in the water being supplied by the PWD to Goan households, the government skirted the need to tackle the problem at its source which is to identify the major source of marine pollution due to their toxic potential threat," Fernandes said.

He said that the government sidelined the main issue and resorted to freebies.

Published in:

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

शोध

द्वाई साल के अनुसंधान के बाद भारतीय पेट्रोलियम संस्थान ने विकसित की नई तकनीक

25 फीसद गैस बचाएगा आइआइपी का पीएनजी चूल्हा

सुजाना तोकवाल • देहरादून

भारतीय पेट्रोलियम संस्थान (आइआइपी), देहरादून ने पाइन्ड नेचुरल गैस (पीएनजी) के लिए एक ऐसा चूल्हा तैयार किया है, जिसका इस्तेमाल करने पर गैस की खपत 20 से 25 फीसद तक कम हो जाएगी। इसमें उच्च सुरक्षा मानकों का भी ध्यान रखा गया है। संस्थान ने देशभर की 40 कंपनियों को पीएनजी बर्नर व चूल्हे के निर्माण के लाइसेंस भी जारी कर दिए हैं।

आइआइपी के निदेशक डॉ. अंजन रे के मुताबिक इस पर संस्थान में करीब द्वाई साल से अनुसंधान चल रहा था। आखिरकार संस्थान के विज्ञानियों ने पीएनजी बर्नर और चूल्हे की नई तकनीक विकसित करने में कामयाबी हासिल की। उनका मानना है कि किसी भी अनुसंधान की सफलता तभी है, जब वह जनता तक पहुंचे। इसके मद्देनजर इस तकनीक के व्यावसायिक उपयोग पर विचार



आइआइपी की ओर से विकसित किया गया पीएनजी चूल्हा • सुजाना तोकवाल

इस तरह करेगा गैस की बचत

- पीएनजी बर्नर युक्त चूल्हे में मिक्सिंग ट्यूब में बदलाव किया गया है। (एल्युमिनियम एलॉय की ट्यूब बर्नर के पीछे के डिस्क पर अटैच होती है।)
- चूल्हे के बटन के पास लगने वाले जेट को भी ऊर्जा संरक्षण के लिफ्टज से बनाया गया।
- बर्नर के छेद के डिजामीटर इस तरह रखा गया है, ताकि गैस की बचत हो सके।
- लोडिंग टॉप (बर्नर रखने वाली जगह) को अन्य चूल्हे की अपेक्षा बाँध ऊंचा रखा गया है।

सलाह: एलपीजी चूल्हे में न करें पीएनजी का प्रयोग

आइआइपी के विज्ञानी पंकज आर्य के मुताबिक हमारा लोग एलपीजी चूल्हे में विभिन्न आपरेटर से बदलाव कर पीएनजी का प्रयोग करते हैं। यह सिलबि खतरनाक है। क्योंकि एलपीजी भारी होती है और पीएनजी हल्की। लिफ्टज, पीएनजी के लिए निश्चित बर्नर व चूल्हे का प्रयोग करना चाहिए। इसी तरह उन्होंने पीएनजी चूल्हे में एलपीजी का प्रयोग न करने की सलाह भी दी।

करते हुए पीएनजी चूल्हे के निर्माण के लाइसेंस देने का फैसला किया गया।

निदेशक ने बताया कि पीएनजी बर्नर व चूल्हे के निर्माण के लिए देशभर की 40 कंपनियों को लाइसेंस जारी कर दिए हैं। वर्तमान में हिमाचल प्रदेश के औद्योगिक क्षेत्र बटुई में बड़े स्तर पर पीएनजी बर्नर युक्त चूल्हे का निर्माण चल रहा है। जल्द तराई समेत देश के विभिन्न राज्यों

में पीएनजी के लिए इस तकनीक के चूल्हे उपलब्ध हो जाएंगे।

मूल्य 1500 रुपये में उपलब्ध होगा
वृत्त: पीएनजी बर्नर के विकास में अहम भूमिका निभाने वाले विज्ञानी पंकज आर्य के मुताबिक पीएनजी चूल्हा महज 1500 रुपये में उपलब्ध होगा। यह कीमत ठे बर्नर वाले चूल्हे की है। बर्नर की संख्या बढ़ने पर उसी अनुपात में चूल्हे की कीमत भी बढ़

जाएगी।

उत्तरांचल में तेजी से चल रहा काम: देशभर में पाइन्ड नेचुरल गैस (पीएनजी) की लाइन बिछाने के लिए केंद्र सरकार बड़े स्तर पर काम कर रही है। विभिन्न शहरों में पीएनजी की लाइनें शुरू कर दी गई हैं। उत्तरांचल की राजधानी देहरादून और हरिद्वार में भी इस दिशा में तेजी से काम चल रहा है।

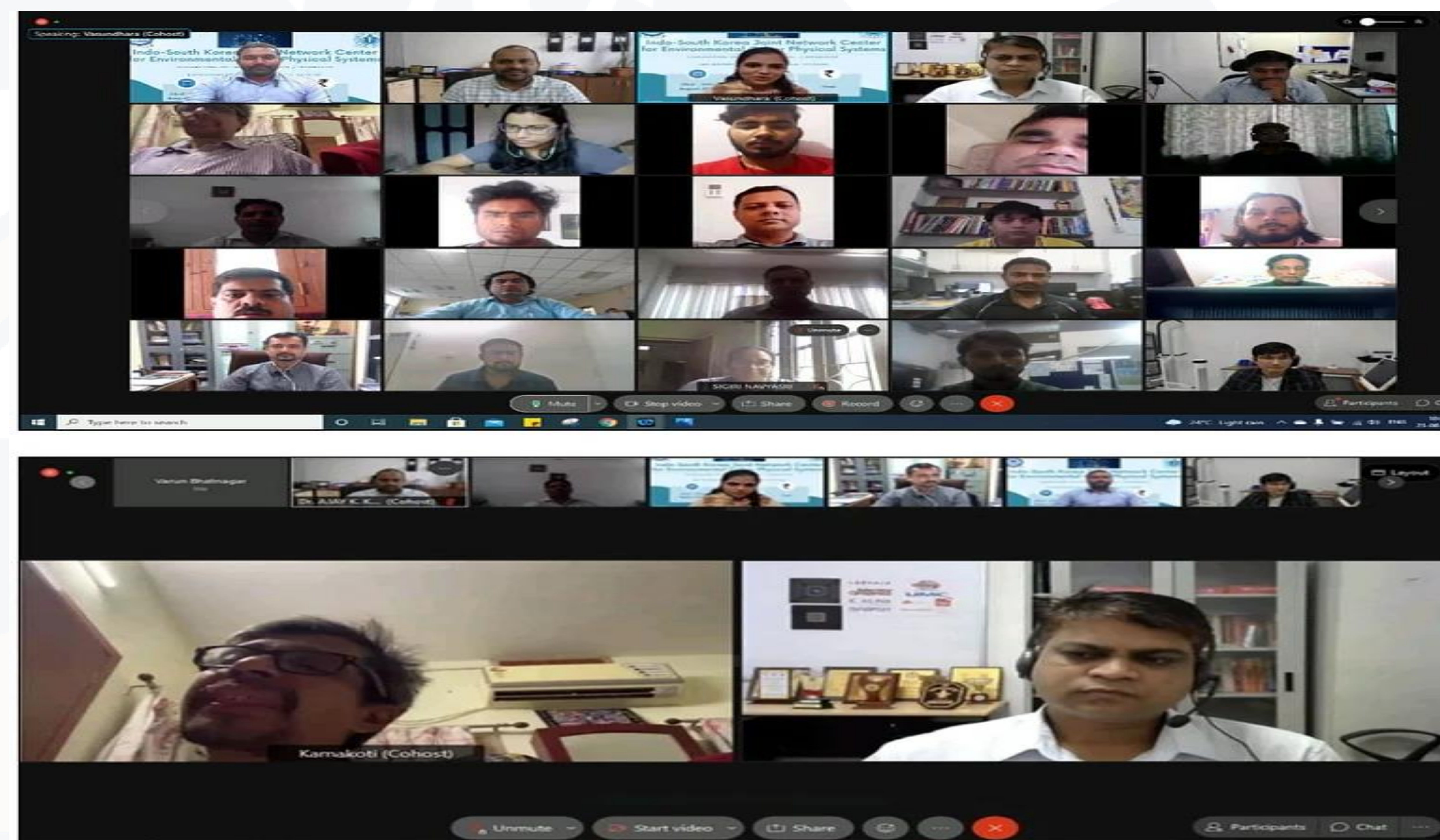
एन धुआं छोड़ने वाले लकड़ी जलाने वाले चूल्हे भी ऊपर: भारतीय पेट्रोलियम संस्थान ने गाँवों में प्रयुक्त होने वाले चूल्हे भी तैयार किए हैं। इन चूल्हों में लकड़ी के माध्यम से आग जलाई जाती है। चूल्हों को खासियत यह है कि लकड़ी दहन की क्षमता अन्य चूल्हों के मुकाबले 30 फीसद है और करीब 15 फीसद धुएँ का कम उत्सर्जन होता है।

Indore: First Indo-Korea Joint Training School Workshop underway at IIT Indore

CSIR-CEERI

25th August, 2021

Indore (Madhya Pradesh): Indo-South Korea Joint Network Center (JNC) for Environmental Cyber Physical Systems (E-CPS) is organizing a 5-day online training school/workshop on E-CPS from August 23-27 with aim to focus on CPS for IoT application. IIT Madras faculty member Prof V Kamakoti, who has been appointed as the Chairperson of Taskforce on Artificial Intelligence by Government of India,



emphasized on the importance of E-CPS and the need of sustainable development in modern times.

The first day of the workshop began with a briefing about the JNC and associated partners by Dr. Santosh Kumar Vishvakarma followed by an address by Prof. Avinash Sonawane, Dean of International Affairs and Outreach of IIT Indore. The first interactive session was delivered by Dr. Sung Hun Jin, Professor from Incheon National University, Korea.

He discussed in depth about progress in Light-to-Frequency conversion circuits based on low dimensional semiconductors. Afternoon session began with an experimental demonstration by the team of Sciencetech Technologies headed by its Deputy CEP Mr. Uday Bhole. In the next session, Dr. Jai Gopal Pandey, Principal Scientist, CSIR-CEERI, Pilani shared some wonderful insights on resource-efficient hardware architectures. 2nd day began with an interactive session on reliability issues in VLSI circuits and systems by Dr. Ambika Prasad Shah, Assistant Professor at IIT Jammu. It was followed by a session by Dr. Taehui Na, Assistant

Professor, INU South Korea on the topic of STT-MRAM and its sensing operation for power IoT applications. An experimental demonstration on embedded design using RISC-V based FPGA was done by Dr. Jayaraj U Kidav, Scientist at NIELIT Calicut. The day ended with an interactive session on enabling CPS with emerging memory technologies by Dr. Bhupendra from IIITDM Kancheepuram.

JNC is jointly funded by the Department of Science and Technology, Government of India and Ministry of Science and ICT, Government of South Korea. More than 450 participants are attending this workshop which includes 50 participants from South Korean Universities. Twenty distinguished speakers from academic and industries from India and South Korea are sharing their knowledge, expertise, and experience.

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NCL in Pune develops tech to convert biomedical waste to plastic

CSIR-NCL

25th August, 2021

A plastic bucket or mug, a computer part or a car part made from discarded face masks and PPE suits used by health workers and doctors - that is what the National Chemical Laboratory (NCL) in Pune is claiming its research has proven can happen.

The new research, announced on Tuesday, is based on a system of autoclaving biomedical waste. Face masks and PPE suits were burnt earlier. Now this new recycling system will allow plastic products to be made from the bio-medical waste. Small particles of plastic are made after a recycling process and then converted into various products.

“In this pandemic all health workers and hospital staffers use PPE kits for protections and face masks. When the pandemic was at its peak our country was producing almost 200 tonnes per day of this waste. It was thrown away and eventually burnt. So we decided to reuse and recycle it. So we got five companies together for this project. The idea is ours but these companies will actually implement it,” said Dr Ashish Lele, director, NCL.

“These companies are doing a pilot project in Pune where 150kg of this biomedical waste will be recycled and turned into products. There is only one company in Pune which collects biomedical waste from hospitals, swab centres, vaccination centres, and airports. Right now we are only taking face masks and PPE suits. First we got authorisation from the Maharashtra Pollution Control Board (MPCB),” said Dr Lele.

“There is process called ‘autoclaving’ which is to sanitise these used masks and suits. It is basically to heat to a certain temperature in the presence of steam and then all viruses are inactivated,” he added.

“Then we bring all this waste and keep it for some more days in quarantine and then we take it to recycling, where it is first shredded and then converted into small particles. That becomes the product and from that multiple plastic products are made. We are working with a company which uses this product to convert it into a automotive car, then also other things like computer parts and household items,” said Dr Lele.

NCL hired research students to work on this project, and the waste management company gave the PPE kits. NCL will take the technology all over the country once the Pune operation is established.

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Mild tremors felt in Chennai as 5.1 magnitude quake hits Bay of Bengal, no tsunami threat

CSIR-NGRI

24th August, 2021

CHENNAI: Mild tremors were felt in parts of Chennai as an earthquake measuring 5.1 magnitude on the Richter scale hit the Bay of Bengal region on Tuesday afternoon. The quake, reported at 12.35 pm, was at a depth of 10 km in the Bay of Bengal and was about 296 km south-south east of Kakinada, Andhra Pradesh and 320 km east north east of Chennai, confirmed officials at the National Centre for Seismology. Meanwhile, the Indian Tsunami Early Warning Centre ruled out any tsunami threat.

A seismologist from the National Centre for Seismology told The New Indian Express that the location where the earthquake occurred is close to the mid-oceanic ridge. "There are two ridges which are located 85 degrees east and 90 degrees east. This earthquake has occurred close to one of these ridges. These are actually aseismic ridges, which means they are not supposed to produce earthquakes. But since these are topographically high, they are slightly active and can once in a while trigger earthquakes. In February 2019 also, an earthquake of similar magnitude was reported in the Bay of Bengal region," he explained and added that the Bay of Bengal region on the Indian tectonic plate was not prone to earthquakes.

This Indian plate ranges from the Himalayas to Africa to Andaman to 1,000 km off the Chennai coast. "It is a very stable tectonic plate," the official said. However, seismologists from Indian Institute of Sciences, Bengaluru, say it is a major concern that a quake has struck so close to the east coast of India. The last earthquake in February 2019 was reported about 447.4 km northwest of Visakhapatnam and 609.1 km west-southwest of Chennai. Now, this quake was reported just over 300 km off the Chennai coast.

Brushing aside fears, D Srinagesh, Head of the Seismology Observatory in the National Geophysical Research Institute, told The New Indian Express that there is nothing unusual

about these moderate earthquakes in the Bay of Bengal region. "But, we have to keep a close watch on the underwater ridges and fault lines in the region along the east coast. Occasionally, they get seismically active when stress builds up." He said except for one 5.1 magnitude earthquake, there were no aftershock events reported on Tuesday. The seismic stations in Chennai, Kalahasti or Warangal did not record anything. "People have only reported mild tremors for about one to two seconds," he said.

TM Balakrishnan Nair, director of Operational Ocean Services and Applied Research (OSAR) Group at the Indian National Centre for Ocean Information Services (INCOIS), told The New Indian Express that there was no perceived threat. "The early warning centre at INCOIS continuously monitors seismic and sea-level data. We should be concerned only when an earthquake in excess of 6.5 magnitude strikes."

The early warning centre at INCOIS detects all earthquake events of more than 6 magnitude occurring in the Indian Ocean in less than 12 minutes. Bottom Pressure Records (BPRs) installed in the Deep Ocean are the key sensors to confirm the triggering of a tsunami. The centre uses a custom-built software application that generates alarms/alerts whenever a pre-set threshold is crossed. Tsunami warnings/watches are then generated based on pre-set decision support rules and disseminated to the concerned authorities for action, following a Standard Operating Procedure. When contacted, Director of State Disaster Management N Subbaiyan said some parts of Tamil Nadu, including Chennai, have only reported mild tremors. "There is no threat of tsunami or storm surge. No warnings at this juncture are warranted."

On Tuesday, many Chennaites took to social media to report the tremors. People living in areas like Adyar and neighbouring Thiruvanmiyur said they felt mild tremors, with some Twitter users saying they could even see the furniture 'shaking.'

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