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# THE HINDU

## Distribution of soil health cards marks World Soil Day in Salem



Soil health card being distributed to a farmer at the Krishi Vigyan Kendra, Sandhiyur in Salem, on Saturday.

Distribution of soil health cards, exhibition on soil health for healthy life and different varieties of soils marked the World Soil Day brought up the State Agriculture Department and the Krishi Vigyan Kendra, Sandhiyur, on Saturday.

N. Elango, Joint Director of Agriculture and C. Krishnan, MLA, gave away the soil health cards.

Mr. Elango emphasised the importance of application of farm manure for protecting the soil. Invariably five tonnes of farm yard manure should be applied every year in one acre to improve the soil organic content and and income of the farming community, he said.

The Agriculture Department has planned similar block level celebrations to create awareness on healthy soil, Mr. Elango said.

Principal Scientist from Agricultural Technology Assessment and Application Research Institute, Indian Council of Agriculture Research, Bengaluru, C. V. Sairam, spoke on organic farming and soil health management. ICAR is taking all possible steps to protect the soil and improve the soil health through various innovative programmes. Soil health card is also being distributed to farmers from all the ICAR centres across the country, he said.

Programme Coordinator, KVK, Sandhiyur, N. Sriram, said soil texture and structure are similar to human body and is having life like human beings. Soil should be properly maintained based on the soil test reports. Every two years soil should be tested in the recognised laboratory and based on the results, macro and micro nutrients should be applied the crops along with organic manures to improve the quality and productivity of crops.

Mr. Krishnan stressed that all farmers should have soil health card for maintaining sustainable agriculture for improving the productivity and income from the agriculture and allied activities.

Deputy Director of Agriculture (Central Schemes), Balaiah, Assistant Director of Agriculture (Quality Control), Rajendran, also spoke.

Demonstration on how to take soil samples from the farmers' field by the scientists of the KVK also formed part of the programme.

The exhibition on soil health explained the plant nutrient deficiency symptoms which includes macro and micro nutrient deficiency symptoms, micro nutrient mixture for specific crops, soil types of Salem districts have also displayed in the exhibition. Booklet on 'Healthy Soil for Healthy Life' authored by scientists of KVK, were released and distributed to all the farmers.

### **Free 'soil health cards' issued to 312 farmers**

Krishi Vigyan Kendra (KVK), a constituent extension centre of Tamil Nadu Veterinary and Animal Sciences University, organised a farmers' workshop on organic farming in vegetable cultivation at Kalayarkoil near here on Saturday to commemorate the World Soil Day.

KVK distributed free "soil health cards" to 312 farmers in Sivaganga district on the occasion. More than 400 farmers attended the day's workshop. A technical book on "Soil wealth is our health" authored by T. Selvaraj and S. Sendur Kumaran were released.

R. Gurumoorthi, Joint Director of Agriculture, said the department issued soil health cards to farmers from 521 revenue villages in the district during 2014-15 and farmers in the remaining villages would be covered before this financial year. He said the department was implementing State balanced growth fund scheme, wherein farmers groups would be trained in the production of bio-control agents. Regional Joint Director R. Viswanathan, Animal Husbandry, advocating organic farming, said worldwide 31million hectare was under organic farming and Australia ranked number one in this type of farming.

In India, only 0.96 million hectares was under organic farming, he said.

Jabamalai Suresh, secretary of SMSSS Trust, said the organisation was involved in supporting organic farmers of this district through various means.

Pugazendhi, Professor and Head, Department of Bio-energy, Tamil Nadu Agricultural University, made a presentation on the bio-village concept using conventional energy for rural uplift.

T.Selvaraj, Assistant Professor-cum-Soil Scientist, made a detailed presentation to farmers on the sustainable management of natural resources.

### **200 farmers get soil health cards**

Soil health cards were distributed to 200 farmers of the three blocks of Salem, Panamarathupatti and Veerapandi during the World Soil Day celebrations.

Soil health card scheme was launched by the Government of India in February 2015. Under the scheme the government plans to issue soil card to farmers which will carry crop-wise recommendations of nutrients and fertilizers required for the individual farms to help farmers to improve productivity through judicious use of inputs. The Government has proposed to issue soil health cards to about 14 crore farmers across the country in a phased manner.

### **Floods will be common in future, say climatologists**

*Weather can no longer be taken for granted, as uncertainty and rapid changes will be its hallmark, say Andhra University professors*

Floods and inundation, especially in the peninsular India, will be a common feature in the coming future, as they are directly associated with the climate change. The weather can no longer be taken for granted, as uncertainty and rapid changes will be its hallmark and it is time urban planners rethought their strategy in handling the climate change.

This was the opinion of two climatologists and senior professors from the Department of Meteorology and Oceanography, Andhra University.

According to Prof. S.S.V.S. Ramakrishna, a senior professor from the department, the monsoon will become more erratic and will be replaced by category four or five cyclones, with the climate change. “In the last 15 years, we have seen some abnormal cyclonic systems such as Gonu, Nargis, Phailin, Hudhud, Mala, Yemyin, Helen and the Odisha Super Cyclone, hitting the coasts,” he said.

### **Rise in global temperature**

The climate is changing with every passing year, especially after the global industrial revolution. “The release of carbon dioxide is influencing global warming. The average global temperature has already gone up by about one per cent and the ocean and land temperature have gone up by 2 to 4 per cent. This variation will bring more heavy rains,” said Prof. O.S.R.U. Bhanu Kumar, professor emeritus of the department.

According to him, the rain days per year will reduce and abnormal cloudburst will increase, due to increased precipitation.

“This will result in flooding that we are witnessing in Chennai and Nellore, and what we have seen at Uttarakhand and Kashmir, in the recent past,” he said.

Global warming directly impacts the El Nino phenomenon and the frequency of this phenomenon has increased with the industrialisation and rampant release of carbon dioxide.

“Whenever, the El Nino factor is there, the southwest monsoon comes a cropper and the north east monsoon hits the south peninsula in a big way,” he said.

Since 1957 to 1980s, there were only about three El Nino years, categorised under strong or very strong, but from 1980s the frequency has increased and we have seen over 10 El Nino years, said Prof. Bhanu Kumar.

Whenever, the surface temperature of Pacific Ocean rises by 2 to 5 degrees above normal, we have the El Nino factor working and it has direct impact on the northeast monsoon.

### **Cause of worry**

Keeping the erratic mood of the weather in mind, Prof. Bhanu Kumar, pointed out that the flooding of Chennai is a lesson for urban planners. “It was predicted long

before that northeast monsoon will bring heavy rain as the year was classified as El Nino year,” he said.

### **Water harvesting**

“We need to think of a proper inflow and outflow system of rain water and scientific methods of water harvesting,” he said.

Prof. Ramakrishna further pointed out that not only the human habitat now demands construction weather-wise but even the crop sowing pattern may need to be changed. “The focus may shift from kharif to rabi, as sowing post northeast monsoon, during winter, may benefit the farmers and avoid damage to standing crop,” he said.

### **And now, dairy farmers in crisis**

*The crisis is assuming serious proportions as dairy farmers have started resorting to distress sale of buffaloes, unable to provide fodder, whose price has doubled during the last few months.*

It now seems to be the dairy farmers turn to be pushed into a crisis with the dairy development cooperative federation failing to clear their milk procurement bills running into about Rs. 70 crore for a month now.





The crisis is assuming serious proportions as dairy farmers have started resorting to distress sale of buffaloes, unable to provide fodder, whose price has doubled during the last few months. Peraka Srikant, a dairy farmer from Lingampalli village in Manchala mandal of Ranga Reddy district told *The Hindu* over phone that he has already sold four of his 16 buffaloes during the last ten days, each for half the price of Rs. 80,000 he had bought, unable to feed and maintain them.

He and another dairy farmer, Nageshwar Reddy, supply 60 litres of milk daily to the nearest Vijaya dairy milk procurement point at Valigonda in Nalgonda district. "If the Vijaya dairy fails to clear dues in a week's time, I will have to sell some more as I am unable to run the dairy with huge operating and feed costs".

Like him, Narasimha Reddy, a big dairy farmer from Nalgonda district, was attracted by the Telangana government's decision last year to offer cash incentive of Rs. 4 a litre.

"Most of us shifted from private to Vijaya dairy, attracted by the incentive, but now we feel deceived. We have approached officials at the federation's head office at Lalapet in Hyderabad couple of times but there is no proper response."

Mr. Reddy supplies 200 litres daily and the federation owes him Rs. 3 lakh.

Normally, the bills are cleared every tenth day of procurement, which means three of them are pending now.

In contrast to the federation's delay, the private companies have been promptly clearing the bills, they say.

Dairy farmers are surprised by the indifferent attitude of the federation and the government though the crisis has been looming for four weeks now.

"The government seems to have forgot that many of us have taken to dairying owing to agriculture distress and severe drought conditions and now we are being pushed into crisis," Srikanth adds.

### **Appeal to KCR**

General secretary of Progressive Dairy Farmers Association of Telangana, K. Bal Reddy, appealed to Chief Minister K. Chandrasekhara Rao to come to the rescue of the dairy farmers before it is too late and order clearance of the arrears immediately. He recalled that the dairy farmers of Telangana switched their loyalties from private firms to government dairy attracted by the cash incentive.

It has also pushed up the milk production in the State phenomenally but thanks to mismanagement by the federation, dairy farmers now feel let down.

*“Attracted by the incentive, most of us shifted from private dairies to Vijaya dairy, but now we feel deceived.”*

*Narasimha Reddy,  
A dairy farmer from  
Nalgonda district*

### **Puducherry: Over 8,900 hectare area under paddy lost in rain**



*The government said it would incur an expenditure of Rs 17.91 crore to disburse Rs 20,000 as compensation for a hectare of paddy damaged in the floods.*

As much as 8,955 hectare area under paddy cultivation has been damaged by the unprecedented torrential rain that has hit the union territory.

Chief Minister N Rangasamy said that 11,418 farmers who raised paddy have been baffled by the massive loss in the devastation.

While, 4,420 hectare area under paddy was damaged in Puducherry, in Karaikal the figure stood at 4,248.34 hectare and in Yanam the extent of damage was 287.15 hectare.

The government said it would incur an expenditure of Rs 17.91 crore to disburse Rs 20,000 as compensation for a hectare of paddy damaged in the floods.

In the union territory, 1,544 hectare under sugarcane cultivation also bore the brunt of the heavy rains, while eight hectare area under betel leaf cultivation was damaged.

The government announced compensation of Rs 50,000 per hectare for areas under betel leaf cultivation and Rs 15,000 per hectare for areas under cultivation of sugarcane. This would entail a total compensation of Rs 2.71 crore to 1,508 sugarcane farmers and 57 farmers cultivating betel leaf.

The government has also assessed loss of vegetables to an extent of 168.10 hectare in the three regions and a sum of Rs 25.21 lakh would be disbursed as compensation at the rate of Rs 15,000 per hectare of vegetables lost.

The Chief Minister said that 297.73 hectare area under plantain crop has been damaged and Rs 35,000 per hectare would be provided as compensation.

Tapioca and other types of tuber crop raised on 231.9 hectare has been lost and the government would spend Rs 34.78 lakh for disbursement of Rs 15,000 per hectare lost.

Compensations for loss of flowers, cotton and pulses have also been decided.

Mr. Rangasamy said the government has decided to defray Rs 22.08 crore for crop loss out of Rs 150 crore earmarked as relief package for damages made by the rain.

Puducherry has been battered by heavy rains since the beginning of November and officials have assessed that such a quantum of downpour had not been seen in the last 100 years.

The total rainfall that would normally be received during the three month period of October, November and December under the influence of North East monsoon has been received in one month (November) alone in Puducherry.



## **Govt. pitches for 40 lakh jute producing farmers and mill workers**

*India accounts for an estimated 70 per cent of the world's total production of jute products. Over 90 mills are currently operational, 67 in West Bengal alone.*

In a move that may bring about a sea change in the lives of over 40 lakh distressed farmers and workers across the country, the Union Textiles Ministry has urged State governments to help diversify the ailing jute industry by exploring new avenues for promoting use of jute bags.

The Centre has offered a wide range of products: from office stationeries like waste paper baskets, folders and laptop bags to moulded items and, most importantly, jute geo-textile products used in civil engineering works such as road construction and protection of hill slopes.

“An important characteristic of jute is that it absorbs and retains moisture. This makes it very effective in the construction of roads that last longer and protection of hill slopes by inducing vegetation growth. It also helps in stabilising sand dunes,” a government official said.

Apart from these products, the government has now suggested that State governments can also promote jute bags for school-going students. “This move will help generate employment,” the official said.

Union Textiles Minister Santosh Kumar Gangwar has himself written to the Chief Ministers requesting that they can also consider introducing jute school bags.

Observing that the industry supports about 40 lakh farmers and 3.7 lakh jute labourers, Mr. Gangwar said: “To make the industry competitive and sustainable, it is necessary to diversify and move away from the traditional activity.”

He added: “In this context, I seek your help in the promotion of diversification in the jute industry. You may please consider introducing jute bags for school-going children under the HRD schemes in your State.”

The proposal, initially suggested by activist Gouri Shankar Jain from Odisha, has been made at the time when the industry is beset with scams and growing unrest among jute producing farmers and mill workers.

India accounts for an estimated 70 per cent of the world's total production of jute products. Over 90 mills are currently operational, 67 in West Bengal alone. The rest are in Bihar, Assam, Tripura, Uttar Pradesh and Andhra Pradesh.

However, the industry's overdependence on government orders is considered to be a major factor behind the current state of affairs. The government buys jute sacks worth Rs.5,000 crore a year for packaging of food grains and sugar under the public distribution system (PDS).

Another cause of worry is that export of jute products has been badly hit in the recently past year. Moreover, large-scale import from Bangladesh, which offers 10 per cent subsidy on domestic jute products and also, huge funding to its mills and exporters, have added to the stress. However, a series of measures taken recently by the Jute Commissioner's Office has contained the situation to a great extent.

### **The green way**

*With global warming emerging the single biggest environmental crisis today, it's time we lived more responsibly, writes ANGAD SETHI.*

In today's rapidly growing economy, environmental problems are increasing at a faster pace than ever. After Independence, India's population has increased from 300 million to over one billion, now. This has led to deforestation of land in order to make space for living for the huge population. Problems such as soil erosion, deforestation, urbanisation, land degradation and rapid industrialisation are some such problems causing chaos in the environment we live in.

### **Imbalances**

Natural hazards are caused due to the imbalances in the Earth's natural system. Earthquakes, floods, cyclones, droughts and famines, landslides, etc. are some of the natural hazards in India which are of great concern to us because they can have life-threatening impact. The habits of humans are also a factor influencing the environment in the wrong way. Setting up new industries, building dams and other means of infrastructure development destroy the rich forest land leading to imbalance in the ecosystem. These projects destroy all natural habitat.

Agricultural lands of farmers are also destroyed and these farmers are asked to relocate to other places, not provided with enough compensation to do so by the government.

Solid and liquid wastes produced by the industries are all dumped into water bodies thus polluting the water on a very large scale. Activities such as driving

cars that leads to carbon emission, burning garbage, polluting the environment and wasting water cause environmental problems.

### **Urban crisis**

Air pollution is related to countless deaths and illnesses each year across India especially in urban areas. Carbon dioxide emissions have increased in the past decades, as now roughly every other family residing in India possesses motor vehicles which produce harmful gases unsafe for the environment.

Per capita carbon dioxide emissions have increased on a rate that is difficult to present in numbers.

Trees are considered the lungs of the Earth; they act as the purifiers and produce oxygen by taking in carbon dioxide. Cutting down of trees leads to more carbon content in the air that leads to another major problem — global warming.

### **Global warming**

Global warming increases the Earth's temperature, which leads to the melting of the ice caps and increasing water levels, thus causing floods all over the world.

With the population explosion on the planet, environmental degradation cannot be completely prevented, but the impact of it further affecting the Earth could be minimised.

A clean environment helps in the healthy growth of the living species. Variation in the environment impacts all forms of life. Awareness is the way forward, through which actions could be taken up at local, national and global levels. One should be aware of how much he or she consumes and how much of it is wasted as an individual. Small acts of educating people around us and practising sustainable measures such as saving water, energy and discarding wastes responsibly will help transform the world we live in. We should preach and practise sustainable development.

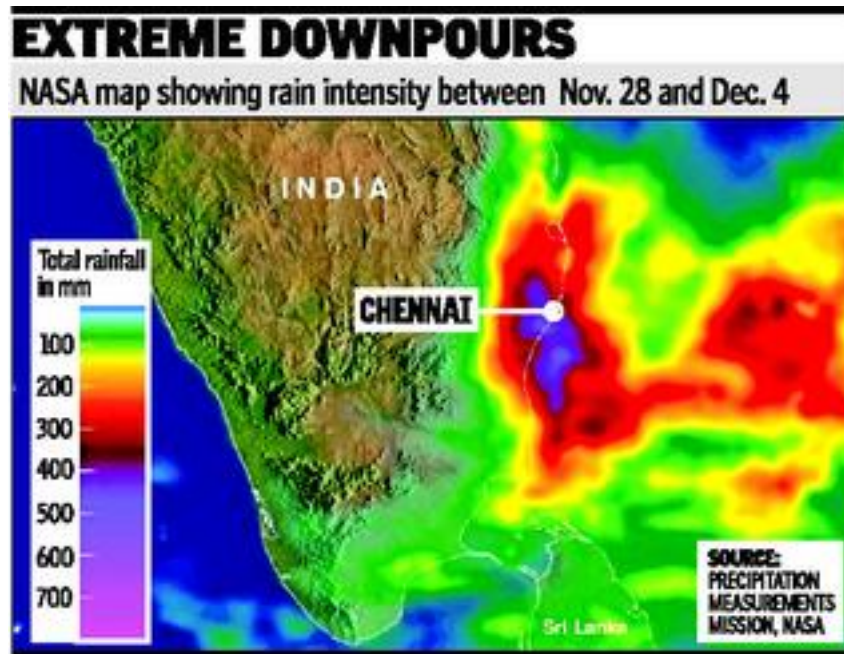
It may be defined as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” - UNCED 1987.

The writer is in Class XI and lives in Bengaluru.

*One should be aware of how much he or she consumes and how much of it is wasted as an individual.*

## **Freak weather whipped up a perfect storm**

*2015's El Nino on course to being the strongest ever*



The highest daily rainfall in a century. Freak weather conditions on one day. The hottest-ever Indian Ocean. The strongest-ever El Nino. The hottest year on record. The bad news is that a perfect storm of meteorological conditions combined to create Chennai's worst-ever deluge last week, exacerbated in no small part by civic infrastructure pushed to its limit and systemic dysfunction. The worse news is, that could happen again, and soon; 2015's El Nino is on course to being the strongest ever recorded.

The El Nino is a weather phenomenon resulting in warmer than expected ocean temperatures in the central and eastern parts of the tropical belt of the Pacific Ocean.

Parts of this oceanic zone have already hit record temperatures this year, setting the 2015-16 El Nino well on its way to a record intensity, with potential impacts

across the world encompassing the range of events, including searingly high temperatures, droughts and intense rainfall.

### **Villages close to Vaigai dam facing acute water crisis**

*Migration of farmers increasing as farming comes to a standstill*

Even as Vaigai dam has comfortable storage and the Vaigai river has heavy flow, several villages that are situated less than 200 metres away from the Vaigai dam have been reeling under acute water crisis for more than three decades.

Farm activities have come to a stand still and migration of farmers is on the increase, owing to accumulation of silt in supply channels and destruction of other channels connecting nearby tanks that have surplus water.

The worst affected are Kovilpatti, Balasamudram, Marikundu, Rangasamudram and Thekkampatti panchayats in Andipatti block as major tanks in these panchayats are completely dry.

Residents and farmers at several villages in these panchayats have been struggling to get water for drinking and irrigation.

### **Central team to assess rain loss in State**

Minister for Agriculture and Krishna District In-Charge Minister P. Pulla Rao on Sunday said that the Central team would begin enumeration of damaged agricultural crops and loss of other infrastructure in the recent rains across the State.

Speaking to newsmen here during Jana Chaitanya Yatra, Mr. Pulla Rao added that the State government has appealed to the Centre, seeking permission to purchase discoloured paddy through the Paddy Purchasing Centres in order to rescue farmers.

“Paddy crop in an estimated extent of 2.6 lakh hectares suffered damage in the State during the recent rains. The rains also damaged over 6,000 hectares of aquaculture ponds in the Coastal districts,” Mr. Pulla Rao said. The Minister said that the State government will soon distribute paddy and other seeds for rabi season on subsidy.

***Agriculture Minister P. Pulla Rao says the State has sought the Centre's permission to buy discoloured paddy***

## **Leaf blight disease poses threat to paddy crop**

The continuous rain has posed a threat to the standing paddy crop in the district. Reports said that paddy raised on several hectares has been affected by bacterial leaf blight disease. The paddy crops, which are inundated for the last 15 days, are said to be affected. The leaves appear to have changed into yellow and white.

In Tiruchi district, samba crop has been raised on about 48,000 hectares. Since many parts of the district continue to receive rain for the last two weeks without a break, the crop is said to be unable to observe nutrients from the soil. R. Chandrasekeran, Joint Director of Agriculture, told *The Hindu* that the field officials and staff had been asked to create awareness of the disease among farmers. The prevailing climate conditions were favourable to bacterial leaf blight. Change of colour was a symptom of the disease. The leaves would turn yellowish orange or brown in colour. The colour change would mostly confine to the edges of the leaf with wavy margins.

It would affect the photosynthesis of the plant thereby reducing the yield. Further the bacterial infestation would lead to the secondary infestation of the fungal pathogens, which caused fungal diseases in the later stage of the crop. There was a need to save the crop from the disease. The farmers should create adequate drainage facility so as to allow the soil to form minor cracks to facilitate release of the toxic gases from the soil. If the symptoms were indicating that the disease was in the initial stage, the farmers should apply cow dung twice at 20 days interval. To control the developed symptom, the farmers should spray 120 grams of Spectomycin Sulphate-Tetracycline Hydro Chloride combination along with half kg of copper oxy chloride.

## **Water available in Bhavani Sagar Reservoir sufficient for second crop cultivation**

Storage in Bhavani Sagar Dam has risen to 14.8 tmc. infusing hope for second crop among farmers in the three ayacuts: Lower Bhavani Project, Thadapalli-Arakankottai, and Kalingarayan.





A view of Bhavani Sagar Dam reservoir in Erode.

On Sunday morning, the inflow was 2,287 cusecs and the discharge of 1,000 was made into the LBP canal. The supply has to be maintained in the canal till this month-end for completion of the first-cropping season.

Depending on the daily pattern of rainfall, the Public Works Department has been conserving water by regulating flow into the river that feeds the Kodiveri Dam from where water is released into Thadapalli-Arakankottai canals.

There is no cause for apprehension over water availability for the second crop cultivation in all the three ayacuts, PWD sources said.

So far, 32 tmc has been utilised for first crop cultivation in the three ayacuts, though the storage was 19 tmc when water release began.

Likewise, there will be more accrual from the North-East monsoon to augment the existing 14.8 tmc water for ensuring supply for the next crop, the sources said. Based on the calculations made utilising the statistics of availability and accrual during December for the last five years, and the scope for sourcing water from the hydel reservoirs in The Nilgiris, where the rainfall has been heavy, to overcome deficit situation, the PWD has already sent a proposal to the government seeking nod for water release for second crop in the three ayacuts, sources added.

### **Water level in Mullaperiyar dam inching towards 142 feet**



The second flood warning to downstream villages along the Mullaperiyar dam was issued in the early hours of Sunday as the water level crossed 141.1 feet and was inching towards 142 feet.

### **37,568 soil samples to be collected under GPS**

The Department of Agriculture has planned to collect about 37,568 soil samples from across the district under a GPS-based soil sample collection programme and farmers would be informed of the status of the soil health of their fields free of cost.

Disclosing this at a function to mark the World Soil Health Day observation organised by the Department of Agriculture and the Krishi Vigyan Kendra, Sirugamani, here on Saturday, R. Chandrasekaran, Joint Director of Agriculture,

said the soil samples would be collected over two years. About 14,020 samples would be collected this year and another 23,548 during 2016-17. The samples would be analysed at the Soil Testing Lab, Tiruchi, for major nutrients of nitrogen, phosphorous, and potash, secondary nutrients such as calcium, sulphur, and magnesium and micro nutrients such as iron, zinc, manganese, and boron. The results of the analysis would be given to farmers in the form of soil health cards with appropriate advice. The programme had been taken up under the National Soil Health Card Scheme implemented by the Union and State governments. So far, 8,785 samples have been collected in the district so far, he said.

S. Valarmathi, MLA, Srirangam, distributed soil health cards to 169 farmers. Farmers were exposed to various techniques and adopted an integrated approach to soil health conservation by a team of scientists led by Chandrasekaran, Head of the KVK.

The National Research Centre for Banana marked the day with a function where speakers emphasised the need for soil health management in agriculture.

P. Pandiyarajan, Dean, Anbil Dharmalingam Agricultural College and Research Institute (TNAU), said underlined the importance of fortification of soil fertility by improving soil microbial population. He distributed soil health cards to farmers.

B. Padmanaban, Director of the Centre, presided over. K.J. Jeyabaskaran, Principal Scientist, NRCB, delivered a lecture on “fertile soil for healthy banana,” emphasizing soil-test based nutrient management to avoid indiscriminate application of synthetic fertilisers.

### **Good response in Erode district**

Five to six panchayats each in every block in Erode district have been covered during this year under the first phase of soil health card scheme implemented in a mission mode to improve agricultural productivity.

Farmers in the villages covered by the scheme were given the soil health cards during the World Soil Day celebrations conducted at P.K. Velampalayam village in Modakurichi block, Kongarpalayam in T.N. Palayam block, and select villages in the remaining blocks.

The health cards were prepared based on crop-specific testing of soil. For fibrous crops, soil at a depth of 15 cm was taken and for crops such as maize, cotton and tapioca, soil for testing was taken from 45 cm depth.

As for orchard crops such as mango, sapota and coconut, soil from three feet depth was taken, to make sure sub-strata was not rocky.

At places of assured irrigation, soil sampling was conducted in grids of two hectares and in rain-fed fields, sampling was carried out for every individual unit of 10 hectares. The current year has been declared as International Year of Soils by the 68th UN General Assembly with the aim of spreading awareness and understanding importance of soil for food security and essential ecosystem functions.

Periodic soil health assessment has become vital in the backdrop of productivity decline caused by imbalanced use of fertilizers, low addition of organic matter and non-replacement of depleted micro and secondary nutrients over the years, official sources said.

### **Central assistance**

The State Government has optimally utilised Central assistance for setting up soil testing laboratories for issuing the soil health cards to farmers.

The STLs use software developed by Tamil Nadu Agricultural University for online issue of soil health cards and to formulate fertilizer-use recommendations.

### **Turmeric auctioned for Rs. 97 lakh**

Turmeric was auctioned for Rs. 97 lakh at the Tiruchengode Agricultural Producers Cooperative Marketing Society in Tiruchengode town on Saturday.

While 'Virali' turmeric fetched a price between Rs. 8,869 and Rs. 10,902 per quintal; 'Kilangu' variety has fetched a price between Rs. 7,779 and Rs. 9,889 and 'Panakali' variety fetched a price between Rs. 8,719 and Rs. 17,419 per quintal.

About 1,500 quintal turmeric was auctioned for Rs. 97 lakh, a press release of the society issued here on Sunday said.

Cotton was auctioned for Rs. 10 lakh at the Konganapuram branch of the Tiruchengode Agricultural Producers Cooperative Marketing Society on Saturday.

While 'PT' variety fetched a price between Rs. 4,000 and Rs. 4,600 per bag; 'DCH' variety fetched a price between Rs. 4,600 and Rs. 4,960.

### **Farmers in tail-end areas wait for water**

*“Water usually reaches only up to Thaniyamangalam”*

Farmers in the tail-end areas of Periyar Main Canal system in the Melur region are sceptic about receiving water released from the Vaigai dam more than a week back.

While the district administration said that the water will reach the tail-end areas once the tanks connected to the canal ahead of their regions got filled up, the Melur farmers say similar assurances were given to them in the previous years but never fulfilled.

S. Kannan from Ambalakaranpatti says that the canal in their area is dry for more than four years now. “Every time we urge the administration to give priority to the tail-end regions, but we are always neglected,” he says. “I have around 10 acres of land. Since I am not getting water from the Periyar canal, I have to rely on the well in my farm which has also dried up,” he adds.

Other farmers say that water usually reaches up to Thaniyamangalam but not villages such as Uranganpatti, Alampatti, Kurichipatti, Panangadi and those in the southern branches of the canal such as Tiruvadavur.

N. Palanichamy, president, Tamil Nadu Sugarcane Growers’ Association, says that while 84,000 acres of single-crop area in Melur block is dependent on Periyar canal water, around 50,000 acres remain fallow for want of water. “Tail-end areas are the worst affected,” he says.

Mr. Palanichamy blames the district administration for providing water first to Kallandiri and Othakadai regions which do not need water now. “They are double-crop regions presently harvesting their first crop for which there is no need of water. Instead, tail-end single crop areas planning to begin farming should have been given priority,” he says.

**“No need to worry”**

When contacted, Collector L Subramanian said that 1,300 cusecs of water was being released from Vaigai dam and it was just a matter of time for tail-end areas to get water. “The system comprises of a network of tanks and they need to be filled before providing water to tail-end areas,” he said.



Stating that water being released to different areas was being monitored closely, Mr. Subramanian assured that farmers in tail-end areas need not worry as adequate water was available for them.

***“Farmers in Kallandiri and Othakadai regions which do not need water now get it”***

### **Dam shutters may be opened**

Those living on the shores of the Bharathapuzha and Chittur Puzha in Palakkad have been directed to remain alert as Tamil Nadu will open the shutters of the Aliyar dam very soon.

Incessant rain in Anamalai and Pollachi regions has resulted in unprecedented increase in the water level at Aliyar dam, which normally takes water from Parambikulam in Kerala to irrigate Coimbatore and Tirupur districts of Tamil Nadu.

The copious flow into the dam in the last one week from surrounding areas has resulted in the increase of water level to 1049.3 feet on Saturday. The actual capacity of the dam is 1050 feet. With the repairing of damaged Moolathara regulator remaining half-finished, the release of water may create flash floods along the two Kerala rivers.

### **Drive to issue soil health cards**

The Agricultural Department will collect over 83,000 soil samples from all over the district and issue soil health cards to all the land holders in the district in the next two years. The card will carry crop-wise recommendations of nutrients/fertilisers required for farms.

Soil samples will be collected even from small farms in remote villages. Issuing of soil health card was an endeavour to improve the health of the soil and provide guidance to farmers on soil related issues.

The government had introduced the scheme of conducting soil testing and issuing soil health cards it realised that imbalanced application of fertilisers had caused deficiency of primary nutrients (nitrogen, phosphorus and potassium), secondary nutrients such as sulphur and micro nutrients such as boron, zinc, copper. M. Mahanteshappa, Joint Director of Agriculture, told *The Hindu* that soil test



evaluation results would enlighten farmers as what components were suited for their land.

He further said that the department would issue soil health cards for every three years in respect of all landholdings in order to capture the soil fertility changes occurring due to plant uptake or other natural causes.

Besides giving the soil health cards, the department would also help small and marginal farmers by giving technical support to apply site-specific fertiliser recommendations

### **Mettur Dam level**

The water level in the Mettur Dam rose to 94.82 feet on Sunday against its full level of 120 feet. The storage level of the dam stood at 58.334 tmc against its full capacity of 93.470 tmc.

The dam was receiving an inflow of 6,626 cusecs of water. About 700 cusecs is discharged from the dam for farm activities in Delta region and also under the dam's East-West canal system in Salem, Namakkal and Erode districts, the PWD sources said.

### **Highest inflow into reservoir of Amaravathi dam**

rea of Amaravathi dam touched the year high of 12,267 cusecs during the early hours of Sunday.

“This is primarily due to the rain in catchment area which contributed to sudden increase in the discharge from Rivers Pambar, Thennar and Sithar into the reservoir. The inflow recorded on the day was the highest in 2015 though the inflow has even crossed 20,000 cusecs during 2014,” Public Works Department (Water Resource Organisation) officials told *The Hindu* .

By 3 p.m. on Sunday, the inflow came down to 6,221 cusecs.

The outflow from the dam was 6,252 cusecs through River Amaravathi and Amaravathi Main Canal.

“Surplus water discharged is primarily used for power generation and irrigation,” the officials said.

The dam area received 43 mm rain during the 24-hour period that ended on Sunday. The water level was 88.22 feet against the full level of 90 feet.

Inflow into the reservoir of Thirumoorthy dam stood at 1,750 cusecs and the outflow was 550 cusecs. Majority of the inflow was from River Nallar situated in the upstream of Thirumoorthy dam.

### **Minister tours rain-hit areas**

*Officials told to ensure stagnant water is drained from paddy fields*

A total of 13,060 persons from rain-hit areas in the district have been accommodated at 29 relief centres and all arrangements have been made for supplying food to them, said K.A. Jayapal, Minister for Fisheries.

Accompanied by Dharmendra Pratap Yadav, Special Monitoring Officer, and S. Palanisamy, District Collector, the Minister visited various rain-ravaged areas in Sembanarkovil and Sirkali unions on Saturday. He said the paddy fields in Tiruvenkadu had remained water-logged and the Agriculture Department officials had been advised to take steps for draining the same to save the standing crop. At Perunthottam, he assured the people that the community hall would be repaired immediately.

The Minister visited the relief shelters at Keezha Moovarkarai and Konaiyanpattinam in Thennampattinam village panchayat and enquired with the people accommodated there about the services. The Collector said that steps had been taken to provide streetlights in areas near the shelters in panchayat union middle school in Annappanpettai and panchayat union primary school in Thennampattinam.

Earlier, the Minister inspected the discharge of surplus waters from Magimalayan river. He advised the Collector to stock adequate number of sand bags so as to meet any emergency. The Minister inspected the bus stand at Sirkali and advised the municipal authorities to drain the waters.

At Semmankudi village panchayat in Sirkali, 565 persons whose houses were water-logged, have been shifted to panchayat union primary school.

### **Adopt new farm techniques, Minister tells farmers**

Minister Kimidi Mrunalini said that crop yield had been depleting due to excessive use of chemical fertilisers and following traditional methods of farming.

Addressing farmers on the occasion of the World Soil Day celebrations at A.P. Agro Industries Corporation here on Saturday, Dr. Mrunalini asked them to use organic manure and adopt modern farming methods to improve yield per acre.

The government had already conducted 'Polam Pilusthondi' for creating awareness on farm mechanisation and methods how to minimise use of fertilisers, which require soil testing. The Minister said that the government had sanctioned 15,900 pump sets for the district.

She distributed soil testing certificates, fodder seed kits, and modern farm equipment valued Rs. 1.66 crore to 16 farming groups. Z.P. Chairperson Swati Rani, Collector M.M. Nayak, JD (Agriculture) Leelavathi and others were present.

### **'Soil health directly related to foodgrain production'**



Deputy Commissioner Vipul Bansal delivering inaugural address at a function to mark the World Soils Day in Kalaburagi on Saturday.

Deputy Commissioner Vipul Bansal has said that the health of soil is directly related to the production of food grain. The deterioration of soil health due to the indiscriminate use of the fertilisers would have a lasting impact on the food grain production in the country.

Speaking after inaugurating the World Soil Day programme and distributing soil health cards to farmers at the Krishi Vigyan Kendra in Kalaburagi city on Saturday, Mr. Bansal said that with the country deciding not to use Genetically Modified (GM) seeds in the food grain production, maintaining equilibrium between the demand and supply of grain has become a challenging task for the farmers and the country's planners.

Mr. Bansal said that the production of foodgrains in India was less than half than the production levels achieved in countries like China, where GM seeds were widely used.

The only answer to the problem was the maintenance of the soil health to achieve optimum production. Mr Bansal said that the decision to take up regular testing of soil quality regularly and issuing Soil Health Card to all farmers was a welcome measure.

He said that farmers should change their agriculture practices and take up crops suited to their soil, and not resort to market-driven choices. The government has very little control of the choice of the crops to be cultivated by the farmers since it supplied only 10 per cent of the total seed requirement in a season. The rest is met by private seed companies.

Farmers should change their agricultural practices on their own and choose the crop best suited to the condition of their soil, adhering to the advice of the Department of Agriculture and Krishi Vigyan Kendras. The farmers should blend their traditional knowledge in agriculture with the latest knowledge of the agriculture scientists to optimise the production of foodgrains.

Mr. Bansal later distributed the soil health cards to farmers. Project Director of the Agriculture Research Station D.M. Mannur, soil scientist Anand Nayak, and kendra programme organiser Raju Teggalli spoke on the occasion.

**KVK launches soil rejuvenation tonic**

The ICAR-Krishi Vigyan Kendra, Ernakulam, attached to Central Marine Fisheries Research Institute here has launched Nutrislurry, a desi cow dung-based fermented tonic for soil rejuvenation in Kochi on Saturday.

The launch was done as part of the World Soil Health Day celebrations, organised at Pallippuram, said a press release here. Nutrislurry, packed in five litre cans, would be supplied through the CMFRI-KVK sales counter soon.

Nutrislurry is an organic tonic that can help regain soil health by developing microflora population and organic matter content of soil. It is a fermented mixture of desi cow dung, neem cake and groundnut cake.

The Soil Health Day celebrations also saw farmers being given soil health cards indicating nutrient status of the soil in their holdings along with optimum fertilizer recommendations. The soil health card distribution was inaugurated by K. V. Thomas, MP and the Nutrislurry was launched by S. Sharma, MLA.

### **Soil analysis**

A. Gopalakrishnan, director, CMFRI released a folder depicting simple step-by-step procedure for farmers to collect soil samples from their fields for analysis. Pallippuram grama panchayath vice-president Remani Ajayan and senior scientist and head of KVK Shinoj Subramannian were present.

Dipti N. V., programme assistant at KVK conducted an awareness programme on soil test-based nutrient management.

World Soil Day was instituted by the Food and Agricultural Organization in 2002 with a view to create awareness on the need to conserve soil for human existence.

### **Conserve soil for better yield: CM**

Chief Minister Oommen Chandy has stressed the importance of soil conservation in improving agricultural output. Delivering the inaugural address at the World Soil Day celebrations organised by the departments of Agriculture and Soil Conservation, he said the government would go all out to encourage youngsters to take to horticulture.

Agriculture Minister K.P. Mohanan who presided over the function said the failure to conserve soil was one of the reasons for the severe flooding caused by the recent monsoon rains in Chennai. It is the responsibility of each one of us to conserve soil as nature's gift, he added.

Minister for Health V.S. Sivakumar highlighted the need to promote organic farming for healthy living.

Mr. Chandy inaugurated the distribution of soil health cards to farmers.

The Department of Posts released a stamp to mark the Soil Day celebrations.

K. Muraleedharan, MLA, Director of Agriculture R. Ajithkumar and Kerala Agricultural University Vice Chancellor P. Rajendran were among those present on the occasion.

### **Regulator-cum-bridge gets technical nod**

#### *Works under Malabar Irrigation Project*

: The Water Resources Department has accorded technical sanction for the construction of a regulator-cum-bridge at Chittarikkadavu in Koyilandy under the Malabar Irrigation Project (MIRPA).

Tenders will be floated shortly for the project funded by the National Bank for Agriculture and Rural Development (NABARD)

According to Koyilandy MLA K. Dasan, a total fund of Rs.20 crore will be invested for the completion of the project across a tributary of Kanayamkodu River in the region.

The main purpose of the project is to prevent saline intrusion into the local drinking water sources and address the threat of drought, he said.

It was in 2009 that the project was first approved by the government after including it in the Malabar Irrigation project. Though the government had then sanctioned Rs.10 crore for the project, the delay in getting a final design from the Irrigation Design and Research Board prolonged its implementation.

The project won administrative sanction only in December, 2014 after the issue was taken up by Mr. Dasan. Even after this, the wait continued for one year more to get technical sanction. "It was after frequent intervention and submission of memorandum to the authorities that we won technical sanction for the project. I



have asked the Irrigation Chief Engineer to speed up the tendering procedure to begin the works at the earliest,” said Mr. Dasan.

According to officials, the project, on completion, will benefit households in Balussery, Perambra and Koyilandy regions.

The regulator-cum-bridge, constructed at a length of 150 metres, will also replace the conventional ferrying at Chittarikadavu, they added.

### **Prepare action plan for irrigation, officials told**

Collector D. Ronald Rose has directed the officials to prepare an action plan for irrigation by December-end.

Participating in a review meeting held here on Saturday, Mr. Ronald said that the Union government would be preparing an irrigation policy for the next decade and hence the State government would prepare a plan according to that. “Prepare the details of lands that can be irrigated in the next one decade. The district will get as much as Rs. 500 crore, if we got selected in the scheme. Provide details of agriculture, horticulture and sericulture as well in the plan,” he suggested the officials.

Trainee Joint Collector Krishna Aditya was also present.

### **‘Excessive use of pesticides making land lose fertility’**



Agriculture Secretary C. Parthasarathi observing the chemicals used in soil testing at the stalls set up by the department in Nizamabad on Saturday. Collector Yogitha Rana looks on.— Photo: K.V. RAMANA

C. Parthasarathi, the Secretary of Agriculture, has called upon every farmer to get the health of the soil on their cultivable land examined from time to time without fail.

Giving away the soil health cards to farmers at a meeting organised in connection with the World Soil Health Day here on Saturday, he said with the use of excessive fertilisers and pesticides, agricultural lands were losing fertility. Therefore, farmers should use the chemical fertilisers and pesticides judiciously, he said.

Farmers, without thinking about the soil health of their lands, were using more fertilisers than they really required, he said. For example, where four times urea, two-parts phosphorous, one-part potash were required, farmers were using eight-parts urea and three-parts phosphorous, he said.

### **Suggestions**

He wanted farmers to get their soil health examined once every three years, and adopt the cropping pattern accordingly. Government was taking steps to give suggestions to the farming community by collecting and examining 10 lakh soil samples, he said. Mr. Parthasarathi said that soil testing was being done at the district headquarters presently and the facility would be extended to the agriculture marketyards and mandal headquarters. Earlier, he inaugurated the soil testing stalls.

Collector Yogitha Rana said that soil testing was being done across the globe. With the excessive use of urea, cultivable lands were losing their fertility, she said. She also said that a Central team would be visiting the district on Monday to assess the gravity of the drought.

### **UAS-B alumni meet to deliberate on helping farmers**

The Global Alumni Meet at University of Agricultural Sciences-Bengaluru, on December 27 and 28, will deliberate on how the alumni of UAS-B, particularly those who have made it big abroad, can help improve the livelihoods of farmers in distress in Karnataka. The meet is coinciding with the silver jubilee of the association.

Association president K. Narayana Gowda told presspersons here on Saturday that the meet, which is being inaugurated by noted agricultural scientist M.S. Swaminathan, will discuss and showcase technologies that can promote sustainable agriculture.

Dr. Gowda said an effort would be made to enlist the support of the alumni working abroad in funding agricultural development works in a few villages.

The meet will be attended by famous alumni, including Home Minister G. Parameshwara, U.S. National Institute of Food and Agriculture Director Sonny Ramaswamy and Indian Council of Agricultural Research Director-General S. Ayyappan.

### **H.P. to distribute one lakh soil health cards**

The Himachal Pradesh Government will distribute one lakh soil health cards during a 13-day special campaign launched on the World Soil Health Day on Saturday to create awareness among farmers about the importance of soil testing.

During the campaign, which would culminate on December 17, farmers would be informed about the importance of soil testing and use of appropriate and balanced use of fertilizers and nutrients, a spokesman of the Agriculture department said.

Realising the importance of soil as a critical component of the natural system and as a vital contributor to food, water, energy security and as a mitigator of biodiversity loss and climate change, the World Soil health Day is celebrated on December 5, he added.

The department has set up 11 soil testing laboratories and four mobile soil testing labs to help farmers. -- PTI

# DECCAN **Chronicle**

**Rain fever grips Chennai as Met dept warns of heavy rainfall in isolated places**



**Chennai:** The people of Chennai spent another day in fear and anxiety amid constant threat of heavy rain as the city received a few intense spells of intermittent rainfall Sunday.

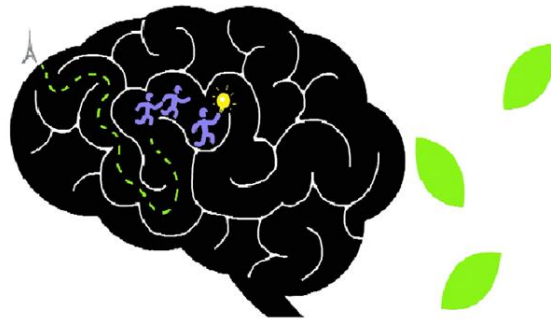
Fortunately, the rain itself may not have been lethal enough to cut open the scars left by last week's rain.

The Met department issued a fresh warning Sunday putting Chennai back on a hit list with a new low lying trough over the southwest Bay of Bengal off Tamil Nadu coast. Heavy to very heavy rainfall in isolated places over north coastal Tamil Nadu and Puducherry and heavy rainfall in isolated places over south and interior Tamil Nadu, Kerala, Laksha-dweep is forecast for Monday.

The Nungambakkam station received close to 5 cm of rainfall from Saturday midnight to Sunday late evening. The city received widespread rains from light to moderate for most part of the day not allowing the sun to pop up.

Luckily, there wasn't as much rainfall in the catchment areas of the Chembrambakkam reservoir, which is brimming. It was when the floodgates of this reservoir were opened that most parts of South Chennai got marooned causing maximum damage. The catchments received just 2 cm of rainfall on Sunday.

## The way from Paris



How do we square this circle? On the one hand, the world has come together to tackle the threat of global warming. More than 150 countries have set out their intended nationally determined contributions (INDCs) towards containing the temperature increase to below 2 degrees Celsius relative to preindustrial levels. India has said, for instance, that it will reduce carbon emissions intensity by 30-35 per cent by 2030, relative to 2005, and that subject to financial and technical support, it will meet 40 per cent of its energy requirements from renewables (solar and wind) by 2040. The aggregate of these contributions is not enough to achieve the temperature objective but there is no denying that these statements of intent represent a solid first step and raise the prospect of a second, larger step and eventual success. Also, it is the first time that the developed and developing countries have read from the same “climate change” script.

On the other hand, the International Energy Agency (IEA) has projected that coal and oil will remain the bulwark of the future global energy system and that China and India will be the drivers of fossil fuel demand. It has estimated that India’s oil demand will increase from 3.6 million barrels per day (mb/d) today to around 10 mb/d by 2040, and that it will be the largest incremental contributor to coal demand in the world .

Paris and the IEA are not mutually consistent. The world cannot move on to a low-carbon trajectory if the projections of the IEA are proved accurate. The question is, how then can one square the imperative of carbon reduction with the circle of a fossil fuel-dominated energy system? Prime Minister [Narendra Modi](#) offered a meaningful and constructive suggestion in Paris. In his speech, he called for global “partnership” and “innovation”.

Moore’s law and Ray Kurzweil’s “law of accelerating returns” sit at the nub of the PM’s suggestion. Moore posited that computing power would double every 18-24



months. Kurzweil explained that this is because every technological breakthrough has been built on innovations made in a previous period. They have not been discrete standalone developments. His law posits that this trend will continue into the future. Moore and Kurzweil are essentially forewarning us against convention. They are saying, be prepared for further disruption. Expect more surprises. Do not get straitjacketed by linearity.

Looked at through their lens, the energy sector looks like it is headed towards an interesting crossroads. No one can tell when it will reach this marker, but as and when it does, one road will move it forward linearly in a direction that will sustain the dominance of oil and coal in the energy market. This is the direction the IEA has presumably projected. The other will push it into uncharted territory. The pathway will not be signposted. There will be many twists and turns and no one will quite know the specifics of the destination. But it will lead towards a future in which these two fuels will inexorably lose their preeminence. The leaders in Paris have banked their hopes on this course.

The climate-change relevant question is, how will the continuing compounded advance of technology impact the energy sector? What are the emergent trends? What is the likelihood that these trends will place the world firmly on the pathway towards decarbonisation? The answers are not clear, but one can sketch a scenario of a possible future.

The transportation sector today accounts for 60 per cent of the demand for oil. The balance is consumed by industry (25 per cent), residential and commercial establishments (10 per cent) and electricity (5 per cent). Looking through a linear eyeglass, oil looks like it will retain and indeed increase its monopoly share well into the future. This is because there are no obvious scalable alternatives. Natural gas is a possibility but massive investments in pipelines, etc, have to be made and engines have to be redesigned. Biofuels are also an option, but they compete with agriculture and are not as energy efficient as gasoline. Looking through the Moore and Kurzweil prism, however, one can discern “disruptive” possibilities.

Hybrids and electric vehicles are, for instance, in the market and while they have barely made a dent — only 3,00,000 EVs were sold last year against 82.5 million internal combustion vehicles — the constraining hurdles of cost, battery and storage, and plug-in infrastructure, are not insuperable.

Technology will sooner rather than later find a way of crossing these hurdles. And when that happens, the game will change. Similarly, the current owner-operator model for cars is under threat from “smart mobility” and “smart economics”. [Google](#) is investing in driverless cars and Uber and others are offering online mobility services. People will not give up cars easily. They like to



drive, and cars are a badge of identity and status. But given that cars are an inherently inefficient asset — they are idle for 90 per cent of the time and take up valuable and scarce urban land in parking lots and garages — and Generation Y may well see the economic logic of sharing rather than owning, consumers might downgrade cars to a utilitarian commodity. Amory Lovins has captured these emergent trends acronymically. He says the transportation sector is transiting from “Pigs” (personal, internal combustion, gasoline, steel-dominated vehicles) to “Seals” (shared, electrified, autonomous, lightweight service vehicles).

If on top of these shifts in the transportation model, renewables continue to move down the cost curve and next-generation clean energy technologies like carbon capture and sequestration, cellulosic biofuels (so that there is no competition with agriculture), hydrogen fuel cells and safer nuclear reactors are fast-forwarded from the pilot and demonstration phase to commercial applicability, the hopes of Paris would be within reach.

The larger point is that fossil fuels may remain in the interstices of the energy system, but innovation can ensure they have a cleaner impact than today. The key is global partnership. The circle can be squared if, as the PM suggested, everyone works together in a spirit of equity and “differentiated responsibility”.



## THE TIMES OF INDIA

### **Veggie supply down by 50%, pulses steady**

CHENNAI: Vegetables will be in short supply by 50% as the number of supply trucks arriving everyday at the market has reduced from 320 to 150 over the last few days. There will be, however, no shortage of pulses, said traders who assured that prices will remain stable.

"Regular supply of veggies will be restored from December 15," said Koyambedu vegetable market association advisor Soundarrajan. He said that the supply of local varieties like brinjal, okra and bitter gourd has come down. These vegetables mostly come from Tiruvallur, Villupuram and Kancheepuram which are affected by rain. Drumstick that arrived from Mumbai sold at Rs 5 a piece compared to Rs2 on other days.

However, supply of vegetables arriving from Andhra Pradesh and Karnataka are unaffected and their prices remain stable. Onion was selling at Rs50-60 per kg, tomato at Rs 40-50, potato at 20, carrot at Rs 50 and beetroot at Rs30.

Supply of basic supplies like bread and milk has been hit as they are transported from Ambattur and surrounding areas that remain under water. Medical shops reported shortage in supply as many of the godowns on Mint Street and surrounding business districts are affected.

### **Intermittent rain keeps Chennai on its toes**

CHENNAI: Intermittent rain on Sunday and forecast of more over the next two days kept Chennai, its suburbs and coastal districts on their toes even as normal life appeared to be returning to the flood-ravaged areas.

All flight operations, domestic and international, and train services from both Chennai Central and Egmore are to resume on Monday as water levels in the Adyar and Cooum rivers receded enabling authorities to restore tracks on Sunday afternoon.

Throughout Sunday, there have been intermittent rain, which were at times heavy, in Chennai, its suburbs, Kanchipuram, Thiruvallur and Cuddalore districts where the weatherman has predicted more rain for the next 48 hours.

### **Track all updates from Chennai here**

Rain-battered Cuddalore is likely to get heavy to very heavy rain, meteorological department said, adding that Sunday's rain was due to a twin weather system, including formation of a new trough of low pressure over Bay of Bengal along the Tamil Nadu coast.

Chennai city, which has been experiencing intermittent rain, would continue to be cloudy and rain or thundershowers, at times heavy, are likely.

Power supply has been restored in several areas, while it continued to be disconnected in many others where water has not receded as a measure of precaution.

Ravaged by heavy rain last week which crippled services, several private and public sector banks operated on Sunday. A big chunk of private and public sector banks functioned to clear the backlog caused by the rain which had paralyzed ATM services.

As a precautionary measure, the state government has declared holidays for schools and colleges on Monday in the districts, including Chennai, Kanchipuram and Tiruvallur.

All domestic and international flights from Chennai, both day and night, will resume from on Monday morning after partial day-time services operated today.

"....availability of Chennai airport for all weather day and night operations for all flights for which domestic and international terminals will be available from 6 am of 7.12.2015," an Airport Authority of India statement said here late this evening.

This followed an inspection by DGCA for night operations, an AAI spokesman said.

The airport was shut down last Tuesday night after heavy downpour flooded the runway and all other operating areas.

Civil aviation minister Ashok Gajapathy Raju is likely to visit Chennai airport on Monday to make an on-the-spot inspection.

THE HINDU  
**BusinessLine**

**Sona Koyo to launch power steering for small tractors**

Auto components maker Sona Koyo Steering Systems (SKSS) plans to launch next fiscal the power steering technology for small tractors in the domestic market. “We have developed an electronic power steering for agriculture tractor application. The technology has been extensively tested in India and it will be launched in the next fiscal,” SKSS Executive Chairman Kiran Deshmukh told PTI.

The company is already exporting power steering technology called Electronic Power Assisted Module (EPAM), developed for off-road vehicles four years back, to the US market. The same technology is being adopted for small tractors in India, he said.

At present, power steering is available in big tractors alone and it cannot be fit into small tractors due to lower engine capacity and space constrain, he said.



### **Basmati unites India, Pak in ‘joint heritage’ claim**



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India's basmati rice exporters could soon get the coveted geographical indication (GI) tag and resultant premium for the long-grained aromatic rice in global markets, with New Delhi and Islamabad resolving to share commercial gains from the grain's exclusive traits. Official sources said Pakistan has agreed not to contest India's move to include basmati rice grown in its part of the Indo-Gangetic plain in its GI Registry, with the condition that when that country puts in place a similar IPR (intellectual property rights) platform, it would also get the rice grown in its Punjab province registered under a GI system.

A GI tag for a product distinguishes itself for its geographic origin and, under a multilateral framework, prevents traders from attributing its name and traits for products from other geographies. GI ascribes 'exclusivity' to the community in a defined geography, rather than to an individual, as in the case of trademarks and patents.

The Chennai-based Intellectual Property Appellate Board (IPAB), sources said, recently concluded hearing all the stakeholders — farmers, breeders, exporters and representatives from Pakistan — on the basmati rice GI and could issue a final notification in this regard in a week or so. Earlier, there were conflicting claims over basmati even among Indian states, leading to legal wrangles.

GI protection in India would lead to similar recognition in other countries, including the European Union and the US, which implies that India's competitors would be barred from using the 'basmati' tag. In the absence of GI for basmati rice, many private companies have been trying to register their products under the title, which commands a premium in the global market.

Basmati rice from the Indo-Gangetic plain, which includes the Punjab province of Pakistan, has a special aroma attributable to it. India commands 85% share in global basmati trade at present.

Following the GI notification, farmers in 77 districts of seven states — Punjab, Haryana, (western) Uttar Pradesh, Uttarakhand, Delhi and Jammu and Kashmir — would benefit.

The GI Registry, in a directive issued on December 31, 2013, had asked the Centre if Madhya Pradesh could be included in the definition of traditionally basmati-growing geography, inviting strong reactions from the commerce and agriculture ministries, which argued the state's claim was unjustified. Even as the issue was pending with the GI Registry, the Madhya Pradesh government had moved the IPAB. The Agricultural and Processed Foods Export Development Authority (Apeda), which operates under the commerce ministry, subsequently told IPAB that MP's claim was invalid. Under the Geographical Indications of Goods (Registration and Protection) Act, 1999, Apeda is designated to be the custodian of GI rights for farm produce.

“Claiming rice grown in Madhya Pradesh as basmati is not correct, as we have developed seed varieties keeping in mind agro-climatic zones of the Indo-Gangetic plain,” K V Prabhu, deputy director, Indian Agricultural Research Institute (IARI), and a well-known rice breeder, had recently told FE.

In 2009, Apeda had applied to the GI Registry asking for exclusive (commercial) use of the basmati tag for grain varieties grown within the boundaries of the Indo-Gangetic plain. Subsequently, India and Pakistan had initiated steps to register basmati under GI as ‘joint heritage’ for protecting its premium market abroad. But that bid did not fructify due to opposition to it within Pakistan.



India's basmati rice exports, which had touched a record R29,000 crore in 2013-14, fell to R27,600 crore in 2014-15, due to a decline in shipments to Iran.

According to official data, more than 237 products — Darjeeling tea, Madhubani paintings, Alleppey coir, Kashmir Pashmina, among others, have got GI certification for preserving their uniqueness.

# THE ECONOMIC TIMES

**Walnuts have 21 per cent fewer calories: US Department of Agriculture**



WASHINGTON: In a significant find for the calorie-conscious, researchers today said walnuts have 21 per cent fewer calories than what is currently assigned by US government to the 'king of nuts'.

A new study published in the prestigious Journal of Nutrition found that walnuts have 21 per cent fewer calories than what is currently assigned by the United States Department of Agriculture (USDA).

Historically, the calorie value for walnuts was determined using the Atwater factors, which were developed in the late 19th century and calculate metabolisable energy, or energy available to the body, for many foods.

Baer's research found that the metabolisable energy of walnuts was 21 per cent less than that predicted by the Atwater factors.

"Yes, these are significant results in the sense that they provide, for the first time, an accurate measure of the number of calories in a serving of walnuts. This research overcomes limitations of research conducted over 100 years ago whose results are still used today," Baer told PTI.

He said that there are many aspects of a food to consider when one decides what and how much to eat.

"High fat foods do not necessarily make us fat and low fat foods are not necessarily the healthiest for us to eat. We have to consider the availability of calories when making food choices, especially for tree nuts," Baer said.

"Walnuts are a good or excellent source of several important nutrients. However, some consumers might be reluctant to include walnuts in their diet for fear that consuming walnuts might lead to weight gain.

"For those calorie-conscious consumers who might avoid walnuts, our results show that the number of calories in a serving of walnuts is significantly less than what is currently on the food label, he said.

### **Unseasonal rains in Maharashtra affect fruit crops, leads to bumper crop of orange**

Maharashtra are staring at losses due to unseasonal rains during the summer. Although it has led to a bumper crop of orange — as even farmers without irrigation facilities were able to grow the fruit — the onset of winter in northern

India and heavy rainfall in the southern states crimped demand, pushing down farm gate rates for the fruit by more than half. The weather anomaly has also disturbed the arrival of grapes and strawberries, according to farmers.

According to the Orange Growers Association of India, yield of Nagpur Mandarin oranges is expected to be thrice last year's output. However, the onset of winter in the north and heavy rains in the south has led to a glut in the market. "As against Rs 20/kg to Rs 25/kg we received at the farm gate, we are getting just Rs 8/kg to Rs 10/kg today," said Amol Totey, president of Orange Growers Association of India.

Normally, only farmers having irrigation facilities grew fruits in the current season, as the orchards have to sustain the fruits through the summer. However, intermittent unseasonal showers this summer led to a bumper production. Meanwhile, growers of the 'mrug bahar' variety of orange, which is harvested between February and April, said output will be lower due to deficient monsoon rainfall. Unseasonal rains have affected the grape crop.

The fruit was hit more by rains in growing areas than the rainfall in south India. Grapes were being exported to Bangladesh, giving growers a good returns of .Rs 100/kg for white grapes and Rs 150/kg for black grapes.

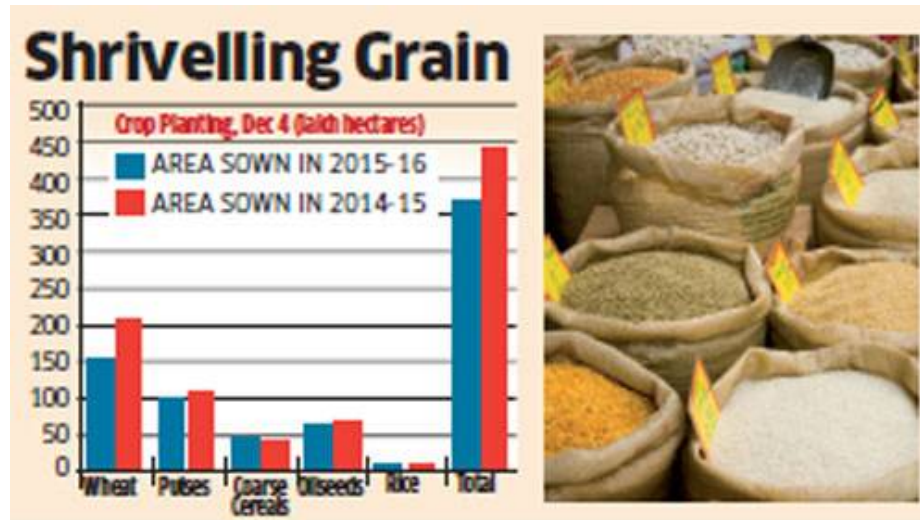
### **Global warming, El Nino may wither wheat crop**

CHANDIGARH: Rising temperatures due to greenhouse gases and El Nino are said to be taking a toll on the wheat crop as late planting in the hottest year on record is set to delay the harvest and severely hit farm yields, magnifying rural distress. The late onset of winter and exceptionally dry conditions after the weak monsoon have prompted late crop sowing by farmers.

They have suffered crop damage due to two consecutive failed monsoons and unseasonal rain and hailstorms in February and March, which damaged the winter-sown crop just before harvest time. Wheat planting is already 27% lower than last year. Experts said even if weather conditions improve and farmers resume planting, the crop will mature by May, denying it the cool weather for better yields.

"Delayed sowing will expose the crop to higher temperature at the time of

maturity. Winter chill is crucial for grain formation as the high temperature reduces output," said Indu Sharma, director of the Karnal-based Indian Institute of Wheat and Barley Research. Sowing of wheat has been affected in high-production zones in UP, Madhya Pradesh, Haryana, Bihar and Rajasthan. Weather scientists said the effects of El Nino is exacerbating the situation.



"This year El Nino effect is strong and its impact is also prolonged," India Meteorological Department director BP Yadav told ET. "The winter is likely to be warmer and shorter this time." The IMD said the current year has been the hottest since 1901. The World Meteorological Organisation (WMO) said 2015 is likely to be the hottest on record, while 2011-2015 is the hottest-ever five-year period.

"This is due to a combination of a strong El Nino and human-induced global warming," it said. "The overall warming impact of this El Nino is expected to continue into 2016," WMO secretary general Michel Jarraudon said November 25. Sharma said wheat output and quality can be hit if February and March are warmer than usual. Agriculture experts are alarmed that the El Nino impact could last for years. Higher temperatures have already affected the sowing of wheat and mustard.

### **Why two consecutive droughts don't affect India the way it used to?**

I am amazed when people ask me why food prices, notably that of dal, have gone up. India has just suffered two consecutive droughts. The question to be asked is why, after a disastrous monsoon, food prices have risen so little.

I became a journalist in 1965, when also India was hit by two consecutive droughts. Foodgrain production fell by 20 per cent, starvation was rampant, and

inflation went through the roof. India was pathetically, humiliatingly dependent for survival on US food aid, and lived a "ship to mouth" existence. Fifty years later, two back-to-back droughts years have made so little impression on the lives and minds of people that they wonder why food prices are up. GDP data shows that agricultural production actually went up marginally in 2014-15 despite a drought. In the current financial year, agricultural GDP rose by 1.8 per cent in the first quarter and by 2.2 per cent in the second quarter, although the rainfall deficiency was 14.3 per cent this year against 12 per cent last year. TV cameramen have scoured the worst-hit districts for starving villagers but cannot easily locate any. The drought is simply not a big news story.

A bad monsoon does not just hit agricultural production and prices: it hits industry and services too. Historically, many industries — notably textiles, jute, sugar and edible oils — were dependent on farm output for raw materials. Most jobs were created in sowing, weeding, harvesting, transporting and processing produce. This explains why economist Arvind Virmani once showed that in the first 50 years after independence, no less than 45 per cent of changes in Indian GDP could be explained by changes in rainfall: other factors put together accounted for only 55 per cent.

The twin droughts of 1965 and 1966 led some foreign experts to opine that India could never feed itself. *Famine 1975*, a bestselling book by William and Paul Paddock, predicted global famine by 1975. The authors said limited food surpluses of the West should be conserved for countries capable of being saved, while countries incapable of being saved, like India, should be left to starve, for the greater good of humanity. Indians were angered and horrified by the book, yet it was widely applauded in the West. Environmentalist Paul Ehrlich, author of *The Population Bomb*, praised the Paddock brothers sky-high for having the guts to highlight a Malthusian challenge.

Today, we seem barely aware of two successive droughts. What accounts for the change? Some think the Green Revolution increased food grain availability per head. No, grain availability peaked in 1964 and then declined. Mass starvation ended in subsequent droughts mainly because of better distribution: rural employment programmes provided just enough purchasing power in affected districts. People were still hungry, but did not starve.

Incomes rose over the years and Indians switched from cereals to superior foods. So, per capita consumption of cereals declined. This unexpectedly created grain surpluses. So, in the 1990s India became a substantial net food exporter, and the second largest rice exporter in the world. It continues to export food even in

drought years. That is amazing for a country that used to be the greatest beggar for food aid.

The Green Revolution raised yields, enabling more to be produced from the same area. Tubewell irrigation meant the rabi crop increased from one-third the size of the kharif crop to as much or more. The total irrigated area increased from one third to 60 per cent. Drought proofing was substantial.

More important, agriculture's share in the economy fell steadily, from 52 per cent in 1950 to just 14 per cent today. Services now constitute 60 per cent of the economy, and don't depend on the monsoon. Industrial production has diversified into engineering and chemical products, and is no longer dominated by farm-based industries like cotton textiles, sugar, and jute textiles.

However, this success has been accompanied by grave environmental damage. Free electricity to farmers has encouraged over-pumping and alarming aquifer depletion. Politicians refuse to charge farmers for power, saying this will lose them elections. One compromise may be to give a free solar pump to every farmer, and charge for other electric supplies.