

# CSIR in Media



*75 Years of*  
**CSIR Touching Lives**  
**News Bulletin**  
**11<sup>th</sup> to 20<sup>th</sup> March 2019**





## Groundwater fast drying up in city

CSIR-NGRI

20<sup>th</sup> March, 2019



NGRI Director, scientist V M Tiwari said that the levels might dip to another five meters by the end of May 2019. According to NGRI study, the rampant use of water from the borewells has created the situation worst. There are about 18 lakh borewells in Greater Hyderabad Municipal Corporation limits as per the records.

Hyderabad: According to a recent report by NITI Aayog, Hyderabad would run out of groundwater by 2020. The National Geophysical Research Institute (NGRI) scientists too agree with the report. Despite excessive rainfall in 2017-18, the city received only 1,123 mm of rain, nearly 44 % higher than the normal rate that is 750-800 mm, yet the groundwater levels are far from satisfactory and depleting levels continues to be at an alarming state. The water experts say that rapid growth of colonies with 95 per cent of concretisation leaving minimal space for gardens or lawns and a huge populace drawing groundwater without replenishing it are the main reasons. The groundwater levels in the city saw fluctuations at an alarming scale in the past 10 years. The groundwater level in 2018 was at 7.3 mt depth, in 2017 it stood at 9.3 mt, in 2016 at 12.5 mt, in 2015 at 11.8 mt, in 2014 at 9.46 mt, in 2013 at 7.39 mt, in 2012 at 6.2 mt, in 2011 at 5.5 mt, in 2010 at 5.2 mt and in 2009 at 6.1 mt. Groundwater is being exploited with the increase in population and using water indiscriminately to meet the domestic and irrigation needs. The groundwater is drawn through shallow and deep bore wells that are dug up to a depth ranging from 100-300 ft depending upon the geological terrain of the area.



Normally, borewells are dug up to 150 ft, but recently there have been fresh requests from residents in some areas for digging borewell below 400 ft. The revenue officials permit borewell digging up to 400ft only and that after groundwater department's scrutiny and submission of a feasibility report. But sources allege that locals manage revenue officials to dig borewells beyond 400 ft. It is learnt that in areas like Shaikpet, which has a rocky terrain beneath, residents are digging borewells up to 800 ft. The drainage and industrial effluents percolating and mixing with groundwater has also affected the quality of groundwater which is now non-potable due to high presence of totally dissolved solids (TDS) and toxins and heavy metals like lead, iron, chromium, zinc was found in the water, as per the report of NGRI. The worst-affected areas of depleting groundwater are West Marredpally, Trimulgherry, Medchal, Asifnagar, and Charminar. There is a slight depletion in the groundwater levels in areas like Ameerpet, Sanjeevareddy Nagar, Erragadda, Khairatabad, and Nampally. Hyderabad is a hard rock land, and that is the reason only 10-20 percent of rainwater reaches the ground and rest washes away. The present population in Hyderabad is 9.7 million and by 2025 it might be 11.65 million and demand of the ground water will be double. Visualizing this situation in mind, CSIR-National Geophysical Research Institute (CSIR-NGRI) and Telangana State Ground Water Department (TSGWD) are jointly executing a National Hydrology Project, which started on January 2019. CSIR-NGRI principal scientist and head PME, Dr M J Nandan said a study is being conducted on the impact of urbanisation on groundwater quality and management in Hyderabad and it aims at a comprehensive understanding of the groundwater quality issues in the city. The state Government is trying to connect all the places through surface water supply as said by higher officials of NGRI. Guidelines for rain/roof top water harvesting structures Recharge structures should be designed and constructed in favourable geological conditions i.e. permeable soils followed by murram etc. The structures should not be taken up in impervious clayey soils, rock and steep sloped areas. Recharge structures should be preferred for recharging to depleted aquifers with deep water table. They should not be taken up in the shallow water table areas. The depth to water level should be not less than 5 to 6 meters in post-monsoon period.



Recharge structures should be taken up with unpolluted surface water only. Adequate precautions should be taken to prevent entry of polluted urban surface runoff water, sewerage water into recharge structures. Recharge structures should be planned and taken up in over exploited and critical areas experiencing intensive ground water development for various uses. All existing kuntas and tanks in and around the urban agglomeration areas are to be protected against encroachments and should be converted as percolation ponds and tanks. The polluted drainage and other industrial pollutants should not be allowed to let into these tanks. Ground water recharge through shafts is preferable in steep slope areas.

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## AAU-NEIST will help farmers with new device, says NEIST director

CSIR-NEIST

19<sup>th</sup> March, 2019

Jorhat : Assam Agricultural University (AAU) and North East Institute of Science and Technology (NEIST) will come together to serve the farmers and will empower the people with the knowledge we have, as we have acquired a vast knowledge and if we do not help to empower the people than it will have no meaning of our knowledge so we like to ensure you that not only to the farmers of Assam or Jorhat but for the farmers of the North east and India we will help with our knowledge of new technologies and development to empower and connect the slogan-Jai Kisan, Jai Jawan with the farmers who contributes 80% of their direct or indirect involvement to keep the country's economy stable and to find solutions for its growth, said Dr. G Narahari Shastry, Director of CSIR-NEIST while attending as the chief guest on the occasion of Zila Krishak Samaroh organized by Krishi Vigyan Kendra and Department of Extension Education, AAU, Jorhat at the Dr. Madhav Chandra Das memorial auditorium hall at the AAU campus here today.

Dr. Kamal Malla Bujabaruah, the vice chancellor of AAU who attended as the guest of honour on the occasion asked the farmers to stop crying and find solution for better farming, to find path to solve the problems only than we will find solution and solution will give us all, but at the same we need to maintain transparency when we go far finding solution for any work than there will be no problem at all.

Farm cluster or self help group of 10 to 20 members for continuity for a certain farming with the concept of land banking like the Corporate Sector (e.g. cultivating a particular crop in a huge area a share o 10 to 20 farmers of land ) through which one will get its share in a bigger way from its land share from that particular crop farming as there is a need for a change, and the concept through which the marketing sector for that a



particular product will be easy through which each one from the sector will know each other. Only than the hardship and hurdles being faced by the farmers and to stop corruption will be stopped when the farmers go for getting benefit and when you be in cluster you will be safe from the hurdles for the benefits offered from the Central government schemes, said Dr. KM Bujarbaruah .

Four progressive farmers from the district Anita Gogoi (for handloom and Textile), Sanjay Pegu (Rabi and Kharif crop), Prasanta Hazarika (fishery), Rontu Phukan (poultry) were awarded for their outstanding performance in production for the following products under the Krishi Vigyan Kendra, Jorhat while Dr. Phuleswar Nath , incharge of KVK, Jorhat and Dr. Prasanna Kumar Pathak, Director, Extension Education, Dept. of Extension Education elaborated the relation between the farmers and Scientists for exchanging new technology development which AAU scientists giving their best for income generating farming by taking help from KVKs in the state of Assam.

Along with the Krishak Samaroh coinciding with the yearlong Golden Jubilee celebration of Assam Agricultural University an Awareness and Training program on the theme“ Role of Birds in Agriculture”, World Sparrow Day -2019 sponsored by ICAS-AINP on VPM on Agricultural Ornithology was held during the day long samaroh here, said Dr. Phuleswar Nath, the organizer of KVK, Jorhat.

An exhibition was organized on the occasion of Krishak Samaroh which attracted the farmers and others present on the occasion.

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# आईआईपी ने नई तकनीक का बर्नर बनाया

देहरादून | कार्यालय संवाददाता

सीएसआईआर-इंडियन इंस्टीट्यूट ऑफ पेट्रोलियम( आईआईपी ) ने पाइप नेचुरल गैस( पीएनजी ) से प्राप्त होने वाली घरेलू कुकिंग के लिए नई तकनीक वाले पीएनजी बर्नर को विकसित किया है। शुक्रवार को इस बर्नर के व्यवसायिक उत्पादन के लिए 25 कंपनियों से करार किया गया।

पेट्रोलियम कंजरवेशन रिसर्च एसोसिएशन( पीसीआरए ) के सहयोग से तैयार पीएनजी बर्नर से देश को सालाना आठ हजार करोड़ रुपये मूल्य की घरेलू कुकिंग गैस की बचत होगी। निदेशक आईआईपी डा.अंजनरेने बताया कि करार



आईआईपी में नया बर्नर दिखाया। • हिन्दुस्तान के तहत विशेष ऑफर के तहत कंपनियों को चालीस हजार रुपये की लाइफटाइम फीस पर लाइसेंस का करार किया गया। पेटेंट के नियमों के अनुसार आईआईपी को

बीस साल तक इस बर्नर से बने प्रति स्टोव पर साठ रुपये व सिर्फ बर्नर बनाने पर पचास रुपये प्रति तीन बर्नर रॉयल्टी प्राप्त होगी। आईआईपी वैज्ञानिकों द्वारा विकसित किए गए बर्नर से घरेलू कुकिंग क्षेत्र में काफी बदलाव आएगा। एलपीजी के मुकाबले पीएनजी बर्नर कीमत में कम और अधिक किफायती हैं। देश में इस समय 30 लाख लोग पीएनजी कनेक्शन का प्रयोग कर रहे हैं। लेकिन इसमें पुराने एलपीजी सिलेंडर वाले गैस बर्नर का ही प्रयोग होता है। जो सिर्फ एक जुगाड़ है। मौके पर पीसीआरए के एक्जीक्यूटिव डाइरेक्टर आलोक त्रिपाठी, डाइरेक्टर सुरेन्द्र प्रताप, डा.एके नायर, डा.डीसी पांडे मौजूद रहे।

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Hindustan



## Curtains come down on E-waste Management programme at NML

CSIR-NML



**Jamshedpur:** The valedictory function of the four days Skill Training Programme on Entrepreneurship Development on E-waste Management (EDEM 2019), which was organized by CSIR-National Metallurgical Laboratory, Jamshedpur at the Lecture hall of CSIR-NML. This training program was organized under the CSIR Integrated Skill Initiative Program for development of Entrepreneurship. Electric appliances have become an integral part of our life. Its uses are widely promoted but its reuse has never been highlighted. Entrepreneurship development on E-waste management conducted by CSIR-NML is the talk of the town. It has taken into account all the major

16<sup>th</sup> March, 2019 possibilities for entrepreneurs to invest their thoughts and money in E-waste management. It included different aspects of selective recycling and reusing. E-waste is the fastest growing industry in need of more attention. Entrepreneurs are trained as excellent brain storming individuals to get the best out of waste. With all these thoughts CSIR-NML successfully organized four day Skill training Programme on E-waste Management. Dr. Indranil Chatteraj, Director, CSIR-NML, addressed the participants and congratulated the participants for successfully completing the training programme. He mentioned that this was the beginning towards E-waste and more work needs to be done in future.

Dr. Sanjay Kumar, Senior Principal Scientist, Metal Extraction & Recycling Division, highlighted about the emerging job and business opportunities in the area of E-waste. Dr. Soumitra Tarafder, Advisor Management, talk about the major problem in collecting E-waste. He focused on the thought process of the people which is



needed to be changed so as to manage e-waste. He told that e-waste are the urban ore which needs to be recycled in proper manner so as to benefit the environment as well as society. He also mentioned that this training programme will help the participants to communicate with others and spread awareness about E-waste management. Dr. Tarafder, distributed the training certificates to 23 participants from institutions and organizations all over the country such as TSTI NTTF (Jamshedpur), Rassaa Creation and Innovation Pvt. Ltd. (Jamshedpur), JUSCO (Jamshedpur), GIET (Jamshedpur), Arka Jain University (Jamshedpur), RVSCET (Jamshedpur) and ERS (Jaipur).

Dr. Amitava Mitra, Head-Research Planning and Business Development talk about the opportunities in field of E-waste Management. He mentioned that this training programme is a small initiative of CSIR-NML, for aspiring entrepreneurs in the field of E-waste management and creating trainers who will train other people in the industry and ultimately create awareness in the society. He highlighted one of the articles of IBM Chief Frowns on Indian Skill Sets according to which there is abundant of job but we are lagging behind in skills. So, these kinds of training programme help people to develop skills.

Dr. Mita Tarafder, Senior Principal Scientist, Research Planning and Business Development, shared the feedback received from the participants and discussed the remarks given by them. She also mentioned that the shortcomings will be improved and suggestions will be implemented in future to design the training programmes better.

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## CSIR bats for green 'biocoal'

CSIR-NPL

14<sup>th</sup> March, 2019

Against the backdrop of Prime Minister Narendra Modi's clarion call to the scientists to find a 'concrete solution' to deal with the problem of stubble burning, the country's premier research agency, Council of Scientific and Industrial Research (CSIR) has pitched in for conversion of paddy biomass into green 'biocoal' to be used in thermal power plants as one of the possible environment-friendly steps to check the menace which chokes Delhi and NCR region, particularly during winters. Scientists from one of the CSIR's labs, National Physical Laboratory (NPL) in a study published in the latest edition of *The Current Science*, said this conversion of paddy stubble into green product biocoal through torrefaction process would also help farmers to earn money using the agriculture residue. They maintained that the biocoal which has the calorific value equivalent to that of bituminous coal can be used as an alternative fuel in thermal power plants. By optimizing the processing parameters of torrefaction process, desired calorific value of torrefied product has been archived, as per the study conducted in Haryana. It also pointed out that 10 per cent use of torrefied product with coal can consume 140 million tonnes of rice straw and as a consequence, it reduces the consumption of fossil fuels. If adopted, the technology which is already in vogue in the western countries can help reduce not only consumption of fossil fuels, but also cut down the environmental pollution and greenhouse gas (GHG) emission. Similarly, residue of other crops like wheat, sugarcane, oilseed, maize and cotton which is estimated to be around 500 million tonnes in the country, can be used as biocoal in thermal plants after torrefaction. The suggestion holds importance given that presently, to dispose the rice straw for making field ready for next crop, farmers are burning it in the fields itself particularly in States like Punjab, Haryana, Uttar Pradesh, Jammu Kashmir and Uttarakhand posing lot of environmental, health and economic issues.. This despite State Governments' offers such as subsidy, machines as well as



warning to impose penalty in case of violation. However, the team of scientists comprising of SR Dhakate, Abhishek K Pathak, Prateek Jain, Mandeep Singh, B P Singh, KM Subhedar, SS Sharda and RK Seth, said that “once farmers get monetary incentive for the waste, burning can be stopped in the fields and it can be used as a source of renewable energy and the country can become self-reliant for energy generation.”

Modi had last December while addressing the farmers’ conclave “Krishi Kumbha” in Lucknow through video conferencing too raised his concerns on increasing smog caused by stubble burning as he urged scientists to find concrete solution to stubble burning.

Being agriculture-based country, India generates more than 600 million tonnes of biomass waste from different crops and produces 140 million tonnes of rice straw alone annually.

Most of the stubble burning takes place over three weeks in October-November, releasing particulates and smog-forming carbon monoxide and nitrogen oxide, which drift from the fields over almost the entire Indo-Gangetic plain. This pollution contributes around 12-60 per cent of particulate concentrations depending on the generation of other pollutants in different locations, winds, temperature and other local factors, according to reports.

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[Daily Pioneer](#)



## CSIR-IMMT skill devp programme begins

CSIR-IMMT

13<sup>th</sup> March, 2019



**Bhubaneswar:** Drawing inspiration from Skill India initiative of the government and realising the importance of linking economic development with human resource and the need to create opportunities, space and scope for the development the Indian youth, CSIR-(IMMT) Institute of Minerals and Materials Technology Tuesday started a skill development programme which will continue till March 28. In this programme, emphasis is being given on specialised courses related to advance machining and advance welding thereby enhancing/upgrading the skill level to cater to the need of the industry. CSIR-IMMT, Bhubaneswar is conducting a certificate

course and a workshop on “Advance Machining/Advance Welding”. The training programme was inaugurated by Swati Mohanty, Head, HRD, P C Beuria, HOD, Workshop, S K Pradhan, Skill Development Coordinator and R K Mandal, In-charge, Workshop of CSIR- IMMT Bhubaneswar.

Students from different ITIs and engineering schools are participating in the course which is of three-week duration. The Central Mechanical Workshop of CSIR-IMMT is well equipped with different modern and state-of-the-art machinery like conventional lathe m/c, Milling m/c, Surface Grinder m/c, Shaping m/c, Radial drilling m/c, CNC Lathe, CNC Milling and CNC EDM m/c to cater different R&D requirements of the scientists. All the machinery are supported by well trained technical manpower and advance CAD & CAM software are used to carry out precision works. Swati Mohanty said the objective of this program is to translate the knowledge of Mechanical Workshop technology covering advance



mechanical machine tools (CNC Turning/CNC Milling/Wire EDM) and advance welding operations such as TIG, MIG, spot welding and plasma cutting among others. More thrust will be on practical hands-on training (20 per cent theory and 80 per cent practical with hands-on practical exposure to different machinery).

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[Orissa Post](#)



## NML imparts lessons on E-waste management

CSIR-NML

12<sup>th</sup> March, 2019



**Jamshedpur, March 12 :** In order to reach out to a larger section of the society for skill training and entrepreneurship development, CSIR- National Metallurgical Lab (NML) is organising training programs under the aegis of CSIR Integrated Skill Training Initiatives. The focus of this training programme is to recycle and generate employment through e-waste product as it is of no use once out of service and is thrown as waste and that turns to be hazardous garbage. The workshop started today with 22 participants from across the country. Ideas like extraction of metals from phones, laptops and other electronics in an organised sector and creating employment by rag pickers and developing research and development units are some of the ideas that were discussed on the first day of the four day workshop. While welcoming the gathering, Dr. Mita Tarafder, Chief Scientist, CSIR-NML talked about the outcome of this programme and how the participants will be benefitted. She also gave the brief description about the four days training programme. Dr. D Bandhopadhyay, Head-Materials Engineering Division, CSIR-NML, welcomed the participants and appreciated them for coming to CSIR-NML to attend this four days training programme during 12-15 March 2019. Dr. S.K. Das, Acting Director, CSIR-NML focused on enhancement of knowledge and skills. He also emphasized on segregation of e-waste rather than making it more complex. He also underlined that we should not burn as it is not good for nature aspects. He also pulled attraction towards and untouched topic on landfills, as it make the soil toxic. Dr. A. Mitra, Chief Scientist, CSIR-NML informed



that this programme is conducted by the Government of India throughout the nation with an expectation of futuristic thought of elite management of e-waste and turning it into monetary gain.

Dr. Sanjay Kumar, Sr. Principal Scientist, CSIR-NML briefly described about the umbrella programme. He also kept his valuable verdicts on crises through e-waste and the technological gap. After the inaugural session, there was an interactive session between the participants which was followed by lab visit and group discussion.

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## State govts reach out to Pune-based NCL seeking scientific solutions to detect spurious liquor

CSIR-NCL

11<sup>th</sup> March, 2019



STATE GOVERNMENTS of Assam, Uttar Pradesh and Uttarakhand have reached out to city-based CSIR-National Chemical Laboratory (NCL) to look for scientific solutions to detect spurious liquor to help curb incidents related to consumption of illicit liquor. This was prompted by three major tragedies involving consumption of illicit liquor that killed hundreds in these states in February. A team of scientists from NCL visited Assam last week and interacted with members of the excise department. “Our scientists were in Assam for some other official duty last week. But, during an interaction with the excise department, the team was asked if the NCL could help

develop any solution that could easily detect spurious chemicals in country liquor. However, the NCL is yet to accept the proposal as we are taking stock whether the laboratory can actually develop such a solution. Also, the NCL has not developed anything like this before, so we are yet to finalise,” an official spokesperson from the NCL told The Indian Express on Friday.

Over 150 tea estate workers hailing from Golaghat and Jorhat districts of Assam had died after consuming illicit liquor, last month. Not only this, over 70 people died in a similar hooch tragedy in UP and Uttarakhand in February.

Chemicals such as methyl alcohol are added to country liquor, often sold at low prices, to spike alcohol levels. It is, however, unknown whether the NCL will develop a possible solution. It is also unclear as to who will be using this solution aimed at tracing harmful chemicals mixed with liquor.



Despite repeated attempts, The Indian Express could not speak to the team that visited Assam or ascertain if the NCL was planning to develop any such solution.

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[The Indian Express](#)





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