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# THE HINDU

## **Farmers to produce bio-control agents**

Farmers in 10 select villages in the district will produce bio-control agents with to restore the conventional method of cultivation free from pesticides.

The programme being implemented at an estimate of Rs. 9.75 lakh had been sanctioned under the State Balanced Growth Fund scheme of the State Planning Commission.

The programme was to be implemented in Venkatakrishnapuram, Thelur, Nagamangalam, Dhalavai, Ayyanthathanur, Melanikuzhi, T. Solankurichi, Karaikurichi, Anaikudam, and Muttuvancherry.

The people of the village would produce bio-control agents such as *Trichoderma viride*, *Trichogramma chilonis*, Reduviid bugs, and fruit-fly traps.

“Plant health management and sustainability in irrigation by avoiding indiscriminate use of pesticide is the main agenda of the programme,” said N Pannerselvam, Joint Director of Agriculture.

Select farmers from these 10 villages had undergone training in making the bio-control agents at the National Institute of Plant Health Management in Hyderabad. Farmers interest groups (FIG) have been formed in all the villages. “Our mission is to increase usage of bio control agents in agriculture and to reduce the usage of harmful chemical pesticides and thereby increase returns for farmers,” said Mr. Pannerselvam.

The objective of the programme was to produce non-toxic food grains through adoption of ecological engineering based PHM and AESA agri eco-system analysis based IPM approaches

Bio intensive approach had come to stay in the present-day scenario. Farmers using bio-cultivation strategy, earned more profit.

A capacity-building training to Farmers Interest Groups was organised recently about 45 farmers are trained by Department and NIPHM trained master trainer's.

N. Paneerselvam, Joint Director of Agriculture, stressed on sustainability and forthcoming marketing support.

K. Muralidharan, Assistant Director Quality Control, demonstrated on Agro Eco System analysis.

R. Mohan, Assistant Director of Agriculture, Ariyalur, spoke on farm production of *Trichoderma viride*.

D. Rajendran, agricultural officer, demonstrated skill development.

### **Mechanisation of sowing to be popularised in Pudukottai district**



S. Ganesh, Collector, inspecting the tractor-drawn direct sowing of seeds near Aranthangi in Pudukottai district on Thursday.

The Agriculture Department will popularise mechanisation in sowing during the “samba” season among farmers, said S. Ganesh, District Collector.

Addressing farmers and officials during the surprise inspection of fields at Ekaperumalaur near Aranthangi in the district on Thursday, the Collector

referred to the problem caused because of shortage of labourers and said that the mechanisation could help overcome the problem.

The Collector interacted with farmers and ascertained the advantages of the mechanical transplanter.

M. Thiyagarajan, Assistant Director of Agriculture, said a meeting of paddy farmers had been convened for explaining the advantages of mechanisation for direct sowing of seeds. It not only improved efficiency and speed for sowing the seeds but also brought about economy without any wastage.

Earlier, the Collector inspected the work on the Mahatma Gandhi National Rural Employment Guarantee Scheme at Ekanivayal and Manamelkudi.

### **Sensitisation workshop on rural infrastructure development fund**

A regional sensitisation workshop on ‘Rural infrastructure development fund’ for State government officials was organised by National Bank for Agriculture and Rural Development (NABARD) here on Thursday.

Officials from various departments, including Rural Development, Animal Husbandry, School Education, TWAD, Public Works, and Aavin – working in Tirunelveli, Tuticorin and Kanyakumari districts – participated in the workshop to clarify their doubts on getting NABARD’s assistance for creating permanent infrastructure / assets in rural areas.

Explaining the salient features of rural infrastructure development fund (RIDF), Arthanariswaran, Deputy General Manager, NABARD – Tamil Nadu Regional Office, Chennai, said the bank had so far funded Rs. 2.30 lakh crore-worth projects across the country to help rural population. For Tamil Nadu, NABARD would fund Rs. 1,900 crore-worth projects this fiscal.

“Utilisation of NABARD’s funds and repayment of loans to NABARD in Tamil Nadu is better than the national average,” Mr. Arthanariswaran noted.

When the participants wanted to have NABARD's funding for additional classroom buildings, toilets and drinking water facilities in schools, desalination plants in coastal hamlets, godowns to store food grains, rural roads, etc., he asked them to forward their proposals through the State government on time with the mandatory approval so that fund release would be easier.

He urged the officials of Tuticorin and Kanyakumari districts to make use of the funds being made available by NABARD for strengthening rural infrastructure while lauding the performance of Tirunelveli district.

“Take all-out efforts to complete the projects before the stipulated deadline in a bid to avoid cost escalation. For this, you should have a clear detailed project report before commencement of the projects. Whenever the gross domestic product of Tamil Nadu increases through your performance, NABARD's funding will also go up,” he said.

Project Director, District Rural Development Agency, Tirunelveli, H. Vijayakumar highlighted the performance of his department during the previous and current fiscal.

Chief General Manager, NABARD – Tamil Nadu Regional Office, Chennai, K. Venkateswara Rao, who was scheduled to inaugurate this meet, visited good number of rural projects completed with NABARD's funding in northern and northwestern Tirunelveli and met the participants only after the inspection.

### **UAS Dharwad to host Krishi Mela from Sept. 25**

University of Agricultural Sciences, Dharwad, will organise the annual four-day Krishi Mela on their campus here from September 25.

Organising committee chairperson V.I. Benagi said in a release that the theme of this year's Krishi Mela is 'Farmers' Self-Esteem – Farm Stability'. Besides organising an exhibition-cum-sale of agriculture-related products, seminars will be held to provide space for discussing farmers' issues and

ways to solve them. Different stakeholders, including producers and manufacturers of agricultural inputs, distributors, dealers, extension functionaries of government and non-governmental organisations, and scientists will participate.

During the mela, UAS-Dharwad will present district-level Shresta Krishika and Shresta Krishi Mahile and taluk-level Shresta Yuva Krishika and Shresta Yuva Krishi Mahile awards.

*The theme of the mela is ‘Farmers’ Self-Esteem – Farm Stability’*

### **eSagu to the rescue of farmers**

*Initiative by IIIT to promote modern crop protection measures*



The notice board promoting the effectiveness of eSagu at Bulkapur village in Ranga Reddy district.— Photo: Mohd. Arif

Visual aids have for long been very effective in communicating a message. They proved to be effective once again for eSagu, an initiative by Indian Institute of Information Technology (IIIT), which aims at spreading awareness among farmers about modern crop protection measures.

When the cotton crop cultivated by B. Gopal Reddy, a farmer of Bulkapur village in Ranga Reddy district, was attacked by pests, the coordinators of the project took colour photos of the standing crop and displayed them on a

notice board in the village. Along with the photographs, the fertilizer and pesticides applied to save the crop were written in Telugu and displayed. Following this, many other farmers, whose crop was also affected by same pests, followed the instructions and saved their crops.

Similar was the case with Itiakapally Buchiraju who cultivated maize, brinjal, tomato and bitter gourd. Other vegetable growers could save their crops after seeing the visuals and following the instructions displayed on the board.

IIT Hyderabad launched the e-Sagu initiative, which is supported by Bharat Electronics Limited (BEL), under corporate social responsibility (CSR). The project is being carried forward in association with agriculture and horticulture universities. The year-long project covers 25 villages under which farmers will be issued scientific agro advisories for every 10 days.

### **Remedial steps**

The coordinators appointed under the project would tour the fields, takes photos and upload them so that the scientific experts at IITH who would go through the photos and suggest remedial measures to farmers.

“We are aiming at reducing the input costs and increasing the yields. We are ready to extend whatever scientific advises we have to give. We are here to help you. Use the opportunity,” said Prof. P. Krishna Reddy of the IITH Agriculture Research Centre, told the farmers of Bulkapur after formally inaugurating the display notice board at the Panchayat office on Thursday.

Dr. B. Bhaskar Reddy, a retired professor in agronomy, said that farmers were unnecessarily pumping money for use of fertilizer and pesticides, which could be reduced drastically. “Instead of scientists coming to the field, details are going to them and they are making the required suggestions. Add scientific knowledge to your experience,” he told villagers.

## KVASU to launch hi-tech vet services

*eVetConnect extends round-the-clock healthcare services to dairy farmers and pet owners*



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**September 7**

**Initial services**  
in 3 Assembly  
constituencies of  
Ollur, Thrissur,  
Kalpetta

The Kerala Veterinary and Animal Sciences University (KVASU) is all set to provide high-tech services to dairy farmers.

KVASU eVetConnect, a unique model for veterinary connectivity developed by the KVASU Entrepreneurship Directorate, will provide 24x7 services for animal care across the State.

Chief Minister Oommen Chandy and Agriculture Minister K.P. Mohanan will jointly launch the service on September 7. Veterinary experts often find it difficult to provide emergency services due to increasing demand by dairy farmers and pet owners, says KVASU Vice Chancellor B. Ashok. “Moreover, services after working hours are less when compared to the human healthcare services,” he said.

The KVASU eVetConnect, which uses ICT applications, can be extended to other States in future, said Director of entrepreneurship T.P. Sethumadhavan. “KVASU eVetConnect includes Vet vonnect software for KVASU hospitals, eVetConnect centres, mobile veterinary services with

mobile tracking system, advisory call centres and customer relation management, eVetConnect knowledge portal, Vetipedia and disease information system,” he said. “This project can be extended to 53 blocks across the State where mobile veterinary services are available. Through linking eVetConnect, farmers will get the veterinary services at their door steps and call centre facilities. eVetConnect can be linked with 25 entrepreneurship centres of the Malabar Region Cooperative Milk Producers Union and other dairy cooperatives in the State,” Mr. Sethumadhavan said.

The portal can be used to disseminate information on the latest clinical case and management to students of veterinary science. This can also help in modernising hospital information system with data on disease, epidemiology, treatment and control measures, he added.

### **Jaggery producers told to adopt modern technology**

G.K. Vasanth Kumar, consultant at Karnataka State Agricultural Produce Processing and Export Corporation, has stressed the need for improving the quality of jaggery by adopting modern technology to get an access to overseas markets.

Inaugurating a workshop on jaggery production here on Thursday, Mr. Kumar said, improved technology would certainly increase the productivity and improve the quality of jaggery. Cost of jaggery production was going up owing to usage of traditional machines and equipment and paucity of skilled labour. Therefore, though there was a huge demand for jaggery in countries such as Japan, Russia and Australia, the jaggery producers were failing to take advantage of market opportunities in other countries, he said.

Mr. Kumar appealed to jaggery producers to adopt modern technology at their production units ‘aalemanes’.

According to him, paying attention to maintenance of global standards and quality parameters in the production of jaggery could help farmers find a good market abroad.



Chandrashekar, Assistant Professor at Jaggery Park, Dharwad, spoke on various issues concerning jaggery production.

K. Rudresh, Deputy Director of Horticulture; D.R. Pushpa, Director of Agriculture Produce Marketing Committee (APMC); and jaggery producers were present.

### **Rain augurs well for samba paddy**

*With Kuruvai not being taken up, samba has become main crop of delta*

The scattered rainfall over the past couple of days has come as a good augury to farmers preparing to go in for samba paddy cultivation in the district.

While farmers in the canal-irrigated delta areas are gearing up for the samba paddy cultivation; those in the non-delta areas are looking up to the skies for more rains. Paddy is expected to be raised on about 58,900 hectares of land in the district during the samba season this year. Agriculture Department officials expect paddy to be raised on about 36,400 hectares in the canal irrigated areas of the district and another 22,500 hectares in the non-delta areas.

With most farmers in the district unable to raise the kuruvai crop because of the delayed opening of the Mettur reservoir, samba paddy has become the mainstay for farmers of the district this year too.

Farming operations have just commenced and farmers have started raising nurseries in the canal-irrigated delta areas of the district over the past few days. Raising of nurseries is expected to gather momentum across the delta areas of the district in another week, Agriculture Department officials said.

“The rainfall, though not enough, is a good augury. Farmers in Koundampatti and Etttarai areas have started raising nurseries after a spell of rain. The Public Works Department should ensure that water released in the

Kattalai High Level Canal reached the tail-end areas to enable farmers to take up samba cultivation without problems,” said R. Subramanian, deputy secretary, Cauvery Delta Farmers’ Welfare Association.

The rain is expected to be beneficial to farmers going in for sowing of cotton, red gram, and cholam in rain-fed areas.

However, farmers in the non-delta areas had to wait for more rain for taking up samba paddy cultivation. Over the past few years, wells have dried up and most irrigation tanks do not have much storage. Much would depend on the monsoon, farmers say. Agriculture Department officials expressed hope that there would be more spells of rain by the time farmers in non-delta areas go in for cultivation towards the month end.

### **Rainfall**

Tiruchi Junction recorded the maximum of 42 mm of rainfall during the 24-hour period ending at 8.30 a.m. on Thursday. The following is the chief amount of rainfall recorded in other parts of the district during the same period (in mm): Tiruchi Town 35; Kovilpatti 30.20; Devimangalam 24.20; Marungapuri 20.20; Navalur Kottapattu 18.20; Ponnaniyar Dam 17; Golden Rock 14.20; and Pulivalam 10. The district received an average of 8.80 mm of rainfall during the period.

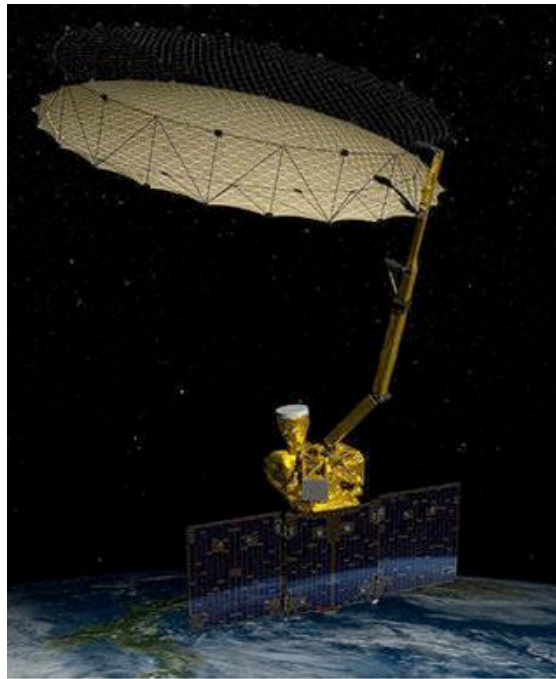
### **NASA’s soil mission loses key radar**

*The SMAP will continue to provide science data from a second instrument*

NASA’s Soil Moisture Active Passive (SMAP) observatory — launched in January this year to map global soil moisture and detect whether soils are frozen or thawed on the Earth — has lost its radar which can no longer return data.

SMAP’s radar allowed the mission’s soil moisture and freeze-thaw measurements to be resolved to smaller regions of the Earth — about nine km for soil moisture and three km for freeze-thaw.

Without the radar, the mission's resolving power will be limited to regions of almost 40 km for soil moisture and freeze-thaw.



However, the mission will continue to produce high-quality science measurements supporting SMAP's objectives with its radiometer instrument, the US space agency said in a statement.

“Although some of the planned applications of SMAP data will be impacted by the loss of the radar, the SMAP mission will continue to produce valuable science for important Earth system studies,” said Dara Entekhabi, SMAP science team leader at the Massachusetts Institute of Technology (MIT) in Cambridge.

On July 7, SMAP's radar stopped transmitting due to an anomaly involving the radar's high-power amplifier (HPA). The HPA is designed to boost the power level of the radar's pulse to more than 500 watts, ensuring the energy scattered from the Earth's surface can be accurately measured.

Following an unsuccessful attempt to power up the radar unit, the mission scientists have exhausted all identified possible options for recovering

nominal operation of the HPA, concluding the radar is likely not recoverable.

The SMAP mission is designed to help scientists understand the links between Earth's water, energy and carbon cycles and enhance our ability to monitor and predict natural hazards like floods and droughts.

SMAP remains an important data source to aid Earth system modelling and studies. The data have additional practical applications, including improved weather forecasting and crop yield predictions.

The first data release of soil moisture products is expected in late September. To date, the mission has collected more than four months of science data, almost three months with the radar operating. IANS

### **‘Set up fodder banks at hobli level’**

The Hyderabad Karnataka Raita Sangha has demanded that the State government set up fodder banks at gram panchayat levels instead of at the hobli levels and distribute fodder freely to farmers in need without imposing any condition on the quantity of fodder.

Sangha president Dayanand Patil, addressing presspersons here on Thursday, said that the government should ensure provision of at least 10 kg of fodder for each cattle head every day for free.

Farmers, who had suffered losses due to the failure of rain, are not able to buy fodder and it is the government's duty to provide them free fodder.

He demanded that the Union government waive off the crop loans availed by the farmers in nationalised banks and the State government waive off the loans availed in the cooperative societies.

Mr. Patil urged the BJP national vice-president B.S. Yeddyurappa to take up the issue with the Union Finance Minister.

## **Kaleswaram project mooted on the Godavari**

*Kanathanapally project redesigned and renamed, it envisages greater benefits: MP*

TRS MP B. Vinod Kumar said the Kanthanapally project would be renamed and redesigned and relocated on the river Godavari.

The proposed new project, to be named as Kaleswaram, envisages greater benefits than the Kanthanapally project.

As the availability of water at Kanthanapally was doubtful, a survey has been undertaken from Thursday to find suitable location for the proposed new Kaleswaram project.

“It is likely to come up near the Kanthanapally project that was given up. Most probably at a place after the Indravathi joins the river Godavari,” he pointed out.

Kaleswaram would come up at such a spot where it helps store more water and cause minimum submergence. It will help all the surrounding districts including Warangal district, Mr. Vinod Kumar said addressing newsmen here.

He said there were about 200 projects of different sizes built across the Godavari in Maharashtra and Karnataka States.

It has become difficult for Telangana State to receive water from upstream and hence the government started the survey to find suitable spot for Kaleswaram project.

The TRS leader found fault with the Congress leaders over irrigation projects and farmers’ suicides. “The TRS government has just started functioning during the last few days since for one year there were no officers. But the Congress leaders are seeking our resignation. It is ridiculous,” Mr Vinod Kumar said.

The Congress government initiated several irrigation projects under Jalayagnam and pocketed huge sums. The net benefit of the projects was nowhere to be seen.

“Huge amounts in executing Pranahita-Chevella project were misused during Congress regime even though the government fully was aware of the problems in implementing the project. If such thing happens in other countries, those responsible would have been hanged,” he said.

***Kanthanapally project redesigned and renamed, it envisages greater benefits: MP***

**‘Anna Bhagya rice being used to make idlis in Amma canteens’**

*Karandlaje alleges that Congress workers were diverting rice meant for distribution under the scheme*

Shobha Karandlaje, BJP MP and former Minister, has alleged that Congress workers were diverting rice meant for Anna Bhagya scheme to neighbouring States such as Tamil Nadu, Goa and Maharashtra.

She alleged that rice meant for distribution under the scheme is being used to make idlis in Amma canteens in Tamil Nadu. She was speaking at the Raitha Chaitanya Yatre of her party at Hebbur on Thursday.

BJP national vice-president and former Chief Minister B.S. Yeddyurappa demanded that the State government waive loans taken by farmers from cooperative societies and interest on loans taken by farmers from nationalised banks, and convene a special session of the legislature to discuss drought situation, before the yatre concludes in Mysuru on September 13.

Mr. Yeddyurappa told presspersons that if the government failed to meet these demands, the BJP would lay siege to the Vidhana Soudha.

There would be acute power shortage in the State in the coming months as water-level in hydel reservoirs had depleted but the government had not made any effort to purchase power from other States, he alleged.

Ms. Karandlaje said that the government should provide compensation to the families of all the 430 farmers who had committed suicide in the last three months. She alleged that the government was planning not to give compensation to the kin of deceased farmers who did not own land.

***Karandlaje alleges that Congress workers are diverting rice meant for the scheme***

### **Procure all milk from dairy farmers**

*Include milk in daily menu at noon meal centres: association*

The Tamil Nadu Milk Producers' Welfare Association urged the State Government to take steps to include milk in the daily menu in the noon meal centres, and anganwadi to ensure that the entire quantity of excess milk produced by the farmers is procured.

The association will post letters with the demand to the Chief Minister on Friday to draw the attention of the government. K.A. Sengottuvel, president of the association, told reporters here after a State executive committee meeting on Thursday that all the five lakh members of the milk cooperative societies will post the letter from Friday. The society members have been asked to rope in farmers who supply milk to private dairies too in the agitation.

All the societies have been asked to display flex boards containing the demand prominently in front of their offices.

Mr. Sengottuvel said that there was a spurt in milk production in the State in the last few months.

The raise in procurement price by Rs. 5 a litre has attracted more farmers towards milk production.

The societies, however, were refusing to procure the excess milk. Many societies have announced a holiday twice a week to deny procurement of excess milk. The private dairies have closed many of their procurement centres.

Because of this, the milk farmers were forced to sell the excess milk at a paltry price of Rs. 15 to Rs. 17 a litre. Unable to bear the heavy financial loss, many farmers had started selling the cows at cheap rates to farmers of neighbouring States.

Thousands of cows were being transported to other States every week. If the trend continued, it will hit milk production in the State.

Mr. Sengottuvel said that if milk was included in the menu of the 70 lakh noon meal centres, and anganwadi about 50 lakh poor milk producers in the State will benefit.

The procurement of milk will increase from the present 30 lakh litres a day to 50 lakh litres.

This would help the Chief Minister to achieve the target of procuring one crore litre a day.

The office-bearers of the association will meet the Dairy Development Minister soon, and hand over the copy of the resolution passed at the meeting. Copies of the resolution will be forwarded to all the MLAs too, he said.

M.G. Rajendran, general secretary of the association, presented the resolutions at the meeting.



## Water release brings relief to farmers

District Collector S. Suresh Kumar releases water in Cuddalore district on Thursday. Photo: Special Arrangement



*Veeranam tank sluice gates opened, to irrigate 1,31,903 acres in 3 districts*  
Water was released from the Lower Anicut and the Veeranam tank for irrigation in the districts of Cuddalore, Thanjavur and Nagapattinam on Thursday.

District Collector S. Suresh Kumar opened the sluice gates releasing the water which would help farmers irrigate around 1,31,903 acres in the three districts.

Mr. Suresh Kumar said that around 1,800 cusecs of water would be released from the Lower Anicut and another 85 cusecs from the Veeranam tank.

Around 1,100 cusecs of water would be discharged from the Vadavar, 400 cusecs from South Rajan canal and 300 cusecs from North Rajan canal. The quantum released would increase as per the irrigational requirements. As many as 47,997 acres in Cuddalore district and 39,050 acres in Thanjavur and Nagapattinam districts would benefit from the water release from the Lower Anicut.

The Vadavar canal part of the Veeranam system would benefit 44,856 acres in Cuddalore district, he said.

District Collectors N. Subbayan (Thanjavur) and S. Palanisamy (Nagapattinam) also participated.

Meanwhile, farmers in Cuddalore district have appealed to the State Government to undertake desilting of the Veeranam tank. Although, the Government had sanctioned a sum of Rs. 40 crore, desilting works had not been carried out for the last three years.

Delay in desilting the irrigation channels in the district would also affect flow of water to the tail end regions in Chidambaram and Kattumannarkovil blocks in the district said K.V. Elangeeran, president of the Veeranam Eri Pasana Vivasayigal Sangam.

The Veeranam tank should be desilted and its storage capacity doubled to maintain water supply in the tail-end areas of Cuddalore district. Farmers in the district had resorted to direct sowing of paddy due to delay in releasing water to the ayacut areas, Mr. Elangeeran said.

### **One-day training programme**

A free one-day training programme on management and prevention of diseases in dairy cows will be conducted at Krishi Vigyan Kendra on Veterinary College and Research Institute premises here on September 8.

A press release from B. Mohan, Programme Coordinator, said that the programme will cover types of cows, fodder, maintenance of cows, various diseases that affect cows and precautionary measures that need to be taken and vaccination period.

Farmers, members of self-help group, and youths can participate.

Those interested can come in person on working days or register through phone numbers 04286 - 266345, 266244 or 266650. For registration, mention of Aadhaar number is mandatory, the release added.

## **Fisheries project second phase launch on Sept. 7**

The Fisheries Department, in association with local bodies, will implement the second phase of the Matsya Samrudhi project aimed at increasing the inland fish production.

The district-level inauguration of the programme will be held at Konnathaduy grama panchayat on September 7. About 400 hectares of land in the district will be utilised for the project.

### **Fish seed**

The farmers will be given fish seed free of cost.

The fisheries project also aims to set up a fisheries club combining fish farmers in different grama panchayats, said a press release here on Thursday.



## **Earth has 3 trillion trees: study**

The study was inspired by a request by Plant for the Planet, a global youth initiative that leads the United Nations Environment Programme's 'Billion Tree Campaign.'

More than 3 trillion trees exist on Earth – roughly 422 per person – but the total number of trees has plummeted by 46 per cent since the start of human civilisation, according to a new Yale-led study. The new estimate of more than 3 trillion trees on Earth is about seven and a half times more than some previous estimates of 400 billion.

An international team of researchers mapped tree populations worldwide at the square-kilometre level using a combination of satellite imagery, forest inventories, and supercomputer technologies. “Trees are among the most prominent and critical organisms on Earth, yet we are only recently beginning to comprehend their global extent and distribution,” said Thomas

Crowther, a postdoctoral fellow at the Yale School of Forestry & Environmental Studies (F&ES) and lead author of the study.

The study was inspired by a request by Plant for the Planet, a global youth initiative that leads the United Nations Environment Programme's 'Billion Tree Campaign.' Two years ago the group approached Crowther asking for baseline estimates of tree numbers at regional and global scales so they could better evaluate the contribution of their efforts and set targets for future tree-planting initiatives.

At the time, the only global estimate was just over 400 billion trees worldwide, or about 61 trees for every person on Earth. That prediction was generated using satellite imagery and estimates of forest area, but did not incorporate any information from the ground.

The new study used a combination of approaches to find that there are 3.04 trillion trees – roughly 422 trees per person. Crowther and his colleagues collected tree density information from more than 400,000 forest plots around the world. This included information from several national forest inventories and peer-reviewed studies, each of which included tree counts that had been verified at the ground level.

The highest densities of trees were found in the boreal forests in the sub-arctic regions of Russia, Scandinavia, and North America. But the largest forest areas, by far, are in the tropics, which are home to about 43 per cent of the world's trees. Researchers found that climate can help predict tree density in most biomes. In wetter areas, for instance, more trees are able to grow. However, the positive effects of moisture were reversed in some regions because humans typically prefer the moist, productive areas for agriculture.

In fact, human activity is the largest driver of tree numbers worldwide, said Crowther. Tree densities usually plummet as the human population increases. Deforestation, land-use change, and forest management are responsible for a gross loss of over 15 billion trees each year. "We've nearly halved the number of trees on the planet, and we've seen the impacts on climate and human health as a result," Crowther said.

# THE TIMES OF INDIA

Earth now home to 3 trillion trees



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"We've nearly halved the number of trees on the planet, and we've seen the impacts on climate and human health as a result," Crowther said.

### 'Commercial cultivation of GM mustard is harmful'

Agriculture and food security sector experts on Thursday expressed their concerns over the adverse impact on farm sector due to the possibility of GM mustard being cultivated commercially in India.

Agricultural technologies in the seed sector such as GM mustard is detrimental to overall farm sector, they opined at a meeting in Gujarat Vidyapith. The meeting discussed pressure from trade rules, constituted under World Trade Organization (WTO), on agrarian countries like India which will have a direct impact on food and livelihood security.

The two-day state level gathering in Gujarat Vidyapith is being attended by more than 100 delegates from across Gujarat, representing all kinds of stake holders from agriculture and food security sector. It has been organized by Jatan Trust in collaboration with 20 organizations including farmers' unions.

One of the speakers at the function, Afsar Jafri, who is a member of the Focus on the Global South Organization, claimed that India needs to find a permanent solution to the challenge posed by the rigged rules of WTO on the public stockholding for food security, under the Agreement on Agriculture (AoA).

He said, "Peace clause that India has secured holds no solution for ensuring that our food security mechanism reaches all consumers. It doesn't mean that producers get maximum livelihood security through food grain procurement by the government for the public distribution system."

### Farmers get 245 crore relief from state govt

At least 2.5 lakh farmers of south Gujarat who draw water for their fields from Ukai canal have got relief worth Rs 245 crore from the state government. It was decided on Tuesday not to collect interest from the farmers on overdue payment for the water used for irrigation. Gujarat finance minister Saurabh Patel announced the irrigation interest waiver scheme-2015 in Gandhinagar after meeting a delegation of representatives from Surat district.

"The interest on irrigation water charges has doubled in many cases. This waiver on interest will help a lot of farmers," Agriculture Produce Market Committee (APMC), Surat chairman Raman Patel alias Jani said. Moreover, a farmer won't have to pay the pending irrigation charges at one go. He can pay up in eight installments. This too will come as a great relief to the farmers, Jani added.

Sugar cooperatives of Gujarat too could get some relief in the coming days. They could be returned the VAT amount that they may have paid to the state government in the past five years as an interest free loan. They would be given waiver from VAT which is paid at 2 per cent. The state government could exempt nearly 1 lakh sugarcane farmers from VAT for two years, sources said.

"The total relief to the sugar cooperatives could be worth Rs 235 crore. This will enable the sugar cooperatives to increase their procurement price to a farmer, say up to Rs 50 per tonne," Bardoli Sugar Cooperative vice-



chairman Bhavesh Patel said. The procurement price by sugar cooperatives of south Gujarat has been the lowest this time since 2009.

### Enjoy wild mushrooms in Goa



*Enjoy wild mushrooms in Goa (Getty Images)*

*While the psychedelic-spell inducing magic mushrooms are the toast of Goa's coastal rave party circuit, away in the monsoon-soaked hinterland, wild mushrooms, locally called 'alami', continue to rule the roost.*

The wild mushrooms, essentially an edible fungi, spring up like tiny white bobs of smooth candy all across anthills in forested areas, especially in wildlife sanctuaries like Mollem, 90 km state capital Panaji, from where they are harvested by the basketfull to local markets in folded large and coarse teak-tree leaves.

A small bunch may cost anywhere between Rs.500 (\$7.5) and Rs.2,000 depending on the season and the demand. You are considered lucky if you come away with a packet of alami by managing to survive the stampede of aficionados around the vendors.

"I buy them at least once in the monsoon. As long as I can remember, my mother has been cooking alami tondache (a thick stew). It's to die for,"

Waman Shetye from Bicholim, who had just picked up a packet of alami from a woman vendor near the District and Sessions Court in Panaji, said.

Shetye isn't the only one who prefers the crunchy taste of these mushrooms over the artificially cultured and packaged variety.

According to Goan chefs, it is the distinctly earthy, nutty flavour of alami which sets them apart from the relatively subdued taste of the mushrooms packed for supermarkets.

"Hindus in Goa consume them as a delicious vegetable preparation. The popular Goan dishes are alami tonak, alami xacuti and chilly fry. These are the recipes passed down from generations and are still being prepared in the same way," said Rodwin Rodrigues, assistant chef at the V.M. Salgaocar Institute of International Hospitality Education.

According to Nandkumar Kamat, who has researched extensively on mushrooms, there are around 100 different edible species in Goa that he has come across during his research spanning over three decades.

"Local species have interesting local names like olmi or alami, roenichim, toshali, chochyali, khut or khuti, shiti, shitol , shiringar olmi, shendari, kuski, dukor, surya olmi, tel alami, fuge and bhuifod," according to Kamat.

Harvesting the fungi bloom is often considered a rite of passage for youngsters growing up in remote parts of Goa.

"Thirty-five of these species are collected by the locals from the wild for consumption and only 12-14 species produce a marketable crop which is sold from July to September," Kamat further said.

Of all the varieties, alami is the most popular, although unfortunately, being seasonal isn't exactly a qualification to feature on the menu of a five-star hotel.

"Unfortunately this is not served in most five-star restaurants as they are seasonal and continuity and availability constitute an issue for regular menu usage," Shubhendu Kadam, Executive Chef at Alila Diwa Goa Resort, explained.

And, of course, there is the fear of allergies.

"A few non-Goan guests who have never been exposed to this variety of mushrooms are at times highly allergic to this wild variety. Commercially-grown button mushrooms are used in restaurants but we cannot compare their taste and nutritive value with the alami," Kadam conceded.

Adding to the allure of the wild mushrooms are legends like the one Kadam recounted.

"Tradition dictates that the guardian snake (of the ant-hill) has to be pleased before harvesting the mushroom. This is done using a wild herb called akshar. This unique tradition just can't be compared to the commercial version which is also way too mild in flavour and spongy in texture," he said.

### **Tight supply to drive poppy seeds prices**



Tight supply scenario has pushed up the prices of poppy seeds in the domestic market.

Upcountry trade sources told *BusinessLine* that following allegations that four importers have obtained import permits and cornered around 12,000 tonnes of poppy seeds, Karnataka and Tamil Nadu High Courts have reportedly stayed the imports from Turkey.

“Following the stay on imports, a new policy needs to be introduced and permits granted and that might take at least four months for imported material to come,” a dealer said.

Stocks held in the markets have almost been exhausted creating a scarcity and as a result the prices have crossed Rs. 400 a kg, he said.

According to market sources, international prices have increased from \$2,000 to \$2,400 a tonne.

### **NDDB's Pashu Poshan app crosses 1,000 downloads**

You can't call a food app a blockbuster one if it clocks a little over 1,000 downloads on Google Play in a span of two months. But you will surely agree it is a good number if they tell you it is an exclusive app meant for cattle.

The Pashu Poshan app, launched by the National Dairy Development Board (NDDP) in July, is able to attract the attention of dairy farmers, with more and more downloads. The software sends automated advisory to the farmer on his smart phone or tablet on how much food he should feed his animal.

“It is an exclusive advice to that particular animal. The farmers will have to register their animal with us. We will give them an 11-digit number assigned to the animal. It is like an Aadhaar-like number for buffaloes and animals,” NDDB Chairman T Nanda Kumar told *BusinessLine*.

“They are able to save Rs. 5-20 in terms of saved fodder or improved incomes for every animal they registered with us,” he said.

About two lakh farmers are utilising the food advisory service.

### **Farmers bear the brunt as dairies engage in price war**

It is party time for consumers in Hyderabad with milk flooding the city in the last few months. Organised players are vying with each other to attract consumers with ‘competitive’ prices, resulting in a drop of Rs. 2-6 per litre of milk in the city.

### **Farmers suffer**

This, however, has a cascading impact on the farmers. With the margins under severe pressure following the price war, the firms have reduced the procurement farm-gate prices, leaving the farmers in heavy losses.

Consumers are smiling as dairy majors Amul, Nandini and Parag Foods from Gujarat, Karnataka and Maharashtra respectively entered with aggressive plans. Dairy firms, small and big, are feeling the heat.

“Several small dairy farms and farmers are making losses. A good number of the farms are on the verge of closure. The farmers are being paid far less than the cost of production,” K Bal Reddy, General Secretary of Progressive Dairy Farmers’ Association, told *BusinessLine*. While the cost of production of buffalo milk is at Rs. 50 a litre, the farmers are getting Rs. 38-39 from the firms. Those who are producing cow milk too are getting about Rs. 6 less at Rs. 27 a litre.

“There is no doubt the firms are facing severe competition. But they are just passing on the burden to the farmers,” another farmer, who doesn’t want to be quoted, said.

### **Govt sops**

With a view to giving the farmers a better price, the Telangana government announced last year an incentive of Rs. 4 for every litre of milk they produced.

The Progressive Dairy Farmers’ Association felt that the incentive was working like a ‘ventilator’. “But we need more to breathe life into the sector. We are asking the government to treat dairy on par with agriculture and extend free power facility to us,” Bal Reddy said.

“We are also asking them to give an interest subsidy of 9 per cent to create an interest in farming. This will help reduce migration to urban areas,” he felt.

### **Scientific advisor cautions against irrational resistance to GM crops**



R Chidambaram, Principal Scientific Advisor to Government of India

A senior Government advisor on Thursday pitched for “no irrational resistance” to genetically-modified (GM) crops and believed that nanotechnology could help Indian agriculture overcome problems of declining landholdings, increasing numbers of marginal cultivators and land degradation.

“There should be no irrational resistance to GM crops once careful research has been done, field trials have been completed and Genetic Engineering Appraisal Committee (GEAC) approval has been obtained,” said R Chidambaram, Principal Scientific Advisor to the Centre, at the ‘4th Bio-Nano Agri Summit’ hosted ASSOCHAM here on Thursday.

Chidambaram had been talking about the need for climate-resilient agriculture and mitigation and adaptation strategies to include development of new crop varieties, including GM crops, alongside soil health restoration.

“Agriculture contributes less than 20 per cent of India’s GDP (gross domestic product), accounts for over 10 per cent of India’s exports and employs over half of our workforce, the latter number is three per cent for the US,” he said.

He highlighted the need for more techniques to improve domestic irrigation facilities to save water with farmers consuming “about 80 per cent of State water supply” and also suggested the need for a grid for basmati rice research and the use of unmanned aerial vehicles such as indigenously-built NETRA in agriculture.