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# THE HINDU

## States get more time to spend funds on micro irrigation

*Agriculture Ministry extends deadline by a month*

The Agriculture Ministry has extended by a month the deadline for States to utilise funds under the Pradhan Mantri Krishi Sinchai Yojana (PMKSY) for implementation of micro irrigation projects.

Earlier, Agriculture Minister Radha Mohan Singh had said that unutilised funds should be diverted to States that showed better utilisation. About Rs. 1,000 crore had been allocated to States for micro irrigation schemes to be implemented by November but several States were found lagging, at a review meeting held recently. Under the scheme, States were supposed to restore water bodies and converge micro irrigation projects.

Speaking to *The Hindu*, Mr. Singh said the schemes had to be implemented by States but if they failed to do so, then they would stand to lose the funds.

So far, of the Rs.1,000 cr. released, only 50 per cent had been utilised. Against a target of 5 lakh hectares, only 1.32 lakh hectares had been brought under micro irrigation.

The programme envisages drought proofing, drip and sprinkler irrigation and tying up with MGNREGS schemes, all of which are within the purview of State governments.

The Minister said some of the States that had suffered crop damage due to drought and deficit southwest monsoon had not even submitted memorandum for drought relief funds.

The Pradhan Mantri Krishi Sinchai Yojana, with an outlay of Rs. 50,000 crore for a period of 5 years (2015-16 to 2019-20), aims to achieve convergence of investments in irrigation at the field level.

It focuses on convergence of ongoing schemes including the Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation; the Integrated Watershed Management Programme (IWMP) of the Department of Land Resources; and On Farm Water

Management (OFWM) component of National Mission on Sustainable Agriculture (NMSA) of the Department of Agriculture and Cooperation.

The PMKSY has to be implemented in an area development approach, adopting decentralised State-level planning and execution, allowing the States to draw their irrigation development plans based on district/block plans.

### **Embossed pearls catch farmers' fancy in Karnataka**



Image pearls used in pendants

Did you know that it is possible to get an image or design of your choice embossed on pearls while they are being formed in the oysters? Well, “image pearl farming” is all about such a delicate process which has been picked up by several enterprising farmers in Karnataka.

In fact, Karnataka is slowly trying to gain a foothold in this highly skilled process in the last two-and-a-half years with a substantial number of farmers getting trained in freshwater image pearl farming.

Pearls are nothing but a natural secretion called nacre deposited over months by oysters. These farmers carefully implant moulds of images/designs made out of bio-compatible material inside the shells of oysters to shape the formation of the pearl.

## **Delicate process**

B.V. Krishnamurthy, an associate professor in the Fisheries Department of the University of Agricultural Sciences-Bengaluru that trains the farmers in image pearl farming, explains that the process starts by procuring oysters from different States.

Oysters can be easily transported as they can live without water for three days. After acclimatising the oysters to the local conditions for about two months, the farmers carefully open up their shells with sophisticated instruments and implant the moulds of images. After the implant, the oysters are allowed to recuperate for about a week in aerated condition before releasing them into ponds.

It would take about nine months for the image/design pearls to emerge after the implantation. The image pearls will be recovered by cutting open the shells, says Dr. Krishnamurthy, who co-ordinates a course under which about 300 farmers have been trained in the last two-and-a-half years.

## **Good income**

Vasudevappa Raju, one of the pioneering image pearl farmers in Karnataka, says he produces about 1,500 such pearls a year from one acre of land near Kanakapura.

“I sell them at a rate of Rs. 500 to 700 a piece. We can get more money if we convert them into pendants with gold or silver covering,” he says. He earns about Rs. 5 lakh from pearl farming on one-acre land.

D. Seenappa, head of the Fisheries Department of UAS-B, suggests that pearl farming be integrated with fish rearing.

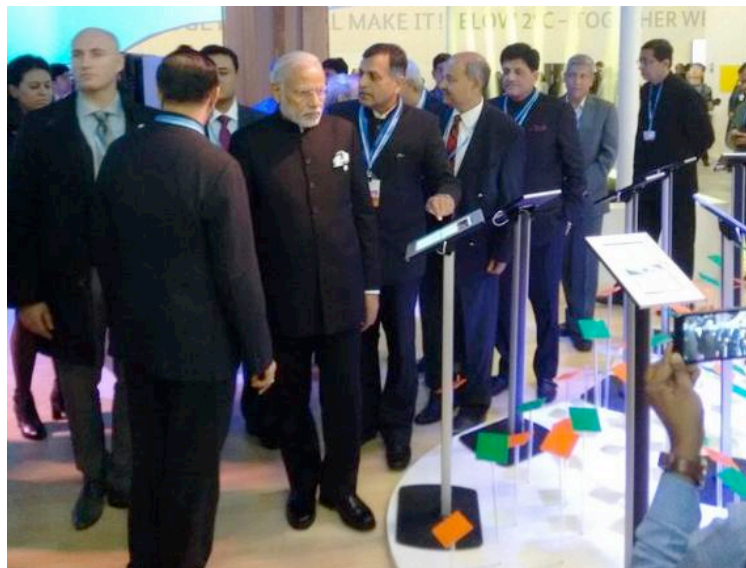
This would help increase the incomes of farmers, he points out.

While 300 farmers have been trained, only about 40 farmers have been seriously practising image pearl farming as it is a highly skilled job, notes Dr. Krishnamurthy.

## India will fulfil commitments on climate change, says Modi



Prime Minister Narendra Modi releasing 'Parampara' — a book on India's climate friendly and sustainable practices — at the Paris conference. Also seen are Union Ministers Prakash Javadekar and Piyush Goyal.



Prime Minister Narendra Modi inaugurating the Indian Pavilion at COP21.  
Photo: G. Ananthkrishnan



French President Francois Hollande (C) poses for a photo with fellow world leaders during the opening day of the World Climate Change Conference 2015 (COP21) at Le Bourget, near Paris, on Monday.

Prime Minister Narendra Modi on Monday said India would fulfil all its responsibilities with regard to climate change as he met U.S. President Barack Obama on the sidelines of the climate summit in Paris.

Mr. Modi, in his meeting with Mr. Obama, also appreciated the openness with which the U.S. President addressed issues with him and said it would help in developing a better understanding.

“India will fulfil expectations from it and its responsibilities... the country is working to take forward development and (protecting) environment together,” Mr.Modi said at a joint press event with Mr.Obama.

The Prime Minister also mentioned India’s ambitious target of producing 175 GW of renewable energy.

The Prime Minister’s comments came in the backdrop of India’s strong resentment over U.S. Secretary of State John Kerry’s statement that India would be a “challenge” at the climate conference. Environment Minister Prakash Javadekar described the comments as “unwarranted”.

Mr.Javadekar and Mr.Kerry accompanied Mr.Modi and Mr.Obama along with other senior Ministers and officials.

Mr.Modi also talked about the solar alliance initiative, saying it would help in fulfilling the dreams which had brought the countries together here.

Ahead of his talks with Mr.Obama, Mr.Modi had said that there was an urgent need to craft a comprehensive, equitable and durable agreement to limit global warming.

Later, speaking at the Mission Innovation event hosted by Mr.Obama, Mr.Modi said, “Our innovation initiative should be driven by public purpose, not just market incentives, including on intellectual property.”

“We must come together in a partnership to bring clean energy within the reach of all. The world has assembled in Paris to change the course of our planet to a sustainable path,” Mr.Modi said.

“This partnership will combine the responsibility of government with the innovative capacity of the private sector,” he said.

Mr.Modi began his address by saluting French President Francois Hollande and the French people for their courage and resolve in the aftermath of the horrific Paris attacks.

“We will restore the balance between ecology and economy, and between our inheritance and obligation to the future,” Mr.Modi said.

### **As it happened:**

**6-15 pm IST:** PM closes speech: To the people of India and our friends, I call you to live with the commitment of ‘Lokah Samastah Sukhinau Bhavantu’

**6-10 pm IST:** Our commitment to tackle climate change arises from our timeless traditions and beliefs, says PM

**6-05 pm IST:** PM outlines the changes taking place in India as it adapts: By 2030, 40% of our installed capacity will be based on non-fossil fuel.

**6-01 pm IST:** 'Climate change is not of our making. It is the result of global warming that came from an industrial age powered by fossil fuel.' Yet, we face its

consequences today, and that is why the outcome in Paris is so important and we are here today, says Modi

**6-00 pm IST:** We approach the negotiations under UNFCCC in a spirit of partnership, based on the principles of equity & common but differentiated responsibilities, says Modi

**5-55 pm IST:** Mr. Modi releases *Parampara* — a book on India's climate friendly and sustainable practices. He is now addressing the Indian pavilion:

- \* Climate change is a major global challenge.

- \* Climate change is not of our making. It is the result of global warming that came from an industrial age powered by fossil fuel.

- \* Yet, we face its consequences today, and that is why the outcome in Paris is so important and we are here today.

- \* We want the world to act with urgency. Agreement must lead us to restore balance between humanity and nature.

- \* We want a comprehensive, equitable and durable agreement in Paris.

- \* Our commitment to tackle climate change arises from our timeless traditions and beliefs.

- \* PM outlines the changes taking place in India as it adapts: By 2030, 40% of our installed capacity will be based on non-fossil fuel.

**5-43 pm IST:** Prime Minister Narendra Modi inaugurates India Pavilion at COP21. Mr Modi said, "India pavilion also seeks to demonstrate the strong belief that the world needs to look beyond climate change & focus on Climate Justice."

**5-19 pm IST: Obama, Xi tout close U.S.-China climate coordination**

President Barack Obama touted close U.S. cooperation with China on climate change as vital to world efforts for slowing global warming, even as he acknowledged persistent differences with China's President Xi Jinping over cyber-security and maritime security.

**4-50 pm IST: Modi meets Sharif**

Mr. Modi meets his Pakistani counterpart Nawaz Sharif. In September, the two leaders were present at the U.N. peacekeeping summit but their interaction was limited to wave.

**4-00 IST: 'India will have a positive mindset'**

Prime Minister Narendra Modi met French President Francois Hollande and said that India will have a "constructive and positive" mindset at the summit. In his

meeting with the French president, Mr. Modi asserted that “credibility of commitments” to combat climate change by nations will be the key to a successful climate agreement during the ongoing summit.



**4-20 pm IST** The international Red Cross is calling for delegates at the Paris conference to make a priority of helping poor and vulnerable people to deal with the impact of climate change.

The International Federation of Red Cross and Red Crescent Societies called Monday on negotiators to ensure that money is provided for communities that will face, or already face, fallout from rising temperatures.

The federation’s secretary general, Elhadj As Sy, said that “the consequences of climate change are already being felt by the world’s poorest and most vulnerable communities.” He added- “It is crucial that any new global agreement emphasizes the need to support these communities to become more resilient and reduce the climate risks they face.”

**4-15 pm IST** The French football federation says it wants to reduce the impact the sport can have on climate change.

In a partnership with the French agency in charge of environmental and energy—related issues, the soccer federation has issued guidelines for its members aimed at reducing pollution and carbon emissions.

“With one million matches played every year, 3 millions of kilometers (1.9 million miles) traveled every weekend, it is also football’s responsibility to contribute to limit the impact of this activity on the environment,” it said in a statement.

The federation has published an electronic guide available to its 18,000 clubs stressing for instance the need to resort to carpools at weekend matches across France or to save energy by using a reasonable amount of light on football pitches.

**4-05 pm IST** French President Francois Hollande is urging a strong, binding global agreement to fight climate change.



“What is at stake with this climate conference is peace,” he said at the opening of two weeks of talks.

“The fight against terrorism and the fight against climate change are two major global challenges we must face,” he said.

**4-00 pm IST** One of the worst spells of air pollution in recent years is hitting Beijing as negotiators meet in Paris to combat global warming.

The city reported extremely hazardous levels of the tiny, poisonous matter PM2.5 on Monday afternoon, 25 times more than what the World Health Organization considers safe.

The pollution, the worst in 2015, prompted Beijing authorities to issue a rare orange alert the second—highest in the four—level urgency system. Schools have suspended outdoor activities, and factories must reduce production.

The warnings came as the U.N. climate conference opened in Paris, aiming to create a landmark agreement to fight global warming.

**3-50 pm IST** World leaders gathered for a critical climate conference are holding a moment of silence in honor of people killed in recent attacks in Paris, Beirut, Baghdad, Tunisia and Mali.

U.N. Secretary General Ban Ki—moon declared the moment of silence as he launched two weeks of talks in Paris Monday aimed at a long—term deal to slow man—made global warming.

Organizers sought a high—level kickoff to the talks in hopes of providing impetus for a strong agreement. They say 151 world leaders are expected to attend.

Some leaders have visited the sites of the deadly Nov. 13 attacks in Paris. President Barack Obama laid a flower at a concert hall where dozens of people were killed.

**3-15 pm IST** The European Union’s environment agency says air pollution remains the single largest environmental health risk in Europe, causing more than 430,000 premature deaths in 2012.

The agency says the data, based on monitoring points across Europe, shows that people living in cities are still exposed to air pollution of “levels deemed unsafe by the World Health Organization” and resulting in serious illnesses, including heart disease, respiratory problems and cancer.

The annual air quality report was released Monday as the U.N. climate conference opened in Paris, which aims to create a landmark agreement to fight global warming.

**2-40 pm IST** Peruvian Environment Minister Manuel Pulgar Vidal, who played host to the last U.N. climate conference in Lima, declared this year's meeting open Monday morning.

A total of 151 world leaders have converged on Paris to launch the two—week talks in hopes of giving an impetus for an ambitious agreement.

Vidal said a deal would show the world that countries can work together to fight global warming as well as terrorism. The talks are occurring just two weeks after deadly attacks in Paris by Islamic State extremists.

**2-35 pm IST** President Barack Obama says nowhere has coordination between the United States and China been more fruitful or critical than on climate change.

Obama says 180 nations followed the lead of the U.S. and China on climate change. He says “our leadership on this issue has been absolutely vital.”

Obama is meeting with Chinese President Xi Jinping on the sidelines of the climate conference.

Xi says climate change is a huge challenge. He's calling for the U.S. and China to build a new model of cooperation, using diplomatic language long preferred by Beijing.

China emits about 30 per cent of the world's greenhouse gases and the U.S. about 16 per cent.

**1-40 pm IST** Paris police say 317 people were detained after an unauthorized protest seeking to call attention to climate change, which ended with police firing tear gas at protesters throwing bottles and candles.

The Paris police department had said Sunday night that 174 were detained in the protest, then said Monday morning that the figure had grown to 317. It did not give a reason for the growing number.

France is under a state of emergency after Nov. 13 attacks that killed 130 people. It banned protests ahead of landmark climate talks opening Monday, citing security concerns.

But thousands of people formed a human chain along the route of a long—planned environmental march Sunday. It was largely peaceful.

President Francois Hollande denounced the violence as “scandalous.”

**12-50 pm IST** U.N. Secretary General Ban Ki-moon and French President Francois Hollande are greeting heads of state and government from around the world for high-stakes talks aimed at fighting global warming.

One by one, some 150 leaders are arriving at the conference center near the Le Bourget airfield just north of Paris. Ban, Hollande, the head of the U.N. climate change agency Christina Figueres, and French Environment Minister Segolene Royal are standing in front of the conference center to greet them.

Afterwards, each leader will give a speech laying out their countries' efforts to reduce man-made emissions and cope with climate change.

The event opening Monday lasts through Dec. 11 and is under extra-security after Nov. 13 extremist attacks in Paris.

### **CoP 21 leaders observe minute's silence**

The leaders event of the Conference of Parties (CoP) 21 climate summit started here with a minute's silence in memory of those killed in the November 13 terror attacks in this French capital.

**12-00 noon IST** Wide Paris—area highways usually packed with commuters are cordoned off to clear the way for President Barack Obama and 150 other world leaders joining critical talks about fighting global warming.

Riot police vans and plainclothes officers are stationed around the capital and the northern suburb of Le Bourget, where the U.N.-led climate conference is being held Nov. 30-Dec. 11.

The security measures are especially tight after Islamic extremists killed 130 people two weeks ago in Paris and targeted the national stadium Stade de France, near the climate conference venue.

U.N. Secretary-General Ban Ki-moon and French President Francois Hollande will greet each of the leaders Monday morning then each will give a speech about what their countries are doing to reduce emissions and slow climate change.

### **Modi launches International Solar Alliance**

India launched an International Solar Alliance (ISA) at the CoP21 Climate Conference here on Monday, with an announcement by Prime Minister Modi that the revolution in the field would bring power to all citizens, and create unlimited economic opportunity.

The new body, which has invited all countries located fully or partly between the tropics of Cancer and Capricorn to join, is to function from the National Institute of Solar Energy in India, Gurgaon. The Centre will provide land and \$30 million to form a secretariat for the Alliance, and also support it for five years, the Prime Minister said at an event that was co-chaired with him by French President Francois Hollande.

In its launch resolution, the ISA says it seeks to share collective ambitions to reduce the cost of finance and technology that is needed to deploy solar power widely; generation and storage technologies would be adapted to the individual countries' needs.

Among the tasks that the Alliance would pursue are, cooperation in training, building institutions, regulatory issues, common standards, and investment including joint ventures.

Addressing a packed audience, which was treated to visuals and a song on the theme, Mr.Modi said solar had created a revolution, as costs had declined sharply, technology continued to evolve and grid connectivity was improving. The response from industry was also encouraging. The Prime Minister presented “Convenient Action”, a book he has written on the Gujarat experience with solar energy and a music CD with songs on the environment to Mr. Hollande.

U.N. Secretary-General Ban Ki-moon said the United Nations would work closely with the ISA and commended India’s success in adopting the technology, as witnessed in the solar projects in Gujarat.

Union Minister of State for Power Piyush Goyal presented the goals of the ISA contained in its resolution.

### **Tenant farmers seek loan eligibility cards**

Tenant farmers under the aegis of Andhra Pradesh Tenant Farmers’ Association (APTFA) on Monday demanded the State government issue ‘loan eligibility cards (LEC)’ to tenant farmers to obtain crop loan from banks.

The tenant farmers of Krishna district on Monday staged a dharna in front of the Collectorate, highlighting their plight in access to credit and delay in issue of LECs. The Revenue and Agriculture Department officials are required to conduct a field inspection to certify the tenancy of the claimant to issue the LEC.

The consent of the land owner is not mandatory as per the procedure of issuing the LEC.

However, the LEC would be cancelled if the land owner objects to it under the Land Licensed Cultivators Act, 2011.

According to agriculture department officials, there are 1.31 lakh tenant farmers are engaged in agriculture in Krishna district and 18,000 LECs have been issued.

### **Village-level meetings**

Krishna District Tenant Farmers' Association vice-president M. Hari Babu on Monday demanded that the revenue officials should conduct village level meets to certify the tenancy and sanction the LEC to eligible farmers.

A delegation led by APTFA N. Ranga Rao and Mr. Hari Babu met Joint Collector O. Sesaiah and explained to him the problems being faced by tenant farmers in securing crop loans from banks.

### **Orange Mela till December-end**

An Orange Mela, jointly organised by Maharashtra State Agriculture Marketing Board, Krushi Samruddhi-Amaravati (CAIM) and Mahaorange, is underway at APMC Binnypet and Raitha Bazar at Yelahanka till December 31. As many as 75 metric tonnes of Nagpur oranges are expected to be sold at the mela by the farmers at retail and wholesale prices.

Speaking to presspersons on Monday, CAIM Project Co-ordinator, Bengaluru, Ramesh Jichkar said the even will enable farmers to get best returns.

### **Tiruchi district records excess rainfall this year**



The Tiruchi district, which witnessed severe drought during the last three years, has surpassed the normal rainfall this year.

As per the records available with the agricultural department, it has so far received 810.36 mm as against the average rainfall of 761.5 mm in a year. With 31 days left in the year, there is a hope that it may touch 1000 mm.

The northeast monsoon (October, November and December) accounts for about 50 percent of average rainfall in a year. Since the onset of northeast monsoon, the district has recorded 374.3 mm as against the average of 356 mm.

In November, the district received a bountiful rainfall of 223 mm as against the normal rainfall of 117.7 mm. It is 106 mm more than the average.

Records further stated that the district recorded deficit rainfall for three consecutive years from 2012. While 559.15 mm recorded in 2014, 518.61 mm recorded in 2013. It was 518.71 mm in 2012.

It was in 2011, the district received more than the average during the last four years. That year received 764.23 mm, which was just 3 mm more than the normal rainfall.

R. Chandrasekaran, Joint Director of Agriculture, Tiruchi district, told *The Hindu* the rain had brightened the prospects of standing paddy crop. Moreover, it had come handy for other crops such as maize, cotton and others. While maize was raised on 15,500 hectares and cotton on 13,000 hectares.

Uppiliapuram and Thuraiyur areas that witnessed continuous drought for three consecutive years had received good rain. Emberi, Chinna Eri, Periya Eri, Vengatachalapuram Eri, Siru Naavalur Eri in Uppiliapuram block had been overflowing. A few tanks in Musiri block had also been overflowing after a gap of five years.

Mr. Chandrasekaran said if the present rainfall pattern continued for a few more days, the total rainfall might touch 1,000 mm.

It was not only good for standing crops but also to recharge ground water level in non-delta regions of the district.

## **Rainfall**

Meanwhile, heavy rain lashed several parts of the district on Monday. It received an average rainfall of 30.26 during the last 24 hours that ended at 8.30 am on Monday. While Kallakudi recorded 56.20 mm, Nandhiyar received 55.60 mm. Tiruchi town, Musiri, Samayapuram and Pullampadi also received good rain.

## **Rain lashes The Nilgiris, storage improves in PAP reservoirs**

Rain continued to lash The Nilgiris on Sunday while the intermittent showers have helped in improving the storage in many of the PAP reservoirs across Coimbatore district and in neighbouring Tirupur district.

The Nilgiris recorded a total rainfall of 494.20 mm and the average rainfall stood at 29.07 mm.

Coonoor recorded the highest of 74.40 mm. Rainfall recorded in mm at various places in The Nilgiris in the last 24 hours that ended at 8.30 a.m. on Monday: G. Bazaar 10, K Bridge 34, Ketti 45.40, Kotagiri 52, Udthagamandalam 27.40, Kalhatty 10, Glenmorgan 15, Upper Bhavani 20, Emerald 26, Avalanche 25, Geddai 20, Kinnakorai 20, Kodanadu 69, Devala 4, Burliar 42.

### **Tree uprooted**

The rainfall resulted in uprooting of tree in Coonoor which was subsequently cleared by Fire Service, Highways, Police and revenue staff.

In Coimbatore, the rainfall recorded in mm in the last 24 hours that ended at 8.30 a.m. on Monday:

Annur 12, Airport 12.6, Mettupalayam 17.3, Pollachi 1, Periyanaickenpalayam 9, Sulur 9.5, TNAU 9.4, Chincona 11, Chinnakallar 12, Valparai PAP 7, Valparai taluk 9 and Coimbatore South 7.

### **Highest**

In November, Coimbatore recorded the highest rainfall ranging from 100 mm to 500 mm on six days including Sunday.

During the entire month, nil rainfall was recorded only on five days.

Otherwise the remaining days had always received a wet spell. The rainfall helped in considerable improvement in storage in many of the PAP reservoirs.

Aliyar and Amaravathy are fast reaching the brim and Thirumurthy storage is remaining steady despite inflow because of the discharge from the reservoir.

The only reservoir where storage is just a little above the half-way mark is Sholayar.

## Agricultural college students exposed to rearing turkey



White turkey being reared at Tamil Nadu Agricultural University - Anbil Dharmalingam Agricultural College and Research Institute near Tiruchi.— Photo: A.Muralitharan

The Tamil Nadu Agricultural University – Anbil Dharmalingam Agricultural College and Research Institute has taken up a wide range of programmes to expose the students to the art of rearing animals and birds.

Although it has been an agricultural college, learning the animal life sciences has been part of syllabi and the college has been taking extra efforts to rear various animals, says P. Pandiyarajan, Dean of the Institute.

He said that a few old infrastructures - a chain of tiled sheds - had been lying in disuse for some time and prompt action was taken to rear each animal in each shed. While cows have been accommodated in one corner, white turkey is being reared in another. Desi birds are being reared in the third.

He said that the white turkey and desi birds fetched adequate returns to the institute.

“There was a scramble for white turkey and desi birds during the ‘Deepvalai’ festival season,” he said adding that a good number of birds had been sold out in the first week of November, prior to ‘Deepavali’ festival.

Mr. Pandiyarajan said that the white turkey was brought from the TANUVAS farm in Pudukottai.



“We ensure proper care for breeding the white turkey,” he said. The fodder being grown in the campus of the institute favours its fast growth. At the time of purchase about eight months ago each chick weighed about 300 grams but now the male bird weighs 8.5 kg and female, 7.5 kg.

S. Ilavarasan, Research Associate, Animal Husbandry Department of the Institute, said that sale price of the bird depended on its weight. While the price per kg is Rs. 250 in the open market, the institute sold it at Rs. 150.

The demand for the birds would register a sharp increase during the Christmas festival. The birds were rich in protein, as it consumed protein-rich azola and green ‘Velimasal’ leaves largely available in the campus of the institute.

### **Farmers make collective plea for ridding water bodies of encroachments**

Acknowledging the favourable condition for crops created by recent spells of rain, farmers mooted turn system for utilisation of available water in Bhavani Sagar Dam for the second cropping season.

#### **Reservoir needs**

The 13 tmc water currently available in the reservoir needs to be utilised judiciously. The productivity of crops has been more in the years when the turn-system was operated, C. Nallasamy, president of Lower Bhavani Project Farmers' Welfare Association, said, taking part in the Farmers Grievance Day meeting recently.

#### **Check dams**

A plea he made for removal of encroachments from water bodies was echoed by the president of Kalingarayan Pasana Sabai V.M. Velayutham and many others. Mr. Velayutham called upon the district administration and the Public Works Department to explore scope for construction of check dams to harness water accruing from favourable monsoon rainfall. For instance, construction of a check dam at Saminathapuram in Modakurichi will enable conservation of surplus water from LBP canal and runoff water from the rainfall.

## **Water resources**

The Government must realise that a separate allocation for safeguarding water resources from encroachments will go a long way in delivering substantial economic returns, Ramasamy, a progressive farmer said.

He suggested that an announcement be made inviting the needy section of public to source prosopis juliflora (Seemai Karuvelam) on available poromboke land free of cost for utilisation as firewood.

District Revenue Officer R. Satheesh, who chaired the meeting, promised to examine the practicality of a suggestion made by S. Periyasamy, District president of Tamizhaga Vivasayigal Sangam for deployment of beneficiaries under MGNREGP (Mahatma Gandhi National Rural Employment Guarantee Project) for carrying out repair works of the branch canals of Lower Bhavani Project Main Canal.

R. Mohan, representative of Mettur West Bank Canal Farmers' Association wondered why information on researches on soil nutrients carried out by TNAU and Extension Wing of Agriculture Department were not reaching farmers. Farmers ought to know the reason for drop in sugarcane productivity to half the earlier existing level, he said, stating that the onus was on sugar factories to take steps for restoring sugarcane productivity.

Suba Thalpathi, representative of Thadapalli-Arakankottai Ayacut Farmers' Association sought extension of the concession being granted to delta region farmers for procurement of paddy with extra moisture content. The sowing started late and the harvest was expected during December. There was no way for farmers to prevent extra moisture in paddy due to the winter season and the rainy condition, he said.

## **Mettur water level**

The water level rose to 91.70 feet on Monday against its full level of 120 feet. The dam was receiving an inflow of 5,780 cusecs of water. About 1,000 cusecs is discharged from the dam for farm activities.

## **Toor dal price still rules at Rs.220 a kg**

In spite of the government's effort to stabilise the spiralling price of toor dal, it continues to rule high in the open market in Tiruchi.

One kg of toor dal was sold at Rs.220 in the retail market in Tiruchi on Monday. One bag of toor dal (50kg) is sold at Rs.10,000 in the wholesale market. The price of toor dal, which was sold at around Rs.100 a kg four months ago, had gone up to Rs.220 in the third week of October, adding to the woes of common man. It had warranted the government to step in to control the price rise. It launched the sale of toor dal at Rs.110 a kg through 91 cooperative outlets from November 1.

It made available 500 tonnes of imported toor dal allotted by the Central government. However, the traders said that there was no change in price of toor dal. A retail trader at Cantonment said that though the price went down to Rs.190 a few days after the launch of special sale of toor dhal by State government, it had again gone up. It might continue for a few more weeks.

### **Onion farmers seek relief for damaged crop**



Farmers from K. Alangulam with damaged crop at Tirunelveli Collectorate on Monday

Onion farmers of K. Alangulam near Sivagiri in the district, who suffered extensive crop loss in the recent flooding, have sought compensation.

In a petition submitted to Collector M. Karunakaran on Monday, the affected farmers, led by S. Karuppasamy, district deputy secretary of Tamil Nadu Vivasaayigal Sangam, said farmers from K. Alangulam, who had cultivated onion on around 50 acres, had suffered huge loss owing the recent flooding.

“The flooding caused a loss of Rs.15 lakh to the farmers of K. Alangulam and the total quantum of crop loss in Thiruvencatam region will be higher. Hence, the Collector should instruct the officials attached to Departments of Agriculture and Revenue to inspect the affected fields and ensure early disbursement of compensation,” Mr. Karuppasamy said.

A group of Congress cadres, led by State youth Congress general secretary T. Kamaraj, submitted a petition to the Collector to ensure issuance of community certificates to members of Puthirai Vannan community, all living at Tharuvai Muththaramman Temple Street.

“Since their children are yet to get the community certificate, they cannot get the assistances being extended by the State government. Hence, the Collector should look into this issue,” Mr. Kamaraj said.

They said that liquor shops situated on Parappaadi main road and near A.V. Joseph Higher Secondary School at Ittamozhi here should be shifted to some other place.

### **Water released from Amaravathi Dam**

Public Works Department officials started releasing water from Amaravathi Dam as soon as the water level touched 88 feet against the total height of 90 feet on Monday.

The authorities had already announced a ‘flood warning’ a few days ago and stated that shutters would have to be opened once the water level reached 88 feet. Official sources told *The Hindu* that the water was released through Amaravathy River, Amaravathi Main Canal, and Ramakulam and Kallapuram canals. “We will be releasing water at the rate of 350 cusecs through Amaravathi Main Canal for a duration of seven days and at the rate of 50 cusecs collectively through Ramakulam and Kallapuram canals,” said the officials.

The water was released at the rate of 650 cusecs through Amaravathi River but the duration of release would depend on the inflow into the reservoir area. The water

discharged through the said water courses would help irrigate 54,000 acres of crop area falling under Tirupur and Karur districts.

### **Nilavembu Kudineer distributed**

Vandavasi Taluk Fort Tamil Sangam has distributed Nilavembu Kudineer, a siddha decoction, said to be effective in curing Dengue, to people at an event in Vandavasi on Sunday.

The association's president A.M. Hussain, secretary P. Srinivasan, Advisor M. Murugesh, Treasurer A. Deva, Branch Librarian K.R. Palani were among those participated in the event. Thellar Block Medical Officer N. Selva Muthukumarasamy, Medical Officer Annapoorani distributed it.

### **Sweet corn turns into money-spinner for him**

Basavaraj Arjun Rao Patil taking a look at the sweet corn crop in his field at Udnur, a village on the outskirts of Kalaburagi, on Monday

For progressive farmer Basavaraj Arjun Rao Patil, the cultivation of sweet corn on his 14-acre agriculture plot has turned out to be a virtual money spinner.

While a majority of the farming community is reeling under heavy loss by taking up the cultivation of traditional crops due to failure of rain, it has been a windfall for Mr. Patil, who reaped a profit of Rs. 50,000 from one acre of land by taking up the cultivation of sweet corn.

He has turned out to be a benevolent seller of green fodder to needy farmers at a time when the farmers are facing severe shortage of fodder to feed their cattle. Talking to *The Hindu* in his agricultural field, Mr. Patil said that the market for sweet corn was very good and the traders come to his agriculture field to purchase the crop which was in great demand in Kalaburagi and outside. .

### **Average income**

He said that the average income by selling the fodder and the sweet corn in an acre was around Rs. 55,000 to 60,000 and after deducting the cost of the cultivation the average profit from one acre of land was around Rs. 50,000. Mr. Patil said that the green fodder was edible and mixed with jaggery and salt water, the fodder would be more acceptable to the cattle.

Mr. Patil said that the maintenance and cultivation of the sweet corn was very easy compared to other crops.

Another added advantage was that it was a short duration crop and the harvest of the crop can be done after 75 days. The only costly thing in the cultivation of the sweet corn was the seeds, he said. “I used to cultivate sugarcane and banana.

The average income generated was around Rs. 50,000 per season and the duration of the cultivation of these crops was one year, whereas sweet corn is a short duration crop,” he said.

### **Farmers urged to conserve indigenous seed variety**



An indigenous paddy seed savers meet that concluded at Begur in the district on Sunday stressed the need for conserving indigenous seed varieties by farming communities themselves.

The two-day meet was organised jointly by the ‘Save Our Rice’ campaign and Thanal to sensitize the farmers on the significance of conserving indigenous rice seed varieties.

Delivering a lecture on that occasion, Praveen Narasingamurthy, coordinator, Bhrath Beej Swaraj Munch (BBSM), said that multinational companies were trying to monopolize seed industry in the country and farmers were losing sovereignty over seeds.

Sovereignty over seeds alone could free farmers from their dependency on companies, Mr. Praveen said.

The BBSM was fighting for farmers' right to cultivate, save, cross breed and sell seeds.

The organisation intended to protect seed sovereignty of the farmers in the country, Mr. Praveen added.

Rajesh Krishnan, convener, Alliance for Sustainable and Holistic Agriculture, an Organic farmers network in the country, delivered a lecture on 'threats to seeds in India.'

The meet decided to strengthen market intervention of organic produces in the State.

It also decided to conduct four seed melas in different parts of the State including Payyannur, Wayanad Thrissur and Kozhikode, in January, February, April and May months respectively.

As many as 73 farmer gene banks from across the State and farmers' groups from Karnataka attended the programme and they shared their experiences.

They also visited the indigenous paddy diversity block (rice germplasm) of the Thanal Agroecology Centre at Panavally in the district where as many as 198 indigenous paddy varieties including 164 varieties of Kerala are conserved on 1.32 acres of land.

### **AP swings into action to improve red gram production**

Concerned over rising prices of red gram in the State, the government is coming up with an action plan to improve the production and ensure supply of the commodity at competitive price.

Days after the price of red gram touched Rs.210 a kg, the government swung into action and started supplying it at a subsidized rate of Rs.120 a kg in wholesale and Rs.123 a kg in retail market. In order to prevent a similar situation next year, Chief Minister N. Chandrababu Naidu convened a meeting with officials from Agriculture, Marketing and Civil Supplies departments a few weeks ago to chalk out a plan to ensure supply of pulses at a reasonable rate.

Accordingly, authorities from three departments, after conducting meetings, have decided to increase acreage by encouraging farmers. Factors affecting the production of pulses would also be addressed on a priority basis by conducting meetings regularly.

The acreage in the State in 2010-11 was 6.38 lakh hectares while production was 2.65 lakh tonnes and yield 415 kg per hectare. It fell to 4.48 lakh hectares with a production of 2.43 lakh tonnes and yield of 542 kg per hectare in 2013-14. According to advance estimate in 2014-15, the acreage was 3.71 lakh hectares while production was 1.65 lakh tonnes and yield 445 kg per hectare, officials said. "If our plans fructify, we will implement the action plan from next rabi," a senior official said, adding seeds would be distributed in sufficient quantity to help farmers grow pulses.

Another issue that officials are considering seriously is maintaining buffer stock in order to release it whenever there is crisis. Officials said while production was 60,000 tonnes in the State consumption was 2.50 lakh tonnes and this gap in the demand and supply was leading to rise in prices of pulses.

State Civil Supplies Corporation MD K. Ramgopal said a proposal was mooted to maintain enough stock of essential commodities. "If there is shortage in market, we can release them as and when required. It will help us in controlling the prices," he said.

According to dal millers, red gram stocks arrive from Tandur and Vikarabad in Ranga Reddy district, Sangareddy, Zaheerabad and Sadasivapet in Medak district, and Suryapet in Nalgonda. Fresh stocks from Krishna and Guntur districts enter the market between February and March and thereafter arrivals from Maharashtra, UP and Karnataka reach the market.



## Express Recipes: Piping hot roasted carrot soup



Roasted carrot soup is one of my favourite winter recipes. A minimal recipe, with few ingredients, the magic of the soup is in roasted carrots. Roasting enhances the sweetness of the carrots and combined with onions, ginger and garlic; this soup is heaven in a bowl.

**Preparation time:** 10 mins | **Cooking time:** 30 mins | **Serves:** 2 as main and 6 as appetiser

### **Ingredients**

- 1 kg carrots, sliced
- 2 onions, chopped
- 1 inch ginger, chopped
- 4 cloves of garlic, chopped
- 1 litre vegetable stock

1 tsp kashmiri red chilli powder

3 tbsp olive oil

Salt to taste

**For garnish:**

2 tsp yoghurt

Chives

**Method**

\*Preheat oven to 200°C. In an oven-proof dish, toss the carrots with red chilli powder and a little salt. Drizzle about 1 tbsp oil. Spread evenly and roast for about 20-25 mins till some of the carrots just begin to turn black from the sides. Stir once halfway through.

\*Meanwhile, in a large pot, heat 2 tbsp olive oil. When the oil is hot, add onions, ginger and garlic. Sauté for about 5 mins, till the onions start to turn translucent. Add the roasted carrots (direct from the oven), vegetable stock and salt. Cover and bring it to a simmer.

\*Reduce heat and let the soup simmer for another 10 mins, till the carrot is tender.

\*Remove from heat and puree the mixture until smooth. I simply use my hand blender straight in the pot.

\*To serve, add a dollop of yoghurt and a few strands of chives.



## **Farmers will be our first priority: Capt Amarinder Singh**

Expressing concern over the rising number of suicides by farmers across the state, Punjab Congress president Captain Amarinder Singh appealed to them “to bear with him for one more year”, promising a turnaround after the Congress forms the government.

“I understand the state of distress and despair you are going through, but I promise you that agriculture will be my first and foremost priority. During my tenure, farmers were getting good returns on their produce and the prices of land had also gone substantially up. And I promise you the return of same good old days where choice will be yours whether to make profits from agriculture or by selling off your land,” he said in a statement.

Amarinder blamed Punjab chief minister Parkash Singh Badal, saying he was “callous and insensitive” towards the plight of farmers. “I’m shocked that there is no feeling of regret or remorse on Badal’s face,” he added.

Prime Minister Narendra Modi said on Monday India did not create the climate change menace but was suffering its consequences while he delivered a stern message to affluent nations, saying “those with luxury of choices” should sharply reduce emissions.

His comments came on the sidelines of a high-stakes United Nations conference in Paris where over 150 world leaders have gathered in a bid to nail down a pact to limit global warming amid deep divisions between rich and poor countries.

Modi reiterated his message at a clutch of forums with his packed itinerary squeezing in a much-talked-about impromptu meeting with Pakistani Prime Minister Nawaz Sharif and a discussion with US President Barack Obama where the two nations agreed that development and environmental protection must go hand in hand.

“Climate change is a major global challenge. But it is not of our making. It is the result of global warming that came from prosperity and progress of an industrial age powered by fossil fuel,” Modi said while inaugurating the India pavilion at the summit, toughening his country’s stand in the face of recent US criticism of India. “But we in India face consequences. We see the risk to our farmers. We are concerned about rising oceans that threaten our 7,500 km of coastline and 1,300 islands. We worry about the glaciers that feed our rivers and nurture our civilisation.”

Modi said India wants a “comprehensive equitable and durable agreement”, underscoring a demand of less-privileged nations who have said as developed countries have been the major polluters over the years, they should assume a greater role in fighting global warming.

He clearly outlined India’s strategy for the 10-day-long summit, saying the developed world should provide easy access to cleaner technologies, climate finance and right to carbon space.

“India’s progress is our destiny and right of our people. But we must also lead in combating climate change,” he said.

“We need a genuine global partnership. Democratic India must grow rapidly to meet energy needs of everyone,” Modi added.

In an article that he wrote for the Financial Times, Modi asked advanced countries to “assume more responsibilities” and provide “affordable cleaner technologies” to the developing world.

The Prime Minister also launched the International Solar Alliance of over 100 countries in the presence of French President Francois Hollande and described it as a “dream come true”.

“This day is the sunrise of new hope – not just for clean energy but for villages and homes still in darkness,” he said. “Convergence between economy, ecology and energy shall define our future.”

He sought the resolution of the intellectual rights issue in the transfer of cleaner technologies at the Innovation Mission hosted by US President Barack Obama, with other heads of state and industry leaders such as Bill Gates and Ratan Tata among those present.

Speaking on India’s position on the climate talks, Modi said equity and common but differentiated responsibility should be the bedrock of all elements of the proposed deal. He also called for the continuation of conventional energy sources such as coal and said there cannot be any place for unilateral steps that can hinder the growth of developing countries.

Modi made it clear in the presence of 150 head of states that the developed world will have to provide carbon space for the developing world to grow. He also said rich nations cannot deny opportunity for the poor in the world to develop.

“We assume advanced nations will take ambitious targets. It’s not a question of historical responsibility. They also have room for emission cuts. Climate justice demands with lethal carbon space, developing countries must have enough room to grow,” Modi said in his final engagement of the day before leaving for Delhi.

Apart from the Prime Minister’s remarks on climate change, his brief meeting with Pakistani counterpart Nawaz Sharif at the start of the conference’s high-level segment drew much media attention.

Sources said Modi walked towards Sharif who was sitting on a sofa. Sharif responded and the two shook hands. Modi reportedly sat down beside him in the lounge for the heads of state.

Officials said the two leaders spoke for a few moments without any delegates around. Indian government sources, however, said that the two prime ministers exchanged pleasantries and termed it a courtesy meeting.

Following the Modi-Obama meeting, the two countries said an agreement in Paris must require all nations to pursue action to curb carbon pollution without impeding development goals of countries like India.

At a joint press conference, Obama told reporters he and Modi had agreed climate change was an urgent threat while India must also be able to grow and fight poverty.



# THE TIMES OF INDIA

## **Food distribution efforts for flood-affected end**

CHENNAI: A team from Combat Vehicles Research & Development Establishment (CVRDE), Avadi along with city officials distributed three tonnes of food items at relief camps in Tiruvallur and Chennai district. The four-day long relief distribution concluded on Sunday.

During the first phase, the team distributed food at Sattan Kadu, Sadiyan Kuppam near Manali. This was followed by the second phase at Samiyar Madam near Puzhal and third phase at Subba Reddy Palayam at Minjur.

The fourth phase was held in camps in Saidapet, Jaferkhanpet and Virugambakkam. The ready-to-eat food, prepared by Defence Food Research Laboratory, Mysore, included instant upma mix, instant halwa mix, chapatis, vegetable pulav, sooji halwa, high energy bar, tomato rice, dal fry and vermicelli kheer.

## **Rising wages may push planters toward mechanization**



The recent wage-related developments in Kerala's plantation sector that has triggered concerns among planters in South India could push them towards mechanising more of their operations to keep costs under control.

Labour wages, on an average, account for over half the production costs of plantation commodities such as tea and coffee, planters said.

### **High costs**

C Vinayaraghavan, Chairman, Association of Planters of Kerala (APK), pointed out that the wages have been increased by 30 per cent in tea gardens. Similarly, workers in the rubber, cardamom and coffee plantations will get an increase of 20 per cent, 24 per cent and 26 per cent respectively.

To mitigate the impact of high production costs – even as prices of rubber, tea and coffee continue to remain under pressure – enabling mechanisation may be the answer. However, in the current scenario, Vinayaraghavan said that technologies currently available were only helpful in reducing the drudgery of the workforce rather than replacing it.

### **Nascent stage**

Unlike in the North-East, the terrain and climatic factors are major impediments to

large scale high-tech mechanisation here as far as field operations of tea were concerned. But the introduction of mechanised harvesters is still in its nascent stage even though some partial mechanisation of field operations has taken place in tea gardens. With respect to other crops, Vinayaraghavan said mechanisation is practically not possible till suitable technologies emerge.

“There is a need for all stakeholders including the government and engineering institutes to come together and deliberate on developing new technologies such as robotics for harvesting that could take mechanisation to the next level,” said N Lakshmanan, a senior tea planter and Director, Golden Hills Estate Pvt Ltd.

### **Infrastructure**

Also, there is a need to develop appropriate infrastructure in the plantations that could facilitate the adoption of mechanisation. To develop such infrastructure, the Government should look at facilitating long-term soft loans, Lakshmanan added.

In tea plantations of South India, N Dharmaraj, President, Upasi, cited that almost 80 per cent of the harvesting has been carried out with hand-held shears and about 15 per cent with one man and 2 man-motorised harvesting machines. The use of harvesting machines can go up to 50 per cent of the area. However, he said that there is no scope for mechanisation yet in rubber harvesting, except in collection of latex.

On the need for institutional support for further mechanisation, Dharmaraj said that there is currently a subsidy from the Tea Board for import of tea harvesting machinery. This has to be increased further since the use of these machines will need to be stepped up. But Vinayaraghavan suggested extending supports directly to the grower community under the guidance of commodity boards to carry out R&D. This would help adopt more innovative technologies for field applications. Start-up communities in this sector can do a lot in developing new technologies, he added.

K Kurian, immediate past chairman of Karnataka Planters Association, said in some tea and coffee plantations, where replanting is being taken up, the landscape is being designed to facilitate the easier movement of machinery. On job loss due to mechanisation, both Dharmaraj and Vinayaraghavan answered in the negative, saying “all the plantations in South India are experiencing severe labour shortage at present.”

### **No job loss**

“The degree of shortage has been shifted from chronic to acute. Over and above,



there is the problem of nearly 30 per cent absenteeism on a day to day basis. Given this scenario, there would not be any job loss due to mechanisation,” adds Vinayaraghavan.

Ruling out a total mechanisation in rubber sector, Sibi Monippilli, General Secretary of Indian Rubber Growers Association, said that it is not possible to fully mechanise the entire operations as the sector requires skilled workforce especially for tapping, which is done manually to get more output. Right now, mechanisation can be extended only in digging for planting trees.

### **India imported 22.37 lakh tonnes of pulses till Sept**



India has imported 22.37 lakh tonnes (lt) of pulses valued at \$1,612 million till September in the current financial year, parliament was informed today.

During the April-September period, maximum inward shipments of lentils came from Canada at 9.30 lt, followed by 5.52 lt from Myanmar and 2.23 lt from Australia.

According to the data shared by Commerce and Industry Minister Nirmala Sitharaman, in a written reply in Lok Sabha, the country had imported 45.84 lt of pulses in the last fiscal.

This year, prices of pulses continued to rule high and touched ₹210/kg, due to fall in domestic production by 2 million tonnes in the 2014-15 crop. The lentils production fell due to 14 per cent deficit monsoon.

The country's pulses production was 17.20 million tonnes in the 2014-15 crop year, much lower than the requirement of 25 million tonnes. The gap is being met through imports.

India imports about four million tonnes of pulses largely through the private trade. But this time, the government has started importing pulses after a gap of two years.

### **Pranab: Amul model should be emulated in other agri sectors**



At the inauguration of a cattle-feed plant of Kaira District Cooperative Milk Producers' Union Ltd (Amul Dairy) here, the President Pranab Mukherjee maintained that the cooperative 'Amul model' can help address issues faced by Indian farmers in other areas as well.

"Amul cooperative movement has been remarkably successful in triggering a socio-economic revolution in rural India. Amul is truly the pride of India and it is now the responsibility of the current generation of farmer leaders, professionals and stakeholders to expand the Amul movement that benefits farmers across the nation," the President said in his inaugural speech at the newly build plant, set up with an investment of Rs. 200 crore.

"Following Amul model could help address problems in the other agriculture areas which are faced by our farming community," he said while addressing a gathering of farmer men and women from across the region.

"The success of dairy farmers can also be attributed to the fact that entire value chain from milk production to marketing has been owned and controlled by

farmers of farmer-owned institutions. This model should be emulated in other agri-sectors as well," he added.

Hailing the success of Amul model, the President further maintained that Amul has become the largest liquid milk brand in Asia and the largest food brand in India. "Amul model has created a billion rupee worth brand while embracing the poorest of poor farmers," he said after the inauguration of Amul's latest cattle-feed making facility.

The plant has the capacity to produce 1000 tonnes of feed per day expandable to 2000 tpd. The greenfield plant is spread over 24 acres with a built-up area of 47,000 square meters.

The fully-automated plant has been designed and constructed by Amul Dairy, Anand in co-ordination with Andritz Feed & Biofuel, Denmark and executed by Andritz Technologies, Chennai.

"The latest plant has been set up with an investment of Rs. 200 crore. The total feed making capacity under Amul is now 8,000 tonnes per day spread across 15 plants. There will be an addition of another 1,500 tpd capacity in the next two years," said R S Sodhi, managing director, Gujarat Cooperative Milk Marketing Federation Ltd (GCMMF) after the inaugural function.

The plant has total 16 silos of 40 tonnes capacity for intermediate storage of finished products. The plant had single Pellet Mill to produce 50 tonnes feed per hour with technology like Automatic Greasing and Vibration Monitoring System, for the first time in Indian Feed Plants.

### **Cardamom gains flavour on buying support**

Cardamom prices were up last week on buying interest at auctions held in Kerala and Tamil Nadu.

Good demand, even as the supply continued to show an upsurge, helped the market to move up, sources said.

Strong Diwali sales appear to have emptied the inventories of upcountry market dealers and that in turn has prompted the buyers to cover from the market last week, PC Punnoose, General Manager, CPMC, told *BusinessLine*.

Total arrivals at auctions last week stood at 868 tonnes against around 900 tonnes the previous week. Exporters have bought an estimated 75-100 tonnes last week.

The individual auction average last week moved up and was vacillating between 600 and 630 a kg.

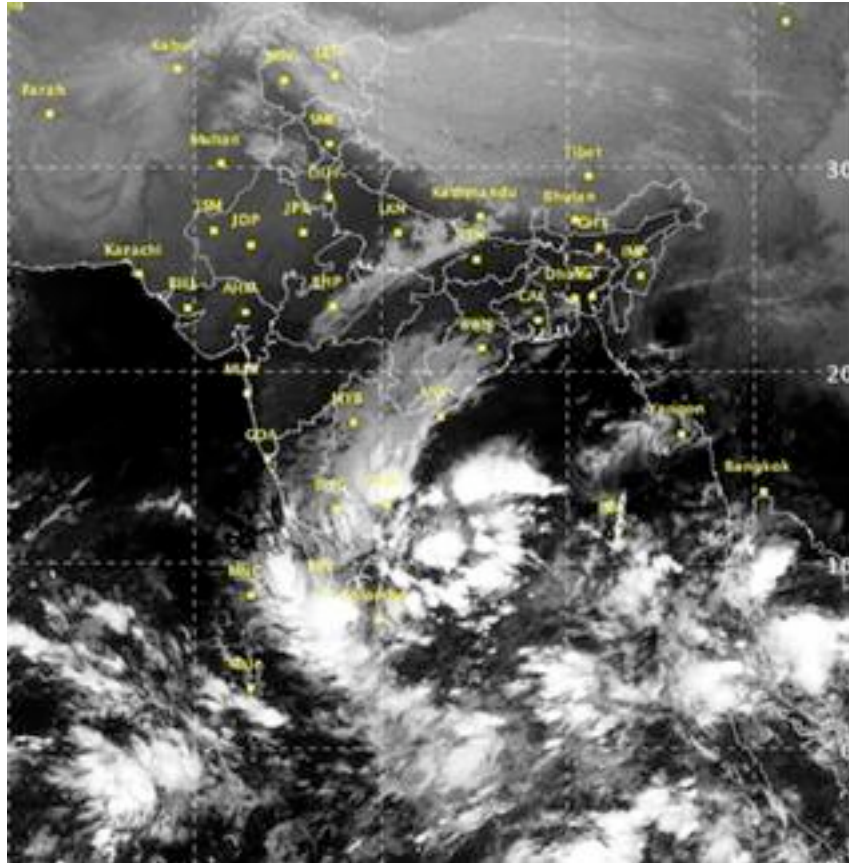
At the Cardamom Planters' Association (CPA) auction in Bodi today, arrivals stood at 56.4 tonnes against 45.9 tonnes the previous Monday and almost the entire quantity was sold. The auction average moved up to 588.02 from 577.23 a kg.

Total arrivals during the season up to November 28 were at around 12,468 tonnes and sales were at 12,136 tonnes. The individual auction average was at 632.

The current crop is estimated to be nearly double of that of the previous season.

Prices of graded varieties (/kg): 8 mm bold good green colour 900-950; 7-8 mm 720-750; 6-7 mm 600-650; below 6 mm: 560-590.

### **Heavy rain forecast for TN, Puducherry, coastal AP until Friday**



The low-pressure area may have failed to hatch for a second successive time but that would not prevent the rain from coming down heavily over Tamil Nadu and Puducherry.

More importantly, the troughs in the Bay of Bengal have merged and the combined entity will be responsible for driving heavy to very heavy rain in the region variously until Friday.

### **Heavy rain**

The Met Department forecast for the next four days is as follows:

Tuesday: Heavy to very rain at isolated places over Tamil Nadu, Puducherry and coastal Andhra Pradesh and heavy over Rayalaseema and Kerala.

Wednesday: Heavy to very rain at isolated places over Tamil Nadu, Puducherry, coastal Andhra Pradesh and Rayalaseema and heavy over Kerala.

Thursday: Heavy rain at isolated places over Tamil Nadu, Puducherry, coastal Andhra Pradesh, Rayalaseema and Kerala.

Friday: Heavy rain at isolated places over Tamil Nadu and Puducherry.

### **Extended outlook**

Extended forecast the next two days that follow (until Monday, December 7) spoke about the possibility of rain or thundershowers at many places over South Peninsula and a few places over the larger Peninsula.

The US Climate Prediction Centre sees heavy to very heavy rain all along the coast, heavier to the North (around Chennai), until Saturday.

Its forecast for the week until December 12 says that the rains may relent somewhat over south coastal Tamil Nadu but continue to hold strong over the North (including Chennai).

The US National Centres for Environmental Prediction is of the view that the rain would be heaviest over Coastal Andhra Pradesh and adjoining Chennai during the week ending Tuesday next (December 8).

Some very heavy rain is forecast for the West Coast and parts of interior peninsula also during this period.

### **Dense fog**

The week that follows will see a sudden withdrawal of the wet spell over coastal Andhra Pradesh and north Tamil Nadu although central and south Tamil Nadu could remain periodically wet.

Meanwhile in North and North-West India, dense to very dense fog enveloped many part from west Rajasthan and Uttar Pradesh.

The causative western disturbance (the main weather-generating system during winter), a low-pressure system, was located over Afghanistan on Monday and is on its way to Pakistan and North-West India.

Dense fog will expand coverage to East and North-East India during the next two days, the IMD said. Shallow to moderate fog will engulf the entire area from North-West India to the East and North-East during this period.

# Business Standard

## Livestock, forestry and fisheries save the day for agri sector

Good production in the livestock, [forestry](#) and [fisheries sector](#) seems to have saved the day for the entire agriculture sector, which recorded a marginal increase in the growth rate at 2.2 per cent for the second quarter of 2015-16, compared to the same period last year.

The agriculture and allied sector grew at 2.1 per cent in the July-September quarter of 2014-15 and it was expected to perform poorly this year mainly due to droughts in several parts of the country.

On a quarter-on-quarter basis, too, agriculture and allied sector surprisingly grew from 1.9 per cent in the April-June quarter to 2.2 per cent in the July-September quarter.

The statement furnished by the [Central Statistical Office](#) showed 51 of the gross value-added (GVA) in agriculture and allied sector comes from the livestock, forestry and fisheries sector, which grew six per cent during the quarter, much better than the overall growth.

The core crop sector performed poorly due to a drop in production of many kharif crops on account of poor southwest monsoon in 2015-16.

The statement said the production of cereals, oilseeds and pulses registered growth rates of (-)1.8 per cent, 8.5 per cent and (-)1.1 per cent during the July-September quarter.

According to the first advanced estimate of foodgrains production furnished by the department of agriculture, foodgrains production in the 2015-16 kharif season is expected to be 124.05 million tonnes, around four million tonnes more than the first advanced estimate of 2014-15. This is, however, less than the final production of the corresponding year.

"Surprising on the upside, agriculture GVA growth was the highest since September 2014 at 2.2 per cent... the downside in agriculture appears to have been cushioned by the 'allied-agri' sector," Shubhada Rao, chief economist, YES Bank said in note.

Rao said although the allied sector in agriculture might continue to remain supportive, rabi sowing needs to be watched carefully as sowing has started on a slow note owing to a delayed harvest as well as an unusually dry winter in northern India. Data showed that till November 27, rabi crops together have been sown in 31.79 million hectares of land, which is 5.46 million hectares less than the same period last year. "The jump in agriculture and allied sector growth during the second quarter of 2015-16 was mainly due to increase in production of dairy, meat, fish as crop sector continues to be bad," said P K Joshi, south Asia director of International Food Policy Research Institute. India's southwest monsoon in

2015 was 14 per cent less than normal, registering its worst performance since 2009. Monsoon this year was the first back-to-back drought for India in three decades, and only the fourth in about a century. Almost 40 per cent of the country received less than normal rains in 2015, forcing seven states to declare drought.

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## **REAPING BENEFITS**

- The agriculture and allied sector grew at 2.1 per cent in the July-September quarter of 2014-15
- On a quarter-on-quarter basis, too, agriculture and allied sector surprisingly grew from 1.9 per cent in the April-June quarter to 2.2 per cent in the July-September quarter
- 51 of the gross value-added in agriculture and allied sector comes from the livestock, forestry and fisheries sector, which grew six per cent during the quarter, says CSO
- According to an advanced estimate, foodgrains production in the 2015-16 kharif season is expected to be 124.05 million tonnes, around four million tonnes more than the first advanced estimate of 2014-15
- India's south-west monsoon in 2015 was 14 per cent less than normal, registering its worst performance since 2009