

23-11-2015

# THE HINDU

## **Low pressure to bring more rain**

The coastal districts of Tamil Nadu are likely to get widespread heavy rain for over two days, officials at the Regional Meteorological Centre, Chennai, have said. Schools and colleges will remain closed in Chennai, Kancheepuram and Tiruvallur among many other districts on Monday.

On Sunday, the coastal districts of Tamil Nadu and the union territory of Puducherry received widespread rains.

“This is due to a trough of low pressure at Comorin. On Sunday, the sky in Chennai was generally cloudy with winds blowing in the northeasterly direction, officials said. Starting Tuesday, the city will witness light rain with a minimum temperature of 24 degrees Celsius and a maximum of 32 degrees Celsius,” they pointed out. On Monday, rain or thundershowers might occur over coastal Tamil Nadu and Puducherry and at few places over interior places in the State, officials added.

## **Skill gap is a big issue**



A lead paper on ‘Clean and Green Poultry production’ presented by P. V. K. Sasidhar, Associate Professor, School of Extension and Development Studies, Indira Gandhi National Open University, New Delhi, at the Annual Conference of the Indian Poultry Science Association and National Symposium at College of Avian Sciences and Management of Kerala Veterinary and Animal Sciences, Thiruvazhamkundu in

Kerala, stressed the need for starting polytechnic colleges to cater to the technical manpower needs of the poultry sector at the lower level.

Poultry science education departments and research institutes have played an important role in the transformation and development of India's poultry sector.

Veterinary graduates constitute major technical manpower to manage middle level technical and administrative positions in the poultry sector. There are about 2,530 million chickens as per recent poultry statistics.

At the rate of one veterinarian / million birds, about 2,530 veterinarians are required for the poultry industry alone in India. It was estimated that about 2,050 veterinarians are working in the private poultry sector.

### **Employment**

In the government and public sector undertakings almost 43,000 veterinarians are employed. Out of them at least 10 per cent are working in poultry related fields.

Therefore, the total numbers of veterinarians working in private and public poultry sectors are approximately 6,350 on full time basis.

Currently, 200 veterinarians are joining the poultry sector every year.

In the next decade as compared with the poultry production sector, the equipment, poultry pharmaceutical industries, poultry processing industries, egg powder plants, value addition, packaging, marketing and exports are likely to increase substantially, which would require more number of poultry veterinarians for quality control, certification etc.

The poultry sector also needs technical, diploma and certificate holders to work as farm supervisors, hatchery and feed mill operators, processors, chick sexers, artificial inseminators, vaccinators, debeakers and the like.

### **Growth rate**

With a minimum expected growth rate of 10 per cent per annum in the sector, poultry sector alone needs 708 and 1,140 veterinary graduates in 2015 and 2020, respectively.

Skill gap is a big issue in the poultry industry in the country, Dr. Sasidhar added.

In order to fill this gap Directorate of Entrepreneurship of KVASU will formulate skill development programmes in association with Agriculture sector skill council of India, said Dr. T. P. Sethumadhavan, Director of Entrepreneurship , KVASU.

## **Mobile Science bus on Digital India launched in Kolkata**

In an attempt to popularise the Union Government's Digital India initiative, the National Council of Science Museums (NCSM), an autonomous organisation under the Ministry of Culture, has launched a 'science bus' here highlighting various aspects and benefits of digital technology in different sectors.

'Museobus', which accommodates 15 exhibits, was flagged off during the golden jubilee celebrations of the NCSM earlier this week.

The exhibition displays the development of technologies associated with computers and the Internet. It also lucidly describes the role of the Internet, the World Wide Web and mobile phones in transforming the modern digital world. The impact of digital technology on various sectors such as banking, health care and other Indian industries is depicted through numerous display panels.

### **To visit rural areas**

"The Mobile Science Exhibition bus will soon visit the rural areas of eastern India in an effort to spread awareness about the application of digital technology in various aspects of our lives such as agriculture and education," Director General of NCSM G.S Rautela told *The Hindu* on Sunday.

## **Farmer's notebook: Sugar production**



Crushing operations for the current 2015-16 sugar season started in late October and early November in a few parts of the country. As on November 15, 175 mills have started crushing against 155 at the comparable time in the 2014-15 sugar season. Till November 15, sugar mills had produced 7.61 lakh tonnes of sugar against 5.74 lakh

tonnes in the the corresponding period last year, according to data from the Indian Sugar Mills' Association (ISMA)

In Maharashtra, 114 sugar mills were in operation and produced 4.31 lakh tonnes as on November 15. In 2014, 97 sugar mills were in operation as on November 15 and they produced 3.10 lakh tonnes.

In Karnataka, there were 30 sugar mills in operation against 25 sugar mills. As on November 15, sugar production in the State was 1.60 lakh tonnes, which is almost similar to the production of last season on November 15, 2014. 16 out of 17 sugar mills in Gujarat have started crushing operations in the month of October 2015 itself and these mills have produced 1.10 lakh tonnes of sugar till November 15. Last year, the same number of mills were in operation in the State and had produced 0.78 lakh tonnes of sugar.

In the case of Tamil Nadu, 6 sugar mills were in operation as on November 15, 2015 and sugar production was 0.40 lakh tonnes, as compared with 0.12 lakh tonnes produced by 6 mills in the year-earlier period.

Two mills in Andhra Pradesh and Telangana started their crushing in early November and had produced 5,000 tonnes of sugar till November 15. Last year 6 sugar mills were in operation and had produced 12,000 tonnes of sugar up to November 15, 2014. As per reports submitted by sugar factories to the Government of India, sugar mills exported about 0.80 lakh tonnes of sugar in the month of October, 2015. However, there are reports that sugar mills have already made contracts for export of about 2 to 3 lakh tonnes in the month of November, 2015.

### **Farmer's notebook: Rabi crops sowing**

Sowing of Rabi crops has already started and the total area sown under Rabi crops was 242.16 lakh hectares as on November 20, according to a PIB release that cited preliminary reports received from the field. Wheat has been sown/transplanted in 78.83 lakh hectares, pulses in 74.06 lakh hectares, coarse cereals in 38.48 lakh hectares, oilseeds in 50.56 lakh hectares and rice in 0.24 lakh hectares.

## Resurrection plants, from the ark against heat



South African scientist Jill Farrant, leading expert on resurrection plants. — Photo: AFP

As the race to adapt to climate change quickens, a South African scientist is leading global research into developing crops that mimic the extraordinary survival skills of “resurrection plants”.

Jill Farrant, a Professor of Molecular and Cell Biology at the University of Cape Town, hopes that unlocking the genetic codes of drought-tolerant plants could help farmers toiling in increasingly hot and dry conditions.

With more than 130 known varieties in the world, resurrection plants are a unique group of flora that can survive extreme water shortages for years.

During a drought, the plant acts like a seed, becoming so dry it appears dead.

But when the skies finally open and the rain pours down, the shrivelled plant bursts “back to life”, turning green and robust in just a few hours.

“I want to cater to the subsistence farmer, the person who wants to make enough food to live,” Professor Farrant, 55, said.

“Farmers are becoming more and more dispirited, and droughts are killing them.”

Perhaps the most well-known resurrection plant is *Myrothamnus flabellifolius*, which makes antioxidant chemicals to protect it during dry spells and is used in fashion designer Giorgio Armani’s cosmetics line.

A farmer's daughter, Farrant recalls stumbling across a resurrection plant as a nine-year-old and being amazed at its seemingly immortal properties. "I wrote in my diary about a plant that had died and come back after the rain," she said.

She returned to the subject professionally in 1994, and has since become the world's leading expert in her field.

Environmentalists fear that more and more of Africa will be reduced to a dust bowl by global warming, with higher temperatures, reduced water supplies and population growth threatening to trigger worsening famines.

Climate change could reduce maize yields across southern Africa by as much as 30 per cent by 2030, according to the UN Environment Programme.

Ahead of the United Nations conference in Paris at the end of November, countries are facing growing pressure to keep global warming below two degrees Celsius above pre-Industrial Revolution levels by weaning their carbon-hungry societies off fossil fuels.

But scientists say it is just as important to adapt to the new reality.

"Soil, cropping systems, farming systems — they all must have the capacity to recover from a drastic change in climate," said Rattan Lal, Professor of Soil Science at Ohio State University. "We should make agriculture part of the solution to our issues... the climate change problem is so huge everything should be on the table."

If successful, Professor Farrant will follow in the venerable footsteps of earlier scientists who have saved crops from devastation by exploiting plants with specific strengths.

In the 1970s, U.S. maize was rescued from southern leaf blight disease by incorporating resistant genes found in other varieties of maize.

Professor Farrant has recently focussed her research on teff, a grass native to Ethiopia whose seed has been used as a staple food in the region for centuries.

She hopes to make it more resilient by activating genes she discovered by studying resurrection plants.

"My main aim all along is to make crops that can improve drought tolerance," Professor Farrant said.

"If we get the money, I would say in 10 to 15 years we've got a product."

Experts warn that drought-tolerant crops are not a one-stop solution to the world's climate problems or even a safeguard against hunger.

“Food security doesn’t only depend on climate, it depends on markets and trade, prices and access by households to food,” said Jim Verdin, a drought scientist with the U.S. Geological Survey based in Boulder, Colorado.

Still, Professor Farrant, who won a UNESCO Awards for Women in Science in 2012, believes her work is a step in the right direction. — AFP

### **‘Divine guards’ at Karnataka government horticulture farm**



Despite the raging debate in the State on the need for a legislation to curb superstitious practices and attacks against rationalists, officials of the Department of Horticulture in Tirthahalli in Shivamogga district have sought “divine intervention” to keep thieves at bay.

It is a common practice among the farmers in the Malnad region to submit “petitions” to deities — be it Manjunatha of Dharmasthala or Chowdeshwari of Sigandur — to protect their agriculture produce from theft. This is called “*huyilu*” in Kannada and the farmers vow to offer something in return for this “divine protection”. They then place a board near the farm announcing that it is “protected” by the deity.

Following a series of thefts at its 15-acre farm, the Karnataka Horticulture Development Corporation has also now turned to the gods for help. The farm in Kushavathi locality on the outskirts of Tirthahalli has a nursery, a coconut plantation and a fruit orchard. The security guard at the farm retired five years ago and the post has remained vacant ever since. A lone female gardener is in charge of the farm now, who returns home in the evening.

Two years ago, the solar lights and the batteries installed at the farm, worth around Rs. 1 lakh, were stolen. The officials lodged a complaint with the police, but the case has not been cracked yet. After the loss of the solar equipment , the theft of coconuts and other fruits was also reported.

Officials then installed a board last year stating that that they had offered “ *huyilu* ” to Chowdeshwari, Naaga devatha and Rana deities to guard the farm and those who indulge in theft here would invite the wrath of these gods. An official who refused to be named says that no incident of theft has been reported since the board was installed.

### **Naidu releases water to Kandaleru project**



Chief Minister N. Chandrababu Naidu on Sunday inspected the Somasila reservoir project and released water from there to the Kandaleru project to help in irrigation nearly eight lakh acres under both the ayacuts this year. The Chief Minister also held review meetings with officials and enquired about irrigation projects, canals and inflows into various reservoirs.

Accompanied by Irrigation Minister Devineni Umamaheswara Rao and MLC Somireddy Chandramohan Reddy, Mr. Naidu arrived at Somasila dam and formally released waters. Thanks to the heavy inflows from local catchment areas on account of heavy rain in the past few days, the Somasila dam storage now has reached 54.5 tmcft.

The storage in Kandaleru dam also increased to 14.5 tmcft, but it is set to receive Somasila waters soon.



Speaking on the occasion, Mr. Naidu said with plenty of waters available now, farmers would not face problems with regard to irrigation of agricultural fields this season. He said the Krishna river waters would be brought to Penna river by undertaking the necessary projects en route.

Mr. Naidu also inspected flood damage in Kaluvai, Podalakuru and Nayudupeta areas.

### **‘Send special teams to affected areas’**

Special teams from revenue, agriculture and planning departments should be sent to Nellore district for effective and timely supply of relief materials and provisions to the affected families due to heavy rains, said Chief Secretary I.Y.R Krishna Rao.

During a video conference with Collectors, Mr. Rao said for completing the enumeration and taking up the rehabilitation works, teams from different districts should reach Nellore at the earliest. He directed Krishna and Guntur Collectors to arrange tippers for transporting essential commodities to Nellore.

### **Turmeric auctioned for Rs. 1.25 crore**

Turmeric was auctioned for Rs. 1.25 crore at the Tiruchengode Agricultural Producers Cooperative Marketing Society here on Saturday.

While ‘Virali’ turmeric variety fetched a price between Rs. 7,999 and Rs. 10,967 per quintal; ‘Kilangu’ fetched a price between Rs. 6,900 and Rs. 9,888. ‘Panakali’ variety fetched a price between Rs. 5,539 and Rs. 17,719 per quintal.

About 2,100 quintals of turmeric were auctioned for Rs. 1.25 crore, a press release of the Society issued here said.

Cotton was auctioned for Rs. 5.02 lakh at the Konganapuram branch of the Tiruchengode Agricultural Producers Cooperative Marketing Society on Saturday.

Traders from Coimbatore, Avinasi, Annur, Salem, Tirupur, Uthangarai, Kovilpatti, Theni, Dindigul, Dharmapuri, and Krishnagiri participated in the weekly auction of cotton at Konganapuram Society.

While PT variety fetched a price between Rs. 3,670 and Rs. 4,030 per 100 kg bag; Surabi variety fetched a price between Rs. 3,880 and Rs. 4,150 in the auction.

A total of 310 bags of cotton were auctioned for Rs. 5.02 lakh, the Society sources said.

## **Potential credit plan projects higher lending to agriculture sector**

The National Bank for Agriculture and rural Development (NABARD) has assessed the credit potential for the district for 2016-17 to be Rs. 14,9762 crore, which is 21 per cent more than the projections for the current year.

District Collector Archana Patnaik released the potential-linked credit plan here on Saturday.

R. Inigo Arul Selvan, district development manager of NABARD, said that of the total outlay, 40 per cent has been earmarked for the agriculture sector including farm credit, agriculture infrastructure, and ancillary activities. And the amount projected for the MSME sector is 45 per cent of the total outlay. Export credit, housing and education are the other main areas in the credit outlay. He said that the Tamil Nadu Civil Supplies Corporation is in the process of creating additional capacity of around 3500 tonnes to augment the storage infrastructure in the district for food grains.

The facilities will come up with financial assistance from NABARD.

Similar infrastructure has been created in the regulated markets and select primary agricultural credit societies.

According to a press release, speaking at the release function, the Collector stressed on the need for increased credit flow to agriculture and MSME sectors.

In the current year, the bankers have been advised to support about 1,500 joint liability groups of small and marginal farmers.

Sanjeev Singha, general manager of Reserve Bank of India, said the RBI has recently modified the priority sector guidelines, with targets to banks for lending to small and marginal farmers and micro enterprises. K. Krishnamoorthy, lead district manager, said the banks have been advised to increase lending to micro enterprises in line with RBI's revised guidelines.

## **Agriculturists' association plea to Union Government**

Federation of Tamil Nadu Agriculturists' Association has appealed to the Union Government to take present cost of cultivation into consideration while computing the support prices for various crops.

C. Nallasamy, secretary of the Association, said the support prices recommended by the Commission for Agricultural Costs and Prices, when the body carried out with the present cost of cultivation, should be accepted as such.

He quipped why the authorities generally show hesitation to accept recommendations on costs and prices with regard to agriculture crops even it accept the suggestions of pay commissions.

### **Rain keeps tourists away in The Nilgiris**

The severity of rain that lashed The Nilgiris over the last few days reduced on Saturday. And, on Sunday there was only drizzling. But, inclement weather had an impact on the flow of tourists and tourism related business.

Due to the rains, tourists were not allowed to step on the lawns in Botanical Garden on Sunday also. Teams of highways and fire and rescue services personnel were on high alert to clear road blocks because of land slips and tree falling. No such major incident was reported on Sunday. On Saturday Coonoor received 17.8 mm rainfall. The rest of the district received less than 6 mm rains.

Dams at Gethai and Kundha continued to over flow. Majority of the 13 dams in the district have reached full capacity or are nearing the mark.

Water logging had its impact on agriculture in low laying areas such as Ketti Palada, Muthorai Palada and Kappathorai. Farmers growing potato, cabbage and carrot had to harvest vegetables early to avert rotting of the plants.

The rains have, however, heaved given a sigh of relief for the forest department personnel. They said that the rains have delayed frosting (that usually begins in mid-November). This usually resulted in drying of leaves and increases risk of forest fires. The rains have also helped maintain the green cover.

### **NMR service resumes**

Nilgiris Mountain Railway service that was suspended from Mettupalayam to Ooty from Friday morning resumed on Sunday.

The service was suspended after boulders that fell on the track near Adderley – between Mettupalayam and Coonoor – damaged the track. Trees that fell on the track, between Coonoor to Ooty, also had to be removed. On clearing the tracks and carrying out repair works the train services resumed from Sunday morning.

In Coimbatore, moderate rainfall on Sunday morning and drizzling at regular intervals had little impact on normal life.

## **Officials taking stock of houses damaged in rain**

Rainwater stagnating like a swimming pool on the Tirunelveli Corporation's playground at Anna Nagar in Palayamkottai due to intermittent rain.

A total of 139 houses were fully damaged and 750 partially damaged since the onset of the northeast monsoon in Kanyakumari district, sources in the District Disaster Management Unit (DDMU) said here on Sunday.

Compensation of Rs.30,02,700 was to 111 fully damaged and 597 partially damaged houses, Collector Sajjansingh R. Chavan said at the review meeting of the Flood Monitoring Officer and Managing Director of ELCOT Atul Anand in the evening.

Six persons, including a three and half-a-year-old child and a 90-year-old woman, died in rain-related incidents in the district. A compensation of Rs.4 lakh each was disbursed under the Disaster Management Relief Fund to the kin of the victims, an official said.

Out of the six died, Therasammal (90), Sabeer Bhai (65), Ramachandran (52) and Mohamed Maideen (50) died in wall collapse, while a three-and-a-half-year-old Sanand Jude and Sasi (46) were electrocuted.

Revenue officials are working round-the-clock to take stock of the damage of houses and belongings of households for awarding compensation, the official said.

The DDMU was receiving about 30 to 40 distress calls from the public every day and immediately alerted the Quick Response Teams (QRTs) consisting revenue, Tamil Nadu Fire and Rescue Service personnel, police, medical and para-military forces for rescue operations, the official said.

## **Crop damage**

Officials estimated that the crop loss due to water stagnation in agriculture fields was on 27.46 ha of 139 farmers across the district. The crops waiting for harvest and in the early stages of sowing were damaged.

Mr. Chavan told *The Hindu* that the district administration had already sent a preliminary report on flood damage to the State government and now they were preparing a detailed report to be sent to the Union government through the State government.

## **Moderate rainfall**

Tuticorin experienced rain in early morning hours on Sunday. Though the consistent rainfall created a pleasant weather in Tuticorin, residents in some localities were still unhappy over waterlogging.

Irrked by waterlogging, some people from State Bank Colony and Kurinji Nagar staged a road blockade on Ettayapuram road and near the fourth railway level crossing demanding early and permanent solution to such recurring water-logging problems.

Later, they dispersed after officials told them that necessary action would be taken. Collector M. Ravikumar said five 50 hp motor pumps had been used to remove water in low-lying areas here. Eighty-one flood victims had been provided food and shelter in two temporary relief camps.

While 50 victims had been accommodated at a camp in Mullakadu, 31 victims were in a camp set up in a community hall at Cruzpuram here, he told *The Hindu*. With a record of 263 mm rainfall so far in November in the district, it has surpassed the amount of average rainfall, which is 184 mm for this month.

Mr. Ravikumar said the average rainfall from January to November was 568 mm and district experienced 566 mm rains so far. On rain-related incidents during this monsoon season, he said two human lives were lost and 60 cattle died.

Houses numbering 120 were fully damaged and 484 partly damaged. Kulasekarapatinam received the maximum rainfall of 37.50 mm among other stations in the district. Rainfall recorded in mm in other stations was Kovilpatti-3, Ottapidaram -17, Sathankulam-4, Tuticorin-3.30, Tiruchendur-8.50, Vilathikulam-7, Kayathar -12, Kayalpattinam -4, Keela Arasadi- 2, Ettayapuram-3, Kadambur-4, Maniyachi-19, Surangudi-12, Kadalkudi-16, Vaippar-7 and Kalugumalai-8 mm.

Rains also occurred in parts of Tirunelveli district. Ambasamudram received the highest amount of rainfall with a record of 39.60 mm. Alangulam – 32.4 mm, Ayikudi- 10.20 mm, Cheranmahadevi- 15 mm, Manimuthar- 32.60 mm, Nanguneri- 1.50 mm, Palayamkottai- 3 mm, Papanasam – 14 mm, Sankarankovil – 5 mm, Shencottah – 3 mm, Sivagiri – 1 mm, Tenkasi – 1.20 mm and Tirunelveli- 2 mm.

### **Schools to remain closed**

Schools in the taluk-level would remain closed on Monday, said Mr. Ravikumar. After reviewing the situation, it had been proposed to close schools in taluks as a precautionary measure.

### **On a mission to make city green**

Giving a boost to the city's efforts to turn green, Corporates and non-Governmental organisations are now joining hands with Coimbatore Corporation to take up individual wards in the city for solid waste management.

ACC Madukkarai Cement Works recently launched integrated solid waste resource management through entrepreneurship programme. Its plant director Sai Ramesh told *The Hindu* on Sunday that ACC had been supporting solid waste management programme at Madukkarai for more than three years now. It recently took up the project of supporting social entrepreneurs at a ward in the city and has donated a battery cart.

This will be used for door-to-door collection of domestic waste.

The ward will have a collection centre where the waste will be segregated. "The plastic waste will be transported to the ACC plant for safe disposal through co-processing at its cement kiln," he said.

"We have handed over one vehicle now and plan to give more vehicles. It is a trial project. The social entrepreneurs will be able to earn from selling the recyclable waste," he added.

R. Raveendran, secretary of Residents' Awareness Association of Coimbatore, said at a press meet organised by Robert Bosch Engineering and Business Solutions here on Sunday that one more company has come forward to support the waste management project in a ward.

The companies provide the battery cart and appoint co-ordinators who will ensure that the waste is collected and segregated. They can also provide space for the segregation and the association will do the door-to-door awareness programme on domestic waste segregation.

According to Corporation Commissioner K. Vijayakarhikeyan, there were seven to eight wards in the city where waste segregation was already on and in more than 30 places it has started.

Companies coming forward to support the project can take up each of these areas.

Apart from the plastic and recyclable waste, the organic waste could be sent to the vermi-compost plant set up at Vellalore. Race Course will be a bin free area in another one week or 10 days.

### **Aavin dairy resumes full production**



Aavin's Ambattur dairy, which was inundated following heavy rain, has resumed production. From Monday morning, the dairy will supply its usual quota of 3.25 lakh litres of milk to the city.

The unit, situated inside the Ambattur industrial estate, was inundated for four days from November 16 and did not operate.

"The main unit was not affected. Only the building in which the main electricity supply board is located and the steam unit were flooded.

There was around 3-4 ft of water inside the dairy complex that also has the products to make ice cream," said sources in Aavin.

Since the dairy stopped during production, it was cleaned more intensely than usual using hot and cold water, lime and acid.

"There was some milk in the pipelines and that curdled. We have had test runs for two days and we have returned to full capacity now," explained a source.

On Friday, the dairy processed and packed 70,000 litres of milk and on Saturday it did 1.60 lakh litres.

Aavin managed to supply milk to the city by sourcing milk packs from Villupuram, Salem and Vellore dairies. It also increased the capacity of Sholinganallur, Madhavaram and Kakalur dairies to supply 11.50 lakh litres of milk to Chennai.

The dairy was inundated in 2008 too. But at that time, the flooding was not so bad, explained a source.

Learning lessons from both these occasions, Aavin now plans to construct new buildings for the electricity panel and the steam producing boiler that will be at a higher level.

A 250-metre-long flood protection wall would be constructed behind the dairy to replace a compound wall that was damaged in the rain. The wall, running along a PWD canal, would keep out water from the canal, the sources explained.


### Aid distribution marks World Fisheries Day

Distribution of prizes to winners in various competitions, cheques to the families of 2,000 fishermen towards off-season relief and cash prize to wards of fishermen who secured more than 75 per cent marks in the SSLC public examination, marked the celebration of World Fisheries Day here on Saturday. M. Chandracasu, Puducherry Minister for Agriculture, spoke on the significance of the day. He said that Puducherry has been implementing a package for fishermen.

### Indo-Israel methods of growing vegetables increase yield manifold


**MORE FROM LESS**


Three methods are used depending on the crops and areas to get more yield



**1 Poly house cultivation**  
A special plant growing structure wherein the ambient temperature, humidity can be controlled to facilitate the plant growth. Plants will be grown on a raised bed with drip and fertigation method. The climatic limitation can be overcome by this technique. The yield per unit area is very high.

**2 Mulching**  
Covering the raised bed with polythene film leaving the space for seedling planting is called mulching. Before laying the film, drip lines will be installed. Irrigation and fertigation shall be done periodically.





**3 Insect proof net house cultivation**  
A special plant growing structure wherein the ambient temperature, humidity can be controlled to facilitate the plant growth. Plants will be grown on a raised bed with drip and fertigation method. Here, the structure is covered by insect proof net, instead of polythene sheet. Here also, there is better management of pest and diseases.



The Centre of Excellence for Vegetables at Reddiyarchatram in Dindigul has achieved a milestone by increasing the yield manifold under open cultivation with plastic mulching and fertigation technology.

“This is the first yield from the centre and it has fetched a profit of Rs. 9 lakh. The crops in the centre would have yielded only 50 per cent profit if cultivated under normal conditions,” said a senior officer of the horticulture department. Tomato, chilli, brinjal, okra, ash-gourd and water melon were cultivated under mulching and fertigation (injection of fertilizers, soil amendments, and other water-soluble products into an irrigation system) technology, which came from Israel.

On Friday, Dov Segev-Steinberg, Israel’s Acting Consul General in Bengaluru, visited the centre and appreciated the success achieved by Tamil Nadu scientists in a short span of time.

The centre was set up at a cost of Rs 10.18 crore by the State government in 2013.

### **Fully operational from January**

It will be fully operational from January and train farmers in mulching, Net House and Poly House technology for cultivation.

While Poly House method is suitable for the hilly areas, Net House and mulching methods are ideal for plains.

“Farmers have already reaped the benefit of Poly House. They are able to produce 80 tonnes of cucumber from one acre,” said another official. Explaining how the high yield was achieved, he said the duration of tomato crop was increased from 135 days to 180 days under Mulching and Fertigation method.

“Net House will substantially reduce the use of pesticides. But the technology is useful only for self-pollinated plants,” he added.

### **Offer on milk and vegetables**

Heritage Fresh Supermarkets will be selling essential items like milk and vegetables at reduced prices for a week to help rain-hit residents.

The following prices will be applicable. Tomato: Rs.59.90 per kg; Onion: Rs.49; potato: Rs.29; special milk : Rs.38 per liter (Rs.8 off on MRP). Shoppers will also get an idly/dosa batter pack free with every packet. The offer is valid at outlets in Madipakkam, Gopalapuram, Kotturpuram, Mylapore, Valsarawakkam, Shenoy Nagar, Adambakkam, Perungudi, Tambaram East and West, Mogappair West, Pallikaranai, Choolaimedu, Ayanavaram, T. Nagar, Venkatanarayana Road, T.T.K. Road, K.B. Dasan Road, Adyar, Nanganallur, Perumbakkam, Porur, Maduravoyal, Padur, Pammal, Iyyappanthalangal, Nandanam and Secretariat Colony, a release said.

## **Water experts from Japan to visit Chennai**

A 10-member Japanese delegation on water management technologies will be visiting the city on December 7. The visit is organised by (UNIDO) and the Japan Management Association, Tokyo.

## **Ramnad farmers warned of blast disease**

The Agriculture Department has warned farmers of blast disease affecting paddy crops, particularly BPT 5204 variety, which was susceptible to the dreaded disease under the existing chill climatic conditions and advised them to take immediate control measures to save their crops.

An official release here said that the impact of the disease was widely seen in Thiruvadanai and RS Mangalam areas where farmers have raised BPT 5204 variety and it would affect the yield by 60 to 80 per cent if the farmers failed to launch control measures.

After intermittent rains in the district on November 15 and 16, a chill climate prevailed owing to overcast skies, which was conducive for the disease to attack the crops. Paddy crops had been raised on about 1.17 lakh hectares in the district and the crops were in the growing stage.

Stating that the blast disease could affect the crops at any stage, the department advised the farmers to avoid excess use of urea and other nitrogenous fertilizers. At flowering stage, the disease would damage the grains. The farmers could spray fungicides such as Carbendazim 50 to control the disease, the release said.

## **Not much rains**

Meanwhile, farmers in the district looked up to skies for more rains as the north east monsoon has not been active after it set in on October 28. The district has been witnessing intermittent rains and the average rainfall is still normal or below normal, official sources said.

None of the tanks and farm ponds received sufficient water so far.

## **Trees uprooted, snapping road connectivity**

Old trees fell on Batlagundu-Kodaikanal Ghat Road and Upper Kodaikanal Road snapping road connectivity to several wayside villages here on Sunday.

A tree was uprooted near Pallangi in the early morning. Buses to Pallangi, Attuvampatti, Mattupatti and other villages on upper Kodaikanal were not stopped for a few hours.

Traffic was disrupted for about two hours on the Ghat Road also as two trees fell near Perumal Malai and a tree near Vazhaigiri. Special teams of policemen as well highways workers removed the trees and allowed small vehicles to pass the damaged spot. Later, heavy vehicles were allowed to go, said highway officials. Drivers were cautioned to drive vehicles carefully.

Small boulders rolled down on Palani Ghat Road and heaps of soil too fell at some points on Batlagundu Ghat Road frequently.

Collector T.N. Hariharan inspected the highway and also drinking water sources meant for Kodaikanal town to assess the situation.

He also advised highways officials to keep men and machines ready to undertake rescue operations in case of emergencies. Standing long-term crops on several acres in Bodi block were damaged owing to flood in Kottakudi river and forest streams recently. Farmers demanded compensation for crop loss. A house collapsed near Thirumalapuram near Veerapandi in Theni district.

***Special teams of policemen as well highways workers removed the trees and allowed small vehicles to pass the damaged spot***

### **‘Few takers for farm innovations’**

*Agricultural innovators from Telangana and AP rue that they do not receive financial support either from the government or any private entity*

Like farmers, agricultural innovators from AP and Telangana rue negligence meted out to them from public and private institutions despite producing ideas that have been tried and tested.

Innovations in agriculture was part of Innofest organised at the newly inaugurated T-Hub at International Institute of Information Technology here on Saturday. Brimming with ideas at various phases of their lifecycle, innovations from agriculture clearly stood out; they had been tried, tested and in most cases, deployed. For the innovators, however, the event was yet another prospective opportunity but one that may not help them find takers.

“Agriculture is not taken seriously in India. Innovations such as mine have received recognition but have not been promoted adequately. We do not receive financial

support either from the government or any private entity though we demonstrate a working product with immense benefit,” said D. Babu Rao, a farmer from Vizianagaram district, who invented a pull-cart style contraption that can simultaneously plant multiple seeds, spray it with fertilizer and cover the top soil, saving farmers several man-days of work while assuring greater efficiency than conventional farming. According to Mr. Rao, the cost of farming per acre is lowered to Rs. 1,000 per acre as against several thousands that farmers have to shell out today. Twelve other real-world innovations were put on display in a corner which did not see as many visitors as other sections of the fest. One of them, a water hyacinth remover, has been used by the GHMC in more than six lakes of the city. The innovators said they hoped the State’s IT Minister K.T. Rama Rao, who saw their innovations during the fest’s inauguration, recognises their ideas.

The fest also help showcase T-Hub which angel investor and former Infosys board member, who spoke at the fest, highly appreciated.

### **Now, VFPCCK can certify organic produce**



Vegetable and Fruit Promotion Council Keralam (VFPCCK) has been designated by the National Centre for Organic Farming as the regional agency for Kerala for certification of organic farm produce.

The VFPCCK will now be able to issue certificates for organic produce for their sale within the country.

Sources in the VFPCCK said that being able to certify farm produce as organic would take the State a step closer to its goal of turning totally organic by 2016.

As of now, the organic certification process is costly and long drawn and most farmers find it difficult to get certified, sources said.

Getting a produce certified as purely organic takes up to three years. In the first year, the produce being certified by the VFPCCK will come under the label 'Organic Green.' The VFPCCK is already in the process of encouraging farmers under self-help groups to turn to organic farming.

Steps have been taken in Kasaragod where 150 local groups of 25 farmer members each have been formed.

### **Training for farmers**

The farmers are being given training in organic methods, said a senior official of the VFPCCK. The ultimate aim is to have local groups in all districts as the State achieves the goal of going fully organic.

The local-level groups will be trained not only in organic agricultural methods but also in production of organic inputs such as biocontrols and biofertilizers. Two biofertilizer units are being set up under the aegis of the VFPCCK. The two plants will cost Rs.80 lakh and will come up in Thrissur and Ernakulam.

Besides, two soil testing laboratories are being set up in Alappuzha and Malappuram. These units cost Rs.60 lakh each, including the building and equipment.

Sources said that one of the weakest areas in Kerala agriculture was lack of soil testing facilities. Though fertilizer application should be undertaken only after a soil test, it is not generally followed by the State farmers.

Farmers under the VFPCCK have brought around 20,000 ha under banana cultivation and around 24,000 ha under vegetables.

### **National crop insurance scheme for the State**

The government has issued a notification for the implementation of the revised National Crop Insurance scheme and the Weather-based Crop Insurance scheme from the second rabi crop season this year in Kerala.

The revised National Crop Insurance scheme insures farmers against loss due to natural calamities and pest attacks for tapioca and banana crops in all districts and punja paddy (second crop) in Alappuzha, Pathanamthitta, and Kottayam districts.

### **Coverage**

The second scheme covers the second and third crop paddy in Thiruvananthapuram, Kollam, Idukki, Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode, Kannur, Wayanad, and Kasaragode, banana crops in grama panchayats equipped with weather stations, sugarcane crop in Idukki and Palakkad districts, cashew crop in Kasaragode, Kannur, Kozhikode, Malappuram, and Palakkad districts and mango in Palakkad.

### **Premium**

The State and Central governments will bear 75 per cent of the premium for paddy farmers and 50 per cent of the premium on other crops as part of the scheme.

For details, contact the regional office of the Agricultural Insurance Company at 0471-2334498.

### **City gets regulated market for paddy**

*Farmers need not depend on commission agents anymore*

The first regulated market for paddy in Madurai, where farmers can directly sell their produce to buyers through auction, was opened at Mattuthavani here on Friday in time for kuruvai crop. J. Thavasumuthu, secretary, Madurai Market Committee, which operates the market under the control of Department of Agricultural Marketing and Agri Business, said that though regulated market for crops was introduced in the State more than three decades back, this is the first time that a market for paddy had been opened in the southern districts. Such a facility was functioning in Thanjavur district, and for turmeric in Erode district. On the opening day, three farmers and three rice mill owners participated in the auction. According to Mr. Thavasumuthu, the farmers received Rs. 1,100 per 55 kg of fine quality paddy and Rs. 950 per 55 kg for second quality paddy. "This is Rs. 100 to Rs. 150 more than what the farmers could have got if sold through the intermediary commission agents," he said.

He said that the regulated market for paddy was beneficial for buyers also as they need not pay a commission of 1.5 percent to agents. Though the transportation cost for bringing in the produce to the market should be borne by the farmers and taking it out after procurement should be borne by the buyers, Mr. Thavasumuthu said that it would still be profitable for farmers and buyers. "We have also received written

assurance from rice mill owners' association comprising 128 mills that they would continue to procure from the regulated market," he said.

The second regulated market for paddy would be opened in Vadipatti on Monday. The markets in Tirumangalam and Usilampatti would be opened in January. While the market at Mattuthavani will function every day except government holidays, the market at Vadipatti would function for two days in a week.

### **Release of water from Aanaimaduvu dam: talks to be held**

District Collector V. Sampath has ordered talks in the presence of District Revenue Officer for solving the controversy over the release of water from Aanaimaduvu dam in the district.

The Aanaimaduvu dam was constructed across River Vasishta.

The construction of this dam paved way for farm activities in about 5,000 acres through canal system in Anaiyal, Puzhuthikottai, Kurichi, Konanchettiur, Neermullikottai, Kolathukoppai, and C. N. Palayam villages. However, storage of water in the dam affected farm activities under the river and tank cultivation in villages such as Kurichi, Belur, Athanurpatti, Kottavali, Yethapur, Bethanayakkanpalayam that are situated on the river bed. The farmers of these villages have been demanding the release of first water for them for many years. Following widespread rainfall received by the district in the recent past, the water level in the dam rose to 44 feet mark.

The farmers of the villages on river bunds demanded the release of water. The Public Works Department officials on Thursday held a meeting with the farmers' representatives of both the groups. Sivakumar, Assistant Executive Engineer, presided over the meeting.

The canal system farmers insisted that water from the dam should be released only after February 2016. However, farmers dependant on river and tank system demanded immediate release of water. This issue echoed at the farmers' grievances day meeting held on Friday.

K. V. Vetrmani of Kottavadi questioned the PWD authorities for holding the meeting on Thursday. He said that as per the Government order, the sluices of the dam should not be closed at all. This was opposed by the rival farmers group, who too were present in good number. Mr. Sivakumar explained that the meeting with the farmers' representatives was held to discuss the judicious use of available water in the dam. The members of both the groups marched towards to Collector at the farmers' grievances day meeting to press for their respective demands.

The Collector pacified both the groups. He directed S. Selvaraj, District Revenue Officer, to hold negotiations with both the groups to sort out the issue.

### **Rain improves groundwater level in Salem district**



Widespread rainfall experienced by Salem district has led to an increase in groundwater level

The widespread rainfall experienced by the district in the recent past has led to reasonable increase in groundwater level.

About 30 major lakes and tanks under the maintenance of Public Works Department and village panchayats in the district have filled up. Major lakes such as Kannankurichi, Mookaneri, Omalur Big Tank, Poolavari, and Attur Muttal have reached their full capacity. The district has received more rainfall compared to the last two years. This has led to an increase in the ground water level by 5 metres in areas such as Yercaud, Kannankurichi, Omalur, Attur. The water level has also improved in more than 1.15 lakh farm wells and 9,829 borewells across the district. Farm wells in Edappadi, Poolampatti, Sithur, are brimming.

In Poolampatti, the transplantation of paddy has already been completed. The present water position is adequate for raising the paddy crop in the current season and also in the next season, said Natesan, convener of the Uzhavar Mandram.

### **Intermittent showers**

The Salem city and other parts of the district experienced intermittent showers on Saturday night and on Sunday. Yercaud received downpour since Sunday morning. The continuous rainfall disappointed a large number of tourists from neighbouring Karnataka and Andhra Pradesh.



Thammampatti received 18.2 m.m. rainfall in the last 24 hours that ended at 8 a.m. on Sunday, followed by Attur 10.5 m.m.; Yercaud 7 m.m.; Vazhappadi 6 m.m. and Omalur 1 m.m.

### **Mettur Dam**

The water level in the Mettur Dam rose to 87.95 feet on Sunday evening against its full level of 120 feet. The storage level of the dam stood at 50.339 tmc against its full capacity of 93.470 tmc.

The dam was receiving an increased inflow of 9,978 cusecs. About 500 cusecs was discharged from the dam for farm activities in Delta region and another 300 cusecs for farm activities under the dam's East-West canal system in Salem, Namakkal and Erode districts, the PWD sources said.

### **More than 46 lakh farmers benefited from interest-free crop loans: Minister**



Sellur K. Raju, Minister for Cooperation, handing over the Outstanding Cooperative Institution award to Salem District Central Cooperative Bank at the valediction of Cooperative Week celebrations in Salem recently.

The State Government has sanctioned interest-free crop loan to the tune of Rs. 20,786 crore to a record number of 46.44 lakh farmers in the last four years, said Sellur K. Raju, Minister for Cooperation.

The State Government paid the seven per cent interest to the cooperative bodies for the farmers who promptly repaid the crop loans, Mr. Raju said while speaking at the valediction of the State-level 62nd All India Cooperative Week Celebrations held in the city on Friday evening.

The Centre decided to stop the subsidy for the provision of interest for crop loans procured by farmers in June last. But Chief Minister Jayalalithaa insisted on continuation of the scheme, which the Centre obliged. The cooperative bodies were

extending financial assistance only for crops such as paddy, sugarcane, plantain etc. The Chief Minister understanding the plight of the horticulture farmers directed extending financial assistance for horticulture crops too. The cooperative institutions in the State have sanctioned loans to the tune of Rs. 251.61 crore to horticulture farmers so far, he said.

The department has marketed medicines worth Rs. 260 crore at 15 per cent discount through 100 Amma medical shops and 194 cooperative medical shops.

Edappadi K. Palanisamy, Minister for State Highways and Minor Ports, commended the cooperative societies for extending maximum financial assistance to the differently abled. He also hailed the role played by the cooperative societies in successfully running the fair price shops.

V. Sampath, District Collector, R. Ilangovan, Chairman, Tamil Nadu State Apex Cooperative Bank, S. Soundappan, Mayor, V. Panneerselvam, MP and others spoke. Mr. Raju handed over the Outstanding Cooperative Institution award to the Salem District Central Cooperative Bank. It was received by R. Ilangovan, chairman of the bank and A. K. Sivamalar, Managing Director.

The Minister distributed welfare assistance under various heads to the tune of Rs. 5.24 crores to 1,420 beneficiaries on the occasion.

### **Site inspected**

The Minister also inspected the site identified in Manjakuttai village panchayat for setting up Salem District Central Cooperative Bank Training Institute in Yercaud on Friday. Revenue officials informed the Minister about the availability of 4.15 acres of government land near the View Point in Manjakuttai panchayat.

Mr. Sellur Raju conducted surprise inspection of the Subramanianagar Cooperative Town Bank in Suramangalam in the city on Friday. He made enquiries with the officials on the locker facility being utilised by the customers. He inspected the registers and also held discussion with the officials on further improving the functioning of the bank. S. Srinivasna, Joint Registrar of Cooperative Societies, and others were present.

## Butterfly park abuzz



The Butterfly Conservatory an Park at Srirangam is now full of butterflies, thanks to the salubrious weather.— PHOTO: M. SRINATH

A large number of butterflies had been swarming around the Butterfly Conservatory near Srirangam, attracting children and nature lovers.

The butterflies shift to safer places and hide themselves during the sharp showers, but come out during the lull, says N. Satheesh, Divisional Forest Officer, said that the species mainly included ‘Blue tiger’, ‘yellow tip’, “plain tiger”, “common crow”, and “grass yellow”. He said the arrivals of butterflies at the conservatory would register a steady growth once there was a let up in showers. The planting of a large number of butterfly friendly plants all around the conservatory had been a favourable factor for attracting the butterflies. The plants included Plumbago, Desert Petunia, Desert Rose, Dwarf White, Ixora Pink, Zinnia Zinnia, Ylang Ylang, and Pinwheel flower.

## Farmers reap a rich bounty with ‘jungle flower’



Traders attribute the recent spurt in price of jasmine to reduced arrivals and fall in harvest because of recent rains

The recent monsoon rain has had mixed impact on floriculture in the district. While it has benefited farmers raising *Ixora coccinea* or 'Jungle Flower' (*pichi poo*) particularly in the Ponnaniyar Dam villages, the showers has caused a setback to jasmine growers.

Farmers in and around Ponnaniyar Dam say they have just resumed harvesting 'Jungle Flower' after three years. "All these years, the plant could not be grown for want of water but now we have started marketing it to Chennai," say cultivators in the village.

P. Chinnappan and his wife C. Sagayamary say the flower fetches Rs. 100 a kilo. "We harvested the flowers only after ascertaining the demand in the market," they say. The flower maintains its lustre for about three days. The showers have helped a good income for them after three years.

On the other hand, the jasmine cultivators are at a loss as there was a serious dip in the quantum of flowers.

A section of farmers from Ettarai said the yield reduced by 50 per cent of their harvest during the pre-Deepavali season.

S. Ayyar from Ettarai village said that pest attack in jasmine was yet another reason for the fall in yield.

R. Vadivel, a flower merchant from Lalgudi who came to Sattara Street in Srirangam, said he had reduced his purchase as the prices had shot up because of poor arrivals.

Wholesale dealers in Srirangam said that recent showers would adversely affect the yield of jasmine and obviously the prices would shoot up in the next few days. On Saturday, the price stood at around Rs. 200 a kg.

### **Coconut farmers join hands to set up water, soil testing lab**

Around 1,700 coconut farmers in Tirupur district are coming together to set up soil and water testing lab

Around 1,700 coconut growers who recently floated 'Udumalpet Coconut Farmers Producer Company Limited' are coming together to set up soil nutrient and water testing laboratory in the district at an outlay of Rs. 11 lakh very shortly.

The farmers will buy the 'user rights' of the technology developed by a Chennai-based research centre in collaboration with Indian Institute of Technology- Madras (IIT-M), to analyse soil nutrients.



“Main objective of the project is to obtain the periodic status of soil health and water quality to assess the correct extent of fertiliser and micro nutrients required for application. Through optimal soil health and application of water, we expect to increase the productivity by 30 per cent from the existing levels”, S. Selvaraj, a farmer and chairman of Udumalpet Coconut Farmers Producer Company, said. Instead of waiting for government support, the farmers will be mobilising fund among themselves by utilising the share amount they pooled to constitute the company. The building to set up the testing facilities has been readied near Udumalpet.

The testing facilities would be extended to members of the Farmers Company at subsidised rates, while other farmers could utilise the same by paying fees, Mr. Selvaraj said.

### **He revives farming in effluent-hit area**



M. P. Marimuthu at his coconut farm in Morattupalayam, Tirupur district

M.P. Marimuthu (75), who was one among the many hundreds of farmers on the banks of River Noyyal affected by the indiscriminate effluent discharge of Tirupur dyeing units, has defied all odds to revive farming on his 24-acre plot after a 20-year gap.

The plot situated at Morattupalayam hamlet, which was once a prosperous tract for cotton and vegetables, has been lying barren after the soil health was irreparably damaged due to the intensity of the pollution that stunted the crop growth.

It should be noted that this situation prompted the farmers along the Noyyal banks to approach Madras High Court seeking compensation and criminal prosecution against the dyeing units in the mid-1990s. The court ordered closure of all dyeing and bleaching units in Tirupur in 2011, and also the compensation.

Unlike many farmers who lost hope of reviving agriculture on the highly polluted soil and joined textile units for employment after their livelihood got affected, Mr. Marimuthu recently decided to make an attempt for reclamation of the land to raise coconut using novel technique.

With the rich experience got from the farm and also the technical inputs from Agriculture Department officials, he planted coconuts which have now grown to a considerable size.

“I first applied gypsum all over and subsequently grown green manure crops before it was ploughed in-situ to improve soil health. Then, dug pits and filled it with nutrient-rich soil brought from elsewhere. “Six-inch diameter pipes were then inserted and saplings planted inside it. Drip irrigation is used to water it,” he explained the ‘secret’ to *The Hindu*. K. Arasappan, Assistant Director of Agriculture, pointed out that the success of Mr. Marimuthu has started resonating as some more farmers in the region had started the initial steps for raising crops using same methodology.

### **With lemon prices doubling, Villiseri ryots are a happy lot**

S. Mathiyazhagan, assistant director of agriculture, quality control, inspects a lemon grove at Villiseri village in Kovilpatti taluk

Now, lemon farmers are a happy lot following a healthy market trend. Villiseri village in Kovilpatti taluk is known for cultivation of lemon fruit and farmers are largely dependent on it. Though other crops are raised seasonally, lemon tends to be a promising crop for this village. Around 150 farmers are engaged in raising this crop

on 500 acres at Villiseri, K. Balamurugan, a progressive farmer, who owns a lemon grove at this village, said .



Normally during this season, a kilogram of lemon would fetch Rs.20, but now its market price has doubled at Rs.40. Since lemon production in Andhra Pradesh and Bijapur in Karnataka was down considerably this year owing to lack of rainfall, lemons produced at Villiseri commanded a better market price much to the benefit of the farmers here. For many years, the Villiseri farmers created a market base in Kerala, where stakeholders were also relying largely on Andhra Pradesh and Karnataka.

He said PKM-I crop variety was cultivated on the red soil with the aid of well irrigation system. “Around 16 to 20 lemons weighed one kilogram,” he said. For irrigation, water from 120 wells at Villiseri was drawn. Only organic manure was applied. The lemon fruit could be grown in a period of 150 days.

Next to Puliayangudi, which is known as ‘lemon city’ in Tirunelveli district, lemon was being cultivated considerably at Villiseri among the southern districts of Tamil Nadu, Mr. Balamurugan told *The Hindu* .


The traditional cultivation of lemon has improved the prospects of many in Villiseri. A successful and consistent record in this crop cultivation benefitted the farmers who helped their children study professional courses. Around 250 engineers from this village are working in 18 different countries abroad, now.

Moreover, the villagers of Villiseri follow a tradition and principle that lands owned by them would not be allowed to be used for non-agricultural activities, another farmer A. Balakrishnan said. He said every piece of land was cultivable and no land has been left fallow here. But, he expressed concern over lack of infrastructure

facility for storing lemons, which could be marketed when demand for the fruit was high. Assistant Director of Agriculture S. Mathiazhagan, (Quality Control), who inspected the lemon grove, instructed the farmers to apply fertilizers at regular intervals.

### Farm ponds help farmers tackle drought

**OVERCOMING DROUGHT**



**A farmer showing his farm pond at Arenda village in Karimnagar district. - PHOTO: K.M. DAYASHANKAR**

<p>Each farm pond is constructed at a cost of <b>Rs. 30,000</b></p>	<p>Farm ponds arrest soil erosion by trapping silt at the pond</p>	<p>Silt collected can be used as fertilizer</p>	<p><b>NABARD constructed 1,350 farm ponds in Karimnagar district</b></p>
<p>Plan to rope in Fisheries Department to release fish seedlings, raise fish in ponds</p>			
<p>Horticulture Department is encouraging farmers to take up cultivation of vegetable and pulses at the ponds</p>			

Farmers, who did not have financial capacity for digging an agricultural well or sink a bore-well to take up farming, overcame drought and cultivated two crops with the construction of farm ponds in their fields.

Earlier, these farmers solely depended on rains for cultivating the crops. When there was no rains and continuous dry spell, the crops withered due to non-availability of water, as these farmers did not have any source for irrigation.

In order to mitigate drought and ensure the standing crops were protected, as well as farmers cultivated two crops in a year, NABARD in association with Grama Nava



Nirman Samithi voluntary organisation constructed farm ponds in a cluster of three villages – Venkatapur, Arenda and Adavi Somanpalli of Manthani mandal – by village watershed development committees.

Initially, the farmers were reluctant to construct the farm pond sensing that they would be losing some part of their land. Following the motivation by the NGO, they constructed the farm ponds and yielded good results, with surplus waters even during acute drought conditions. The farm ponds are constructed at the lower side of the fields and the runoff water from the higher sides are channelised into the pond.

All along the bund of the pond, the authorities have ensured that they plant saplings for the strengthening of the bund.

Each farm pond is constructed in the area, ranging from two guntas of land to 10 guntas. The stored water provides irrigation for two crops during kharif and rabi seasons in two to three acres of land.

Buoyed by the successful cultivation of two crops with the farm pond, T. Raji Reddy, a farmer from Venkatapur village, said that earlier he used to rely solely on rains for cultivation of crops.

“Now, with the availability of water in farm pond, I can water my crop accordingly and yield good profits. My farm pond is my irrigation source,” he said.

Grama Nava Nirman Samithi project manager Satish Reddy said that they constructed a total of 218 farm ponds and 20 mini percolation tanks in the three cluster villages of the mandal by involving the farmers. With the prevailing drought conditions, the entire farming community are urging us to construct farm ponds in their respective fields for water all year round , he added.

NABARD AGM Ravi Babu said that they have taken up farm pond construction in all rain-fed and drought-prone mandals of Husnabad, Bheemadevarapalli, Koheda, Sircilla Konaraopeta, Mallial and Manthani, as part of watershed development programme.

He said that they have also urged the district administration to take up farm ponds construction under NREGS programme for the benefit of farmers.

Farm pond is the best option to protect the crops during the critical period of drought or prolonged dry weather conditions, he said. maintained.

### **Time for second Green Revolution, says AU V-C**

*Services of Bhavaraju Sarveswara Rao recalled at national workshop*

A large number of professors of economics gathered at the national workshop organised to mark the birth centenary of Professor Bhavaraju Sarveswara Rao.

The two-day national seminar on Sustainable agriculture development: issues and challenges' organised by Andhra University Department of Economics and Agro Economic Research Centre and Hyderabad-based NGO Swadhikar got under way here on Sunday.

It was an emotional get-together for most of the professors and their students at the department which counts among its eminent alumni, a number of economists, 14 vice-chancellors and a large number of bureaucrats and a former Governor of the Reserve Bank of India, among others.

Adding to the academic interest was the release of the compilation of works of Prof. Sarveswara Rao, including his seminal work on the balance of payments of India at the turn of the last century.

Speaking at the inaugural, Andhra University Vice-Chancellor G.S.N. Raju underscored the need for a second Green Revolution by adopting sustainable farming techniques.

Maintaining of soil health was the most crucial aspect of sustainable agriculture, Vice-Chancellor of Acharya NG Ranga Agricultural University A. Padma Raju said delivering the keynote address.

Advocate of zero budget natural farming Subhash Palekar called for reviving farming techniques in which cow was the key. Organic farming or use of chemical fertilizers was not sustainable, he pointed out.

An alumnus of the department and former chairman of AP State Council of Higher Education K.C. Reddy and several others recalled the contributions of the late Prof. Sarveswara Rao to the growth of Andhra University and his contributions to economic theory.

### **'Amul model' needed for pulses: Arvind Subramanian**

Chief Economic Advisor Arvind Subramanian addresses the students at Dr Kurien Memorial Lecture at Institute of Rural Management Anand (IRMA) on Saturday at Anand, Gujarat. Photo: Vijay Soneji

There is a need to evolve an "Amul-like model" for pulses so that production can be boosted, farmers can get remunerative prices and the mismatch between supply and demand can be corrected, said Chief Economic Advisor (CEA) Arvind Subramanian here on Saturday.



He was delivering the Dr. Verghese Kurien memorial lecture at Anand, Gujarat. "In the case of pulses, we have a long term problem of mismatch between supply and demand and we have to think of evolving an Amul like model for pulses," Dr. Subramanian said, blaming the "country's cereals obsessed food policy" for the drastic fall in pulse production, leading to skyrocketing prices.

Recently, tur dal or arhar dal, the staple pulses consumed in the country, touched Rs.200 per kg, forcing the NDA government to initiate several measures by imposing stock limits and launching anti-hoarding raids in order to check skyrocketing prices. "We have to think about boosting production, prices and procurement for pulses," he said.

Dr Subramanian also advocated use of scientific methods and technology in agriculture which would be severely hit by climate change. "Climate change will impact Indian agriculture severely with extreme weathers, scare water resources will hit India and Africa the most," he said.

According to him, farm incomes are under severe stress because of two back-to-back monsoon failures in the country.

Calling for overhaul of the agriculture sector in the country, he said, "Even after 65 years of Independence, the country does not have a unified and single market for farmers, whose freedom to sell their produce is severely restricted to only APMC (agriculture produce marketing committee)."

"There is no one market but more than 5,500 markets in the country and that's really a shame we have not provided open access to the farmers to sell their produce whenever they want," he said.

He also favored allowing trials for genetically modified crops, saying, "The country should adopt a more open approach on GM trials."

### **A millet entrepreneur**



U.S.-returned Kavitha now runs an all-women firm selling value-added millet products

This software engineer quit her high-paying job in a prestigious company in the U.S. to promote millets and also become an all-women-staff millet entrepreneur.

Kavitha, a software engineer from Vijayapura who was working in the U.S., always had liking for agriculture. This resulted in her returning to India in a bid to associate herself with an activity related directly to farming.

"I particularly chose to be a millet entrepreneur as the importance of millets, which are highly-nutritious crops that can withstand the toughest of whether conditions, is not yet completely understood. Also the farmers who grow these crops in my native place are still struggling to make both their ends meet," she says.

She decided to make value-addition to millets in a bid to popularise them so that they would appeal to consumers on the one hand and get a remunerative prices to the growers on the other.

She underwent training in value addition to millets at a central institute in Hyderabad for one and half years to get technical knowledge about the process of value addition before starting her venture. She has a range of millet value-added products that would appeal to urbanites including millet flakes coated with honey. She markets them under the brand name *Aurovika* .

“I procure millets directly from about 30 farmers in Vijayapura district by offering remunerative prices. I prepare the value-added products in Vijayapura with the help of 40 women staff. I market the produce in Bengaluru, where I have an exclusive shop,” she notes.

Her next aim is to motivate a few women farmers to take up millet farming so that she can procure the raw material from them. “The main intention is to use millets as a means for economic empowerment of farm women,” she says.

Kavitha, who had set up a stall at the Krishi Mela of the University of Agricultural Sciences to display the range of her millet value-added products range, was a cynosure of all eyes.

Her next aim is to convince the authorities concerned to use the highly nutritious millets in the food being supplied to defence personnel. She says she is in touch with the Central Food Technological Research Institute to find out such a possibility.



# THE TIMES OF INDIA

## **Himachal Pradesh to boost blue revolution through societies**

SHIMLA: In a bid to boost fish production, Himachal government has decided to provide financial assistance of Rs 46 lakh to each society for developing post harvest infrastructure like ice plant, refrigerated mobile vans, insulated boxes and refrigerators. During last three years, 21793.53 tons of fish valuing at Rs19646.87 lakh was produced from all fisheries resources in Himachal Pradesh.

As many as 491.37 tons of table size trout fish was produced from departmental farms and private trout units. Following successful implementation of rainbow trout farming technology 362 trout units have been established in Kullu, Shimla, Mandi, Kangra, Kinnaur and Chamba districts.

A senior official of Fisheries department said that under blue revolution programme, Hungarian strain of Common carp, Ropsa scale and Felsosomogy mirror carp strains besides *Pangasius sutchi* have been introduced in the state.

"Emphasis has been laid to promote aquaculture and provide employment opportunities to the people of the state," he added. Under Fish Farmers Development Agency programme, 30.46 hectare area was included in aquaculture and 29.50 hectare old ponds were renovated.

A new scheme "Mobile Fish Market" has been launched under which four Mobile Fish Market Vehicles have been purchased to provide fresh fishes to the consumers. Two feed mills are being set at Carp farm Deoli (Gagret) in Una district and Carp farm Sultanpur in Chamba district with an expenditure of Rs. 84.60 lakh. In order to promote trout farming in tribal areas of the state, one trout farm with an expenditure of over Rs 4 crore is being set up in Bharmour area besides one Aquarium House-cum-Museum centre with total outlay of Rs 40 lakh is being set up in Chamba district.

Carp farms at Nalagarh in Solan district and Deoli in Una district have been modernized and expanded by spending over Rs 8 crore. These farms have been made functional and breeding operations have also been started from last year.

Official said that Rs 5 crore was spent for creating 80 hectare water area in the shape of new fish ponds and 20 hectare water area in shape of nursery ponds. Three carp hatcheries are being established in private sector.

Two new Aquaculture Fish Farmers Societies have also been got registered at Ratyod (Nalagarh) in Solan district and Katauhar Kalan (Amb) in Una district for post harvest handling and marketing of the fish produced from these ponds.

## **New pond at Guindy National Park arrests flooding in area**

CHENNAI: While several areas in the city are struggling to cope with water logging, it's not a problem in and around the Guindy National Park (GNP). Wildlife authorities have dug out a new pond at the interception point on the south western boundary of the park.

Zoo director K S S V P Reddy told TOI that in the past rainwater from Raj Bhavan and Velachery main road used to run off and mix with sewage lines in Velachery. Now, with the formation of a new pond on the south-western part of the park, water runoff during rainy days is totally arrested, he said.

The work on the new pond began in March and it was completed in April. The new pond, named 'Jabbar Odai', is four metres wide and 2.5 metres deep. Its bund extends up to 650 metres, and runs parallel to the Velachery main road, behind the forest department's nursery. After the recent rain, the pond is brimming with water.

Besides the new pond there are six smaller ponds in the area. They retained water till May. Several wild animals, including spotted deer and black buck, use the ponds to quench their thirst, Reddy said.

Chennai Wildlife warden K Geethanjali said besides Jabbar Odai, GNP has six other ponds -- Appalangulam, Kathangollai, Duck pond, Bogi pond, Lab pond, Snake Park percolation pond. The rain during the past 10 days brought in a lot of water to all the seven ponds inside GNP. The ponds will retain water till June next year, he said. Water from these ponds are pumped through pipes and stored in tanks inside the Children's Park.

A former wildlife officer recalled that in 2001, the first ever effort to arrest runoff water from Polo Grounds was made by constructing a bund along the ground. Palm leaves were planted on the bund to strengthen it and later several shrubs and herbs started growing on it, the officer said.

## Combined storage in major reservoirs remains half

CHENNAI: The torrential downpour triggered by northeast monsoon recently may have flooded many parts of the state, but it has only taken the combined storage of major reservoirs to 54% of its total capacity until Friday. This is 15% less than last year's storage during the same day.

A few like Pechiparai, Perunchani and Krishnagiri see a rise. Mullaperiyar dam in Kerala which supplies water to five southern districts of Tamil Nadu - under the ownership of Tamil Nadu -- is falling short of seven feet to reach its full storage of 142ft. After Supreme Court vindicated Tamil Nadu's stand on safety of the century old dam, the state PWD raised the storage of the century-old dam to its full storage on November 21, last year, after three decades, leaving the ecstatic farmers of Madurai, Theni, and Cumbum celebrate with fireworks early morning.

Sources said Supreme Court appointed three-member supervisory panel on safety is set to meet on November 30. Tamil Nadu has finalized tenders to strengthen the dam at Rs 8 crore.

"A couple of good spells will take it to the full storage for the second consecutive year," a senior PWD official said. The inflow to the dam, however, fell to 2000 cusecs (cubic feet per second) from 10000 cusecs on Friday, after rains in the Western Ghats subsided.

Far off, Stanley reservoir in Mettur, the lifeline of delta districts has the storage of 52% of its total capacity, nearly 20% lower than last year during the corresponding period. S Ranganathan of Cauvery delta farmers' welfare association, said the north-east monsoon though set in late, was relatively fair so far. "Paddy cultivation is currently on in 12 lakh acres. We wish Karnataka follow Cauvery water disputes tribunal's award and release water to Mettur as per the schedule," he said. PWD sources said 4,966 irrigation tanks reached full storage, and another 1,312 seen three fourth storage in the recent rains.





## **Drones, mobiles, internet: How Indian farms are going hi-tech**

When this year's rabi or winter crop in Haryana's Kurukshetra ripens, drones will circle them as part of a series of simultaneous experiments in three other states — Karnataka, Madhya Pradesh and Maharashtra.

The country's vast and antiquated agriculture sector has largely been a stranger to such high-tech, although it feeds a billion people.

Yet, slowly, the country has realised that without technology, its farmers aren't going anywhere beyond eking out a tough living. Frequent weather shocks push them back into poverty. Food-price spirals annoy consumers and hobble policymakers.

From traditional handholding measures, such as subsidies, farm solutions are now moving to the Internet, a vast rural mobile phone subscriber base and space-telecom technologies.

The drones, for instance, will scan two select districts in each of these four states. They will carry out special imaging with the help of one among a constellation of homegrown satellites.

The images will be transmitted back to scientists at the Mahalanobis National Crop Forecast Centre in the Capital's Pusa campus, a state-run farm science hub set up to harness space technology in agriculture.

The drones will give a wealth of information — they could tell accurately if climate is impacting yield.

Some innovations are a lot simpler. The country's growing cell phone subscriber base — projected to overtake the US next month — is proving to be handy to tell farmers what to grow or actions to take in case of pest attacks in real time. India's Internet user base is expected to see a 49% jump over the past year to reach 402 million in

December. Of this, 153 million are rural subscribers. Over the course of a year, the government has enrolled 89.3 million farm families for its mobile farm advisories. Several such projects are on trial. ‘Chaman’ in Hindi means garden. But it is also the high-tech acronym for the Coordinated Horticulture Assessment and Management that has used geo-informatics since 2014 to assess the health of seven horticulture crops grown widely.

“There is always a problem in getting timely and accurate data, due to which payment of claims to farmers gets delayed. A new high-tech programme, Kisan, is being launched on a pilot basis to help farmers,” minister of state for agriculture Sanjeev Kumar Balyan said.

An even more critical project is NADAMS, developed by the National Remote Sensing Centre that now provides real-time information on drought and its severity level. Currently, it covers 13 states. Small, belated steps but milestones nonetheless.

### **Time we gave science its fair due when it comes to GM crops**



Over the past 150 years, researchers have built on the earliest farmers’ knowledge to better understand the importance of plant genetics to develop stronger crops. By identifying crops with desired traits such as better nutritional characteristics or greater

tolerance to drought and using selective breeding, they began developing improved plants that were more resilient and capable of producing greater yields.

In the last few decades, research conducted in the laboratory has also assisted plant breeding greatly, where agri-scientists work to identify specific genes responsible for traits that make crops tolerant to a specific category of pests, herbicides, tolerant to drought, flooding, etc. Once the genes carrying the beneficial traits have been identified, they are isolated and then inserted into the plant. The new plant undergoes years of testing and regulatory approvals before being introduced into farms.

This is the world of modern crop biotechnology, the outcome of which is commonly referred to as genetically modified (GM) crops, biotech or transgenic crops.

For the past 17 years, millions of farmers in approximately 30 countries have grown 1.7 billion hectares of GM crops. These have enabled farmers improve incomes and help meet rising food demand as populations grow. Bt technology has helped India to treble its cotton output and has generated economic benefits for farmers valued at \$5.1 billion.

But should we leave it at one product? The government, the industry and agri-research institutions don't think so. Indian scientists have been working on several crops such as brinjal, maize, rice, mustard and cotton.

The scourge of climate change is already affecting agriculture as we know it and the farmer can be fortified by agri-biotechnology. New products of GM crops can tackle a broader range of pests, prolong the life of products and manage drought or water-stressed conditions.

Sceptics often question the safety of GM crops but it is important to note that 20 years of consumption of food derived from the products of GM crops across the world has not led to a single illness anywhere.

India like most other countries follows some of the most stringent regulatory processes before licensing GM crops for cultivation. It's about time we gave science its fair due.

# DECCAN Chronicle

Damage to crops due to rain not that bad: K. Ramasamy



Tamil Nadu Agricultural University Vice-Chancellor K. Ramasamy has been following monsoons closely. He has been reading about waterlogged streets and stranded people. He has also been keeping a track of trees that were uprooted, crops affected and rain water run off.

In a conversation with C.S. KOTTESWARAN, he cautions about rodent menace that is possible after flood waters recede and also shares tips on how to protect gardens, trees and crops during monsoon.

DC: Chennaiites have seen water logging across the city and the focus has been on how it has brought everything to a standstill in Tamil Nadu. You, however, view it differently. Please explain.

**Ramasamy:** Water logging should be seen as an opportunity to conserve groundwater so that the demand for irrigation and drinking water need is addressed. The agriculture department has created 75,000 farm ponds and more such ponds should be created. These ponds will help to extend farming activities by three months.

**Q The heavy downpour has uprooted close to 800 trees in Chennai and thousands of trees are on the verge of uprooting. What is the remedy?**

A: A Big trees should be pruned. In case of avenue trees in major cities, the branches should be pruned. Trees that are on the verge of collapsing should be made steady and additional soil should be deployed around the girth for stability.

**Q Has the heavy rain that lashed Tamil Nadu affected crops badly ?**

A: The damage is not that bad. Paddy can withstand floods. Only if there is water logging for more than 10 days, there is a loss for farmers.

**Q How should food crops be protected during wet weather conditions?**

A: There has to be a system to drain stagnant rainwater. If there is no oxygen penetration, the water should be removed earlier. Further, farmers should not add nutrients or pesticides during a deluge. As rainwater will naturally have more nutrients like nitrogen, fertilisers should be avoided. This will raise crop immunity preventing infections and disease that spread in farmlands.

**Q A large quantity of stored pulses and cereals has been affected by moisture due to rain. Is there a way to reuse it?**

A: Sunshine between 11 to 1 p.m. should be used to dry foodgrains. This will prevent infestation by insects.

**Q Rodents and snakes stray during rainy days. One death has also been reported. What precautions should be taken?**

A: In the current scenario, due to heavy rain the burrows of rodents and snakes will be filled with water. So they do stray. During this season, rats will not damage farmlands. Farmers should monitor the burrows. Phosphide mixture should be kept in the burrows as bait and already there is a statewide programme by agriculture department to control rodent menace. Farmers and city residents should approach the department seeking expertise.

### **Chennai monsoon saviours**

Daksha used her film contacts to draw funds and helped coordinate a donation campaign which saw kits including sanitary pads, blankets, bedspreads and mats distributed in the flood-hit areas of Chennai.

By her own admission, she has never been involved in a social relief activity because of her line of work. But she had been helping organise activities for her husband R.P.



Amudhan, a documentary film maker associated with the Ambedkar-Periyar Study Circle. “I have always worked in the periphery. But when I saw the damage with the flooding, my first thought was what the lesser privileged mothers and children would manage. I realised that though the government would help with the relief but it would be impossible to cover all places at the same time,” she said.

Daksha was able to call a favour and organise health camps too. On Sunday, she had coordinated relief work in the city suburbs in Taramani.

***—Daksha Dayaal – Fashion Designer – Designed costumes for such films as Vedalam, Mozhi, Meegaman, Pirivom Santhippom***

A former Indian Bank employee, Sankar Mahadevan took the voluntary retirement scheme to be able to devote more of his time towards his charity work with Udhavum Ullangal, a trust he founded.

With Chennai and neighbouring districts taking a pounding during the north east monsoon, Mahadevan recruited 15 volunteers and with the help of local NGOs started distributing rain relief materials that included, used clothes, vegetables, milk, bread, mats, bed sheets etc.

“The government is only giving the flood-hit people food to eat. The things that we are able to give supplements what the government is providing people. At the relief camps, I see children who feel uneasy sleeping on the floor because it is cold. They need bedsheets and mats,” said Mahadevan.

On Sunday, he was in Kanchipuram district distributing relief material in the Irula community villages of Ozhaiyur and Putheri.

**— *B Sankar Mahadevan – Founder Trustee of Udhavum Ullangal – Was a banker before taking up charity work full time.***

Mohamed Yunus is a popular man on Facebook after his offer to open up his two flats – in Nungabakkam and Pallikaranai – went viral. Several netizens lauded Yunus for his offer and a few benefitted from it.

“I am sure I would not have been able to reach the needy if the post had not gone viral. I expected people from within my friends circle to share the post but for it to be shared by random people, which ultimately meant I could help out a few in distress, is just great,” he said.

This was Yunus’ first real chance to offer help to people and it has left a lasting impression on him. So much so that he told DC that he is developing an app which would help coordinate rain relief efforts, the next time a similar tragedy strikes Chennai.

“After I put up the post, I had around 25 people contact me and tell me that they too wanted to open up their houses. So this app I am developing would bring the donors and the needy on to one platform, so that these offers definitely find takers,” he said.

**—*Mohamed Yunus – 26-year-old Nungambakkam resident, founder of propo.com – developing an app to coordinate rain relief support service***

Set up in 2012, Can Do was just like any other call centre company, completing outsourced work but the only difference was that Anuradha had employed persons with disabilities.

When the Chennai Rain Relief 2015 Facebook Community was formed by like-minded citizens to coordinate their relief work better, Can Do pitched in and offered to be the facilitator. “Our expertise in tele-calling helped as our employees could help connect the donors with the organisations that were supplying rain relief materials,” said Anuradha.

Interestingly, two of Anuradha’s employees, Vijayakanth and Raja, were key to the success of the work. Speaking to DC over the phone, Vijayakanth said that he was handling 30-40 calls a day, most of whom were donors requesting guidance to contribute.

“If such an activity had more awareness among people, there would have been more donors,” said Vijayakanth, who is visually impaired.

***—Anuradha Krishnamoorthy – founder of Can Do, a call centre company which employs persons with disabilities – coordinated relief work of Chennai Rain Relief 2015 Facebook Community***

Arun Krishnamurthy's EFI had put together a 'Flood Emergency Kit' comprising items such as bread, biscuits and bun, drinking water, blankets and towels, paracetamol tablets, bananas, candles and matchboxes for distribution in low-lying areas. EFI asked donors to register and drop off kits at Adyar, Alwarpet, Mudichur, Vijaya Nagar in Velachery, Mylapore, T Nagar and Nungambakkam areas.

On Sunday, Arun and his team were travelling to Cuddalore to lend a helping hand with the relief work carried out by the state government.

***—Arun Krishnamurthy – founder Environment Foundation of India, involved in lake cleaning activities***

## BusinessLine

### **Heavy rain pounds parts of South Tamil Nadu**

Heavy to very heavy rain has been recorded at various places in South Tamil Nadu on Sunday even as fresh clouds has materialised over the northern parts this (Monday) morning.

Satellite pictures show clouds have migrated to the North of the Tamil Nadu and Puducherry coast, and concentrated over Nellore and Tirupati in coastal Andhra Pradesh; Chennai, Vellore, Kanchipuram, Mahabalipuram, Puducherry, Chidambaram and Kumbakonam.

### **HEAVY RAINS**

Meanwhile, India Met Department said that rains pounded not just the coast of South Tamil Nadu but also the immediate interior during the day yesterday (Sunday).

Some of the significant rainfall (in cm) recorded during the day were: Karaikal-17; Nagapattinam and Cuddalore-10 each; Puducherry-4; Tiruchirappalli, Kodaikanal and Madurai-3 each; Vellore and Atiramapattinam-2 each; and Chennai, Thiruvananthapuram, Coonoor, Coimbatore, Palayamkottai and Salem-1 each.



Sea-based weather -generating formations included the low-pressure area over East-Central Arabian Sea off Lakshadweep; and younger sibling in the form of a trough attached that links it with South Gujarat; and another trough over the Comorin region (having shifted West from Southwest Bay of Bengal).

## **MORE FORECAST**

The Met has forecast heavy rain at isolated places over Tamil Nadu, Puducherry, Kerala and Lakshadweep for today.

The trough extending to South Gujarat will bring thunderstorms, lightning and hail to Madhya Maharashtra and Marathawada.

The next two days that follow would see heavy rain build up over the Andaman and Nicobar Islands, likely as part of fresh rains approaching the Tamil Nadu and Puducherry coast in due course.

## **Need to liberalise agriculture markets: NITI Aayog member**

To check hoarding and creation of cartels leading to price distortion in the agriculture commodities market, there is a need to re-look at the Act governing the essential commodities and allow market forces to function, said Ramesh Chand, Member, NITI Aayog.

“You need to liberalise the agriculture markets. Unless you do that, these kinds of things will keep happening and happen more frequently. Along with APMC Act we need to look at the Essential Commodities Act. Is it serving the right purpose or is it causing an adverse effect?,” he said.

An agriculture expert and full-time member of NITI Aayog, Chand told *BusinessLine* : “Today, whenever price increases abnormally due to excessive volatility, we only blame black marketing and hoarding. Only to some extent it would be due to black marketing and hoarding. It is time we looked at the Essential Commodities Act.”

“I am not taking any position, but time has come to take an assessment on the role of Essential Commodities Act. Is this Act enabling us to check black marketing and hoarding and therefore put a check on price spike or is it preventing investment in storage and large import by private sector, which can also play a role in moderation of prices and price stability? It is complicated...,” he said.

Besides, the private sector should also play a role in this segment, he said, adding that “it can help in stabilisation. We need to learn from experience of other countries on why hoarding and black marketing is not happening there. If say we remove

restrictions on stock and remove this Essential Commodities Act, then what kind of market will be there? Obviously the big players will enter the market.”

The private sector knows before the government if prices are about to increase, he said pointing out that “Then those people would want to import from the international market. But now we can’t import more than 500 tonnes or 700 tonnes — whatever the restriction on stock holding is. So, I feel that the private sector has an important role in price moderation and price stabilisation.”

Stressing that competition is healthy, he said, “Right now there are hundreds and thousands of players, but if you open the market there will be say 10 players. Monitoring those 10 is easier. You can set some guidelines on how they should release their stock.”

### **Call to optimise production through sustainable farming**

There is an imperative need to usher in another green revolution in the agricultural sector to optimise production by adopting sustainable farming techniques, according to Andhra University Vice-Chancellor G.S.N Raju.

He was speaking at the inaugural session of the two-day seminar on sustainable agriculture which began in the university in memory of the late economics professor, B. Sarveswara Rao, on the occasion of his birth centenary.

He said during the first green revolution the stress was on increasing production with the use of chemical fertilisers and pesticides to achieve food security, but now the stress would have to be on optimisation of production by using modern technologies. AP Agricultural University Vice-chancellor A. Padma Raju said that maintaining soil health is the most crucial aspect of sustainable agriculture.

Subhash Palekar, the advocate of zero budget natural farming, said that it had been conclusively shown that both the present type of farming using chemical fertilisers and pesticides as well as organic farming would not serve the purpose in the present context. The food security of the country as well as environment would be in jeopardy and the kind of farming advocated by him, with cows as the key, is the need of the hour.

### **Rs 3,000-cr integrated scheme for fisheries sector proposed**

The Government proposes to merge all existing schemes in the fisheries sector with an outlay of Rs 3,000 crore, Agriculture Minister Radha Mohan Singh announced here on Saturday.

Inaugurating the “World fisheries Day-2015”, Singh said the umbrella scheme, ‘Blue Revolution: Integrated Development and Management of Fisheries’, will cover inland fisheries, aquaculture, marine fisheries, including deep sea fishing, mari-culture and all activities undertaken by the National Fisheries Development Board (NFDB) .



He said after Independence, fish production in the country had increased from 7.5 lakh tonnes in 1950-51 to 100.70 lakh tonnes during 2014-15, while the export earnings of Rs 33,441 crore in 2014-15 (\$5.51 billion), equalled about 18 per cent of total export earnings from the agriculture sector.

“Our overall fish production has crossed 10 million tonnes with a growth rate of over 5 per cent and today we are ahead of all countries, except China,” the Minister added. He said keeping the recent developments and trends in fish production in view, and the previous Plan periods, a growth rate of about 8 per cent can be achieved in the inland sector, adding that the future demand for fish and fishery products has to be mostly sourced from aquaculture and culture-based capture fisheries in reservoirs.

So far, our country could not utilize the existing aquatic resources; however, the annual growth rate of above 5% in fisheries is indicative of the immense potential of the sector in the coming years. It is against this backdrop that we want to harness all possibilities for intensive and integrated development of fishery sector. Providing nutritious food and gainful employment are the foremost challenges in the country today. Through fisheries, these two requirements can be fulfilled.

The Minister urged fisheries scientists to promote activities for capacity building and training of the fishermen and encourage use of new technologies enthusiastically on the ground.

# Business Standard

## Commodity picks

### Guar Seed

Guar seed prices are expected to trade lower, towards Rs 3,300 a quintal in Jodhpur, from the current Rs 3,500 a quintal. Pressure on account of weak gum exports and seasonal arrivals is likely to keep prices lower. Guar gum exports in October have been pegged at 16,233 tonnes , against 43,915 tonnes during October last year.

### Cardamom

Cardamom prices are trading at Rs 746 a kg in Vandanmedu. Prices are expected to trade lower, towards Rs 720 a kg, following lower exports and seasonal arrivals. Weaker prices in Guatemala are keeping Indian exports lower.

