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**CSIR** 



Dainik Jagran | Roorkie | Page 1 | October 4, 2016



#### CSIR-CSIO

## CSIR-CSIO transfers new 'foot water tap technology to private firm

CHANDIGARH: Council of Scientific and Industrial Research-Central Scientific Instruments
Organisation (CSIR-CSIO), Chandigarh transferred the technology of 'Foot controlled water tap' to
M/s Aqua Systems Pvt Ltd, Mohali.

Foot controlled water tap is an innovative mechanism that allows the water tap to be controlled by foot unlike the conventional means of controlling it by one's hand, avoiding contaminants depositing on the tap.

"This technology is aligned with the Swachh Bharat and Swasth Bharat campaign of our Prime Minister and also helps in saving the water resource. Further, this technology does not require any electrical supply and can be easily integrated with the existing systems without modifying any civil installation," an official said.

This product will be marketed under JAL brand and the company will also get this product registered as a green product. "This technology is highly recommended for use at all public places," said an official.

## As part of green mission, Steel City observes no polythene day

#### **CSIR-CIMFR**

No Polythene Day was observed on Sunday with overwhelming support from people of the city. The day saw various activities such as walkathon and interactive awareness sessions to enlighten citizens about the negative impact of the use of polythene on the environment.

A two kilometre walkathon named 'Swachh Jharkhand Harit Jharkhand' organized by JRD Tata Sports Complex drew large number of fitness freaks. The event also saw the participation of top district administration officials including DC, Amit Kumar SSP, Anoop T Mathew and Dhalbhum SDO Suraj Kumar, among others.

"The campaign is a successful bid on the part of the district administration to make the city polythene-free," said DC Amit Kumar.

Meanwhile, in Dhanbad, Gandhi Jayanti was marked with a karate championship, delivery of Gandhi's lessons, cricket match and cultural programmes. Scientists of Central Institute of Mining & Fuel Research (CIMFR) held a cleanliness drive on their premises, where children of the staff also participated. Sanjay Kumar, administrative officer of CIMFR said the drive will continue for a fortnight and will end on the birth anniversary of Sardar Vallabh Bhai Patel.

## Neeri's stove reduces smoke, promises better rural health

#### **CSIR-NEERI**

With World Health Organisation (WHO) identifying indoor pollution being significantly responsible for the declining rural health and high mortality rate in India, National Environmental and Engineering Research Institute (Neeri) has developed 'Neerdhur', a novel multi-fuel domestic cooking stove.

"The unique thing of the stove is that apart from wood, other fuel like coal, cowdung and agricultural residue can also be used in it. It also saves 50% fuel and has high thermal efficiency," said Nitin Labhsetwar, the senior principal scientist (Environmental Materials Division), who started developing the project around three-four years back. He added that the Neerdhur reduces cooking times and is super efficient.

Explaining how the stove came about, he added, "Between 2008 and 2012, Neeri surveyed some 100 rural households and found that there were high emission from traditional stoves. People had poor awareness about their health, and so Neeri felt that there was a need for a stove that can use any biomass."

Explaining how it is different from the traditional brick-based stoves, scientist Ankit Gupta, who was a part of this project, said, "As the existing stoves being used by rural women are tightly packed by bricks, there is insufficient air supply to facilitate proper combustion. This results in higher emissions and lower thermal efficiency."

Where Neerdhur scores is that it has provisions for increased air supply. "The volatile substances which usually do not get burnt in the traditional stoves are taken care of in Neerdhur which has combustion chamber," said Gupta.



Neerdhur has chambers at the top where small wood chips can be inserted to facilitate cooking in limited quantity. In traditional stoves, women use wooden logs even when cooking for a short time. "As per our observation, this would result in fuel wastage. Neerdhur's efficiency level is 33.33% while that of the traditional stove is 12-15%. Wood usage is halved and helps save the pressure on environment," said Labhsetwar.

By using Neerdhur, rural women can hope for better health. "Most suffer from respiratory diseases as they are directly exposed to the smoke. Studies have shown that death rates in India are more due to indoor pollution in rural areas," said Gupta, adding that even slum-dwellers and street vendors can use the stove.

Over 50 stoves were distributed in two villages of Nagpur district more than a year ago. "We have been constantly monitoring and also incorporated modifications as suggested by the villagers," said Gupta, adding that another 100 would be distributed soon.

Neeri's stove has been approved and certified by ministry of new and renewable energy (MNRE) and meets the emission parameters of Bureau of Indian Standards (BIS). "The institute has applied for its patent and registration of six designs of Neerdhur," said Neeri director Rakesh Kumar. The institute is now looking at starting commercial production. "We have called for expression of interest from entrepreneurs and start-ups who can obtain license from us," added Kumar. Neeri expects the cost of Neerdhur to be around Rs 1200 after getting subsidised by MNRE.

## NEERI develops 'Neerdhur' multi-fuel cookstove to control indoor air pollution

#### **CSIR-NEERI**

- NEERI develops the cookstove under CSIR-800 programme that aims at benefitting the underprivileged people in the country
- Already, 50 prototypes of the cookstove have been distributed in two villages of Nagpur district, and 100 more will be distributed soon
- NEERI has applied for patent and registration of six designs of 'Neerdhur

CSIR-National Environmental Engineering Research Institute (NEERI) has developed a domestic natural draft multifuel cookstove 'Neerdhur' that may be helpful in controlling indoor air pollution.

In rural areas, respiratory diseases have been found to be associated with indoor air pollution from solid biomass fuels and use of conventional inefficient cookstoves. World Health Organisation (WHO) has identified rural indoor pollution responsible for significant health burden in India. To combat this situation in India, CSIR-NEERI has developed the novel improved cookstove 'Neerdhur'.

CSIR-NEERI team involved in development of 'Neerdhur' includes S S Waghmare, M N V Anil, Sandeep Chidmalwad, Dr S Rayalu, led by Dr Nitin Labhsetwar and Ankit Gupta. CSIR-NEERI developed this cookstove under its CSIR-800 programme, which aims at benefitting the underprivileged people in the country. 'Neerdhur' has been demonstrated in the field and over 50 prototypes have been distributed in two villages of Nagpur district.



Dr Nitin Labhsetwar, who is co-ordinating CSIR-800 programme at NEERI informed that another 100 cookstoves will be distributed soon in different villages. Also, NEERI will be working on various other activities for the benefit of rural people under this programme.

The cookstove inherits innovative technological know-how for high thermal efficiency, reduced fuel consumption, reduced emissions, reduced cooking time, safety and portability. 'Neerdhur' is approved and certified by Union Ministry of New and Renewable Energy (MNRE) to meet the emission standards of Bureau of Indian Standards (BIS-2013). It has been rated as one of the best cookstoves in terms of thermal efficiency and emissions. Already, NEERI has applied for its patent and registration of its six designs. The novel cookstove can be used by rural households, slum-dwellers, street-vendors, and others using conventional domestic cooking devices.

Dr Rakesh Kumar, Director of CSIR-NEERI, stated that NEERI sought willingness from potential entrepreneurs and start-ups for obtaining licenses for transfer of know-how related to 'Neerdhur' for its commercial exploitation, which will also reduce health burden in rural households.

## CFTRI-GRAAM signs MoU for tribal women self-sufficiency

#### **CSIR-CFTRI**

The Central Food Technological Research Institute (CFTRI) and Grass Roots Research and Advocacy Movement(GRAAM) have signed a memorandum of understanding to support tribal women entrepreneurs to become self-sufficient.

An official statement by the CFTRI said, Prof. Ram Rajasekharan, Director, CSIR-CFTRI, exchanged documents with Basavaraju R, Executive Director of GRAAM recently.

The city based GRAAM has taken up a social business project with the support of NABARD Financial Services Ltd. to facilitate a group of ragi producers to make several value-added products based on ragi and to link them to the nearest market so that the producers benefit by way of increased employment and income. This also supports sustainable ragi production.

Jagankotehaadi in H D Kote taluk has been chosen for the project. This is traditionally a ragi-growing community whose people are familiar with ragi cultivation and production practices. As part of this initiative, a market survey was undertaken in Mysuru city to understand consumer preferences and the ragi products available in the market.

CSIR-CFTRI has developed a large number of value-added products from millets, including ragi, and a majority of these have been commercialised. The products include ragi-based pappads, desertification of ragi, flaking of ragi, malted ragi flour, millet-based cookies, ragi-based murukku mix, convenience powder from ragi suitable for stiff porridge and others.



Under the MoU, CSIR-CFTRI will assist GRAAM with technical consultation for the establishment of a production unit, capacity development, and technical support for streamlining production, including hygiene and quality of packaging system.

Mr Basavaraju thanked the CSIR-CFTRI Director for the support. Healso acknowledged the support from the Swami Vivekananda Youth Movement, an organisation working for the development of tribal communities in H D Kote.

Prof. Ram Rajasekharan said it was a welcome opportunity for CSIR-CFTRI to directly engage with the rural community by offering diverse technology and solutions based on ragi. UNI BSP CNR CS 1350

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#### **CSIR-CRRI**

# अगले १० साल तक चकाचक रहेंगी दिल्ली की सड़कें

वीके शुक्ला, नई दिल्ली

दिल्ली की प्रमुख सड़कें अब 5 साल की जगह 10 साल तक चकाचक रहेंगी। दिल्ली सरकार सडकों की मरम्मत इस तरह से कराएगी कि 10 साल तक खराब नहीं होंगी। सरकार ने इसके लिए सेंट्रल रोड रिसर्च इंस्टीट्यूट (सीआरआरआइ) को अध्ययन करने का काम सौंप दिया है। लोक निर्माण विभाग के एक वरिष्ठ अधिकारी ने बताया कि सीआरआरआइ ने कुछ सड़कों के बारे में प्राथमिक स्तर की रिपोर्ट दी है। इसमें बताया गया है कि किन सड़कों को इस योजना में शामिल किया जा सकता है, लेकिन इस बारे में विस्तृत रिपोर्ट मांगी गई है। योजना पर काम शुरू करने से पहले आइआइटी दिल्ली की भी राय ली जाएगी। सडकें 10 साल बाद बनेंगी तो सरकार का काफी पैसा बचेगा और सड़कों पर जमती परत भी कम होगी।

सडकों की औसत उम्र पांच साल मानी जाती



है। सीआरआरआइ के एक वरिष्ठ अधिकारी का कहना है कि ठीक से मरम्मत की जाए तो दिल्ली की कई सड़कों को 10 से 12 साल तक बनाने की जरूरत नहीं पड़ेगी। सड़कों के निर्माण के कार्य में जुटी कई एजेंसियां नियम के तहत सड़कों का निर्माण नहीं कराती हैं। सड़कों के कुछ खराब होने पर उन्हें परी तरह से बना दिया जाता है। कई तकनीकी पहलुओं पर ध्यानं नहीं दिया जाता हैं. जिससे सड़कें जल्द खराब हो जाती हैं। पुरानी होने पर सड़कों का अध्ययन सीआरआरआइ से कराना चाहिए। सीआरआरआइ बैंकलमैन बीम टेस्ट से इस बात का पता लगाती है कि सड़क कितनी मजबूत है। बनाए जाते समय मीटाई कितनी थी और अब धिस कर कितनी रह गई है, सड़क पर बाहनों का लोड कितना है सीआरआरआउ को रिपोर्ट के तहत ही सड़कों का निर्माण किया जाना चाहिए। पूरी प्रक्रिया नहीं अपनाने से सड़कों की मीटाई बढ़ती जा रही है। विशेषज रहे हैं।

सड़कों का होगा काराकल्प नई दिल्ली: मानसून के दौरान खस्ताहाल हुईं सड़कों की दशा सुधारने के लिए दिल्ली सरकार ने कमर कस ली है। योजना के तहत 362 किलोमीटर सड़कों की मरम्मत की जाएगी। यह कार्य दिसंबर से पहले पूरा कर लिया

जाएगा। योजना में दक्षिणी दिल्ली की 50 से अधिक सडकें शामिल हैं, जिनमें लगभग सभी प्रमुख मार्ग शामिल हैं। उत्तरी दिल्ली में 100 सड़कें ठीक की जाएंगी। उत्तरी पश्चिमी दिल्ली की 13 सडकों को 15 किलोमीटर तक ठीक किया जाएगा। पूर्वी दिल्ली में सरकार ने यह कार्य रविवार से शुरू कर दिया है। यमुनापार की कई प्रमुख सड़कों पर परेशानी जल्द दूर होगी। इसमें पटपड़गंज मार्ग पर मध्बन चौके से गणेश नगर चौक के बीच की सड़क भी शामिल हैं। उपमुख्यमंत्री मनीष सिसोदिया ने रविवार के नौ सड़कों के पुनर्निर्माण कार्य का उद्घाटन किया था। सीमापुरी चौक पर उपमुख्यमंत्री ने छह सड़कों के पुनर्निर्माण कार्य को हरी झंडी दिखाई। यहां सीमापुरी बस डिपो से मुगनयानी चौक, गणन सिनेमा से हर्ष विहार टेलीफीन एक्सचेंज रोड से सीएनजी पंप तक, लोनी फ्लाईओवर और गणन सिंगेमा से वाहितप तिराहे तक की सडक फिर से बनाई जाए

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## Indian scientists inch closer to treating deadly fatty liver disease

#### **CSIR-IICB**

Advancing the hunt for elusive therapeutics against non-alcoholic fatty liver disease (NAFLD), the most common liver affliction across the globe, the Indian researchers have discovered a new mechanism through which the liver hoards up extra fat from sources other than alcohol.

They have also identified a brand new drug target for potential therapy for the disease, that tends to develop in people who are overweight or obese or have type-2 diabetes.

NAFLD affects more than 30 per cent adult Indians and occurs when more than 5 to 10 per cent of the liver's weight is fat.

There is no definite therapy for the disease.

Moreover, a significant number of NAFLD patients progress to the most extreme form of the disease called non-alcoholic steatohepatitis (NASH), an irreversible clinical condition that causes the liver to swell and become damaged and trigger cirrhosis in adults.

The senior researcher Partha Chakrabarti's research group along with Saikat Chakrabarti's laboratory at Indian Institute of Chemical Biology, a unit of CSIR, decided to take a shot at the silent, crippling disease that evolves over decades, its prevalence advantaged with low public awareness.

They literally copped their eyes on to the cell's protein degradation machinery to zero-in on the target protein COP1.



"We find that inhibition of COP1 can significantly reduce liver fat in NAFLD. However, it is still not clear whether COP1 can halt disease progression or can prevent NASH. We are currently working in this direction," Chakrabarti added.

The study has been published in September in the journal Diabetes, from American Diabetes Association (ADA).

According to CSIR-IICB Director Samit Chattopadhyay, the development will motivate the scientific community to come up with new solutions to this global problem and is "geared towards India's goal of delivering translational research outputs to the nation."

## Mysuru firms set to take affordable food technology to the grassroots

#### **CSIR-CFTRI**



The Central Food Technological Research Institute has developed a large number of value-added products from millets, including ragi.— file PHOTO: M.A. SRIRAM

The Central Food Technological Research Institute (CFTRI) and Grassroots Research and Advocacy Movement (GRAAM), both of which are based in Mysuru, signed a memorandum of understanding recently to support tribal women entrepreneurs to become self-sufficient.

At a function held at CFTRI, Prof. Ram Rajasekharan, Director, CSIR-CFTRI, exchanged documents with Basavaraju R., Executive Director of GRAAM.

GRAAM has taken up a social business project with the support of NABARD Financial Services Ltd. to facilitate a group of ragi producers to make several value-added products based on ragi and to link them to the nearest market so that the producers benefit by way of increased employment and income. This also supports sustainable ragi production.

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Under the MoU, CSIR-CFTRI will assist GRAAM with technical consultation for the establishment of a production unit, capacity development, and technical support for streamlining production, including hygiene and quality of packaging system.

Mr. Basavaraju thanked the CSIR-CFTRI director the support. He also acknowledged the support from the Swami Vivekananda Youth Movement, an organisation working for the development of tribal communities in H.D. Kote.

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#### CSIR\_CSMCRI

## सीएसआईआर-केन्द्रीय नमक व समुद्री रसायन अनुसंधान संस्थान में हिन्दी सपाह का आयोजन

भावनगर। सीएसआईआर-केन्द्रीय नमक व समुद्री रसायन अनुसंधान संस्थान, भावनगर में 5 से 14 सितंबर के दौरान हिन्दी सप्ताह विविध प्रतियोगिताओं के आयोजन द्वारा उत्साहपूर्वक मनाया गया। 14 सितंबर, हिन्दी दिवस को आयोजित समापन समारोह में मुख्य अतिथि के तौर पर ज्योति प्रकाश पाण्डेय, मंडल रेल प्रबंधक, भावनगर आमंत्रित थे। अपने प्रासंगिक व्याख्यान में मुख्य अतिथि ने देश की वर्तमान परिस्थिति पर प्रकाश डालते हुए प्रत्येक देशवासी से हिन्दी भाषा के विकास एवं अनुप्रयोगों को बढ़ावा देने हेतू सकारात्मक अभिगम और देश के प्रति अपने दायित्व को समझकर कार्य करने का अनुरोध किया। संस्थान के निदेशक डॉ. अमिताभा दास ने कहा कि हिन्दी भाषा के उत्थान एवं उसके प्रगामी-प्रयोगों को बढावा दिये बिना देश का सही मायने में विकास संभव नहीं है। उन्होंने संस्थान में राजभाषा कार्यान्वयन की सराहना करते हुए हिन्दी विभाग को बधाई दी। समारोह में सप्ताह के दौरान आयोजित विभिन्न प्रतियोगिताओं के विजेताओं तथा हिन्दी विषय में सर्वाधिक अंक प्राप्त करने वाले कर्मचारियों के बच्चों को पुरस्कृत किया गया। हिन्दी कार्यान्वयन में वृद्धि हेतु विशेष प्रयासरत अधिकारियों को भी सम्मानित किया गया। कार्यक्रम की परिकल्पना तथा संचालन वैज्ञानिक एवं राजभाषा अधिकारी, डॉ. कान्ति भूषण पाण्डेय तथा धन्यवाद ज्ञापन संस्थान के वरिष्ठ मुख्य वैज्ञानिक, डॉ. परिमल पॉल ने किया।