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# THE HINDU

## **An app that takes mechanisation to farmers**

AK Surya Power Magic, a Coimbatore-based technology start-up that focuses on the farming sector, has launched “Gold Farm”, a mobile application that helps farmers get farming equipment on rental basis.

Karthic Ravindranath, director and co-founder of Gold Farm, and Abhilash Thirupathy, its director and co-founder, told *The Hindu* that the company had helped more than 500 farmers install solar powered pump sets for agriculture activities.

About a year ago, it launched a single platform that helps farmers connect with the equipment providers. It has worked with farmers in Karnataka and will focus on that area for the next six months. “Currently, we have 15 equipment providers. We will aggregate additional 65 tractors and 50 farm equipment,” said Mr. Ravindranath.

The machinery has been made available throughout the year at competitive prices. The company uses a fully-integrated Internet of Things (IOT) based technology to enable the hiring services. It helps the service providers as there is a demand for the equipment throughout the year. It benefits the farmers as it helps them mechanise farming activities at affordable prices and reduce wastage. This is available to all farmers, irrespective of the extent of area under farming, and they can use the application even without internet connectivity, said Mr. Thirupathy.

Farmers need to download the app, which is available in the local language of the State and book the tractor and implement on their own or call 78877 78877 or through facilities provided at a nearby post office. The company has tied up with the Postal Department for this purpose.

“So far, we have reached around 15,000 acres of tractor service across four States. In the next five years, we expect another five million farmers to be serviced,” said a press release from the company, which has so far received half a million dollars investment from Infuse Ventures.

## Area under medicinal crop cultivation increases in Attur



The coleus forskohlii.

The area under medicinal ‘coleus’ (botanical name: ‘coleus forskohlii’ and in Tamil ‘Marunthu Koorkan’) cultivation has increased in Attur region this season, thanks to favourable market conditions.

The ‘coleus’ is cultivated on about 700 hectares in Salem district. Attur, Thalaivasal and Kallakurichi are the major coleus production centres in the district.

“Forskohlin”, an alkaloid in roots, is used in the treatment of blood pressure and ‘Glaucoma’ eye ailment and also all kinds of nervous disorders. Coleus has anti-histamine and anti-asthma health benefit. It promotes weight loss in obese patients. Harvested tubers are cut into small pieces and dried under shade until it reaches eight per cent moisture level.

In Tamil Nadu, Salem, Tiruvannamalai, Villuppuram districts are the major medicinal coleus production centres. In Attur region, contract farming of coleus gained popularity among small and marginal farmers. It is easy to grow and a profitable crop for the farmers.

According to M. Selvapriya, agriculture consultant, this crop is raised during the months of June to October and well drained red loamy soil is suited for cultivation. Crop duration is six to seven months. The crop yields 15 to 20 tonnes per hectare fresh tubers and 2,000-2,000 tonnes per hectare dry tubers.

### **Skill development course on farming launched at UAS**

A skill development certificate course on production and protection of major agricultural and horticultural crops was launched at the University of Agricultural Sciences, Raichur (UAS-R), on Tuesday.

The programme has been introduced jointly by the university, PI Foundation and Krishi Vigyan Kendra, Raichur. Forty students from 10 districts, most of whom are dropouts, have enrolled for course.

After launching the course at the KVK conference hall at the university, G.K. Venugopal, vice-president, PI Industries, Gurgaon, advised the students not to focus merely on securing a job after completing the course, but to also think about utilising the skills and knowledge obtained to take up farming on their own.

“It is true that the certificate programme has been a great success in other States, with the students getting placed in reputed agro companies soon after completing the course. It does not necessarily mean that you all have to do the same. At least some of you who have cultivable lands should take up agriculture,” he said.

Referring to the rapid urbanisation triggered by population growth and the resultant reduction in cultivable land, Mr. Venugopal stressed the need to improve productivity using newer technologies.

“It is estimated that a million people die of ailments caused by malnutrition and starvation every year the world over. Considering the shrinking [percentage of] cultivable land, increasing foodgrain production using limited land and water resources by adopting newer technologies is the only way to bridge the gap between demand and supply,” he said.

## **Student-farmer sets trend in vegetable cultivation**

Thirteen-year-old P. Akshay is a proud student-farmer. His initiative to take up cultivation of vegetables on 2.5 acres of land owned by his school, PKHMO UP School at Edathanattukara, near Mannarkkad, has won him the Kerala government's first Student Farmer Talent Award (Vidhyarthi Karshaka Prathibha Award).

Now a Class 8 student at nearby GO Higher Secondary School, Akshay has taken up the project in the new school apart from using his weekly holidays to continue with the vegetable cultivation at PKHMO School. Inspired by Akshay, over 200 students of PKHMO are now actively engaged in vegetable cultivation in the school compound, making the institution the top in terms of agricultural production.

Akshay received the recognition from Chief Minister Pinarayi Vijayan at the State-level Farmers' Day function held in Palakkad Town Hall on Tuesday. The audience comprising agriculture experts and successful farmers received him with thunderous applause.

"My father Murali is a daily wage rubber tapper. Mother, Sumithra, is a homemaker. Agriculture is in our blood and by brother, Adarsh, who is in Class 4, too has begun showing interest in vegetable farming," said Akshay in an interaction with *The Hindu*.

Akshay said he wished to become an agriculture scientist who could contribute significantly to the nation's food security. V Rasakh and Abdul Wahab, his teachers at PKHMO, had inspired him to focus on vegetable farming.

"We planted almost every vegetable, including plantains, tapioca, tomato, beetroot and potato. There was high yield despite our stringent determination on organic farming.

The produce was sold in the local market and the profit was used to ensure various student amenities," said Akshay. He said he is cultivating vegetables even on the seven cents of land owned by his family.

## Farmers' grievance meeting

The monthly farmers' grievance redressal meeting for August 2016 will be held at the Collectorate here at 11 a.m. on Friday.

Senior officials from all the departments related to agriculture will be present at the meeting, which will be presided over by Collector K. Veera Raghava Rao.

The district administration advised farmers to submit individual grievances as petitions to the Collector at the meeting while common issues affecting farmers in the district could be raised in the forum.

## Efforts needed to eradicate parthenium

*"The weed is was not only a problem for the farmers but everyone"*



Weeding it out: Schoolchildren removing parthenium in Madurai on Tuesday.—  
Photo: S. James

K. Veera Raghava Rao, Collector, called for collective efforts from people belonging to all walks of life to eradicate the harmful *parthenium hysterophorous*.

Inaugurating a week-long awareness programme on removal of *parthenium hysterophorous*, commonly referred as *parthenium*, here on Tuesday, Mr. Rao said that *parthenium* was not only a problem for the farmers but everyone.

“Today, it is found not only in farm lands but widespread across all places, including roadsides and premises of educational institutions and offices,” he said.

The weed, which reportedly came to India through wheat received from the USA as part of the Public Law (PL) 480 scheme, had become pervasive over the years. Citing a survey, the Collector said that the spread of *parthenium* was around 20 lakh hectare across the country as of 2009.

*The weed caused dermatitis and asthma to human beings when they come into contact, a variety of illnesses for cattle and also affected farming, he said.*

*S. Kanagaraj, Joint Director, Department of Agriculture (Madurai), said that the weed also consumed large amount of water.*

*Mr. Kanagaraj said that three methods could be used. “If parthenium has just started growing, people can just pluck them out. If it is of medium size, then pouring a solution of 200 grams of salt mixed with water will help. If the weed has started flowering, then Fernoxone pesticide (10 grams per litre of water) should be sprayed,” he said.*

### **Dry land crops: concern over inadequate stock of seeds**



Poor storage in reservoirs and weak monsoon has put the focus back on ragi cultivation.— FILE PHOTO

Weak monsoon and poor storage in the reservoirs has brought the focus back on millet, maize and ragi cultivation but there are concerns over inadequate stock of seeds to cope with the possible rise in demand.

Hence, the Millet Growers' Association, an informal network of farmers propagating the cultivation of dry crops, says it is prepared to work with the government in ensuring adequate supply through its network spread across the State.

Krishnaprasad of Sahaja Samruddha, an organisation propagating the cultivation and consumption of millets and also spearheading its cultivation, told *The Hindu* that brown top millet was ideal for dry conditions as field tests conducted in Mandya district in summer on the residual moisture yielded impressive results and encouraged many farmers to opt for its cultivation.

But, the sudden demand for dry crops may create a scarcity as the Raitha Samparka Kendras are only flush with seeds of water-intensive crops. "Raitha Samparka Kendras have been traditionally geared and equipped to ensure the supply of fertilizers, pesticides, and seeds of water-intensive crops but have historically not stored adequate seeds of dry crops as they are unpopular even among the farmers nor are they commercial in nature," Mr. Krishnaprasad added.

So the sudden thrust on millets and other dry crops will create a scarcity and hence, the Millet Growers' Association with its network can chip in to meet a portion of the immediate demand, he added.

The association has stored about 20 quintals of brown top millet and 10 quintals of proso millet besides other crops and can be used to meet the initial demand in the region, Mr. Krishnaprasad said.

Joint Director of Agriculture K.M. Somasundaram admitted of a possible shortage and said that the department would source its requirement from network of farmers apart from private companies for maize and millet though they were adequately stocked with ragi. "But for the bulk of our supply we will place indent with the Karnataka State Seeds Corporation Ltd. to meet our requirements for seeds of crops like millet and maize and ensure their distribution," he added.

However, it was too early to make a demand forecast which would depend on the farmers preference for maize, ragi or millet.

Sahaja Samruddha said this incident should serve as a lesson to the authorities to prepare for contingency plans and hence focus on an array of crops, including indigenous varieties to tide over any emergency and not focus exclusively on a handful of crops.

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*Sahaja Samruddha*

### **Drought casts a shadow over coconut cultivation**

*Trees planted over thousands of acres already dead; another one lakh could face the same fate, say farmers*



Sad sight:Stumps of the felled coconut trees found in the villages of the upper Palar region.— Photo : C. Venkatachalapathy

Vast tracts of land with coconut tree stumps have become a common sight in the western parts of Vellore district. With coconut trees on thousands of acres of



land already dried up due to drought, farmers now say that at least a lakh more trees are nearing withering stage across the district.

Drought conditions have hit coconut cultivation in Vellore, particularly in villages along upper Palar region. This has forced many farmers to fell dried trees. A visit to some of these villages shows the intensity of the crisis. Several lands here bear nothing except the stumps of the felled coconut trees.

“Villages in Vaniyambadi and Ambur taluks are the worst hit. Over the last six to seven years, several thousands of coconut trees have dried up due to acute water scarcity. Early this year, we undertook an enumeration of affected trees and found that at least a lakh is nearing withering stage,” R. Janarthanan, a farmer in Vadakarai and member of National Agriculture Awareness Movement, said.

The affected villages located along the Palar included Ramanaickenpettai, Eklaspuram, Vadukupatti, Ambalur, Thimmampet, Kodaiyanchi, Vadacheri, Vadakarai, Veerankuppam and Omarabad.

“The water here has been polluted by discharge of tannery effluents. This coupled with drought has turned poisonous for the trees. Coconut farmers have not been adequately compensated for the loss,” he added.

Officials said around 22,000 hectares of land are under coconut cultivation in the district.

M. Pandiyan, professor and head, Krishi Vigyan Kendra and Agricultural Research Station, Virinjipuram, said they have already advised farmers to cultivate coconut trees only if they had adequate water source.

“Decades ago, the Palar had perennial water flow. So, farmers raised coconut trees on both sides of the river bank and got good yield. Now, there is no water flow in the river,” he explained.

“Hence, we have advised farmers not to cultivate coconut trees if there is no water source,” he said. While areas in Gudiyatham and Jolarpet too are facing such crisis, the scientist explained that the plant growth and flowering was affected in Vaniyambadi as the salt content in water was high due to tannery effluents.

Officials said that some farmers had felled the dried trees and sold the land to real estate dealers.

R. Mullai, district secretary of Tamil Nadu Vivasagal Sangam, Vellore, said nearly three years ago, they had demanded the State government to grant Rs. 2,500 per affected tree as compensation for farmers. “But nothing has been done till date,” he said.

He added decades ago, coconuts from Dharmapuri and Vellore were bought and taken to markets in Ahmedabad but now the coconut water lacked good taste.

Agriculture officials said that coconut cultivation is no longer suitable for the condition prevailing in Vellore. “If farmers want to cultivate coconut trees now, they will have to adopt drip irrigation. If there is no assured water source, coconut cultivation is not advisable,” an official said. A sum of Rs. 1.3 crore was given as compensation for farmers during 2013-2014 following an enumeration of affected lands. A second enumeration was undertaken but no funds had been allotted, he added.

### **MPEDA, CIFA reach out to aqua farmers**

*Stalls set up at Pavitra Sangamam Ghat at Ibrahimpatnam*

: The Marine Products Export Development Authority (MPEDA), the Indian Council of Agricultural Research (ICAR)-Central Institute of Freshwater Aquaculture (CIFA) and the Fisheries Department arranged stalls at Pavitra Sangamam Ghat in the city on Tuesday.

With the slogan ‘Blue Revolution and Blue Economy,’ the MPEDA authorities arranged a one-day stall and explained the farmers on seafood export potential and the demand for aquaria fish in the international market.

The CIFA officials arranged stalls with the photographs of freshwater fish at the ghat at Ibrahimpatnam. Scientists of the Fisheries Research Station of Sri Venkateswara Veterinary University (SVU), Undi, in West Godavari district arranged a stall with diseases in different fish species.

The Fisheries Department arranged a stall and explained the farmers on the schemes introduced by the government for aqua farmers.

“We explained the farmers on the schemes introduced by Government of India for the benefit of aqua farmers. The MPEDA has arranged a display of fish in the stall and the response was good,” said MPEDA Deputy Director S. Kandan.

National Centre for Sustainable Aquaculture Chief Executive Officer (CEO) K. Shanmukha Rao of Kakinada gave a demo on sustainable aquaculture to the shrimp farmers.

AP Dairy Development Corporation displayed the milk, sweets, flavoured milk and other varieties being prepared by the corporation.

Principal Scientist and Head of Fisheries Research Station of Undi, Suguna Tummala said that farmers should have knowledge on the diseases in fish and prevent production losses.

“Many farmers are suffering huge losses due to lack of knowledge on diseases in fish varieties. The government is arranging training for farmers on disease eradication in aquaculture,” Prof. Suguna said.

### **Cheer for farmers as banana prices rule steady**


Banana farmers, who survived an unusually hot summer early this year, are reaping the rewards of their perseverance with the price of raw nendran banana ruling steady around Rs.60 a kg.

Government-owned vegetable procuring agency HortiCorp bought nendran on Tuesday at Rs.60 a kg while the retail price had gone up to about Rs.75 a kg depending on the location and availability, sources said.

The price on the website of Vegetable and Fruit Promotion Council Keralam (VFPC), which tracks vegetable prices, was Rs.65 in the Ernakulam retail market on Tuesday for the local variety of bananas. The wholesale price was Rs.60 a kg. Banana sourced from outside the State was selling for Rs.60 a kg in the retail market.

V.P. Kuriakose, a farmer, said that farmers had been receiving remunerative prices for over a month now. The auction at the Maradu wholesale vegetable market a fortnight ago saw farmers receiving up to Rs.70 a kg.

**REAPING REWARDS**



- Banana price continues to rule high on short supply
- Arrival of produce from Mettupalayam may cool prices ahead of Onam
- Nendran raw banana sold for **Rs. 60** a kg in the retail market in Ernakulam on Tuesday; farmers have received up to **Rs. 58** a kg in wholesale auctions

The farmers fetched up to Rs.65 a kg in the last auction on Thursday.

The rise in the price of bananas has been attributed to the serious crop losses sustained during the hot months of April and May. Besides, market sources said, the arrival of banana from Mettupalayam market had not picked up momentum.

Meanwhile, the price of other vegetables has continued to rule steady. The more pricey items included carrots and ginger. The price of carrot was Rs.50 a kg in the Ernakulam retail market, according to VFPCCK. Ginger was being sold for Rs.60 a kg in the retail market.

## **Water storage in Vaigai dam dwindling**

*There is likely to be a crisis in getting uninterrupted water supply*

If the catchment areas in and around the region continued to experience a dry spell, there may be a crisis very soon in getting uninterrupted drinking water supply.

With the storage level at Vaigai dam at 26.84 feet (against a maximum of 71 ft), the officials at Corporation said on Tuesday that water distribution for the entire city may be enough only for a fortnight.

“Of course, we can draw water from Mulla Periyar reservoir...if there is no rain in the catchment area in the next few days or so...But again, the farmers had to get their due of water for irrigation,” he noted.

People living in the extension areas were already not getting regular supply for the last one month and depended on alternative means. Many residential apartments had their own facility or purchased water from private agencies for a sum. Only those in the old wards covered under the 72 wards received water in their pipes by the Corporation.

A classic example of drinking water shortage and how people experienced it could be seen in front of the Collector’s camp office situated on New Natham Road. A long queue of empty pots would be kept by residents who lived in DRO Colony and other pockets.

Only a very few colonies, which were in low-lying areas, may get uninterrupted water supply, while others would start feeling the heat soon, an engineer in the Corporation said.

However, when contacted, Commissioner Sandeep Nanduri said that steps would be taken to supply drinking water to residents. He appealed to the people to get in touch with the helpdesk number 0452-2525252 and asked people to register their names.

Apart from this, residents are welcome to post on Facebook and the staff would redress the grievances on priority.

While the actual water level in the Vaigai dam would be around 10 feet or less as the silt occupied a major part, a PWD official said and the only solution would be rain.

### **Cotton conference on Aug. 19, 20**

The Indian cotton sector needs a comprehensive study on challenges, requirements, and scope to increase production.

President of Indian Cotton Federation J. Thulasidharan told reporters here on Tuesday that action can be taken to increase productivity, control price volatility, ensure attractive prices to farmers, and streamline exports and imports only when all the stakeholders are consulted and a comprehensive study of the sector is done.

Vice-president of the association P. Nataraj added that the Central Government should come out with an export policy for cotton. In the current season, Pakistan had been a major importer of Indian cotton. Over 60 lakh bales were exported so far to different countries this year. Based on the estimates of the Cotton Advisory Board, the Government should take decisions on exports, he said.

The Indian Cotton Federation will organise a two-day conference here on “Indian Cotton Scenario in the Current Context 2016-2017” on August 19 and 20.

About 400 people, including cotton ginners, traders, textile industry representatives, and brokers are expected to take part. They will deliberate on cotton area, demand, supply and price situations, and sustainable management practices.

The two-day programme will have panel discussions for ginners, brokers, and spinners. Talks will be on cotton textile eco-system, global scenario, hedging, arbitration, challenges in cotton production, modern trends in spinning, and funding cotton purchase. The association members plan to submit their suggestions to the Union Textile Minister after the meeting.

## **Training programme**

Veterinary University Training and Research Centre here conducted an on-campus training programme on 'dairy cattle management' for the benefit of farmers across the district on its premises on Tuesday.

A total of 37 dairy farmers and unemployed youth participated.

D. Jayanthi, Head of the Veterinary University Training and Research Centre, and P. Ravi and N. Sri Balaji, both assistant professors, imparted training on various technical aspects involved in dairy cattle management such as breeds of dairy cows, selection of dairy cows, housing and feeding managements along with vaccination, de-worming and mastitis management.

## **Cotton yield is expected to rise this season**

Even as the area under cotton has come down this kharif season, the production in the key cotton growing States could still be higher during the 2016-17 marketing season than in 2015-16.

This is because of better yields expected in good weather, officials told *The Hindu* .

In North India, Haryana, Punjab and Rajasthan are the major cotton-producing States. After the genetically modified cotton crop suffered a huge damage last year in Punjab and Haryana from the whitefly pest attack, farmers have cut down on area under cotton this season.

## **Sowing area**

According to the India Cotton Association Limited (ICAL), cotton has been sown on 2.56 lakh hectares in Punjab and on 4.96 lakh hectares in Haryana.

In Rajasthan, the crop has been planted on five lakh hectares.

“No doubt, cotton area has dipped this year. But conducive weather conditions this season will increase the yield; hence, the production during the 2016-17 season in the northern States is likely to be higher than that in 2015-16,” said ICAL president Rakesh Rathi.

## Mat nursery in paddy gains ground

*Practice popular among farmers as it requires less space and water; it saves labour cost too*



easy harvesting: A farmer shows paddy seedlings taken out from a mat nursery.-  
Photo: C. Venkatachalapathy

Mat nursery in paddy, a method of putting a plastic sheet on the field, spreading mud on it and sowing seeds, is becoming popular among farmers now as it both reduces the cost, and helps in getting higher yield.

In the traditional wet bed nursery at least 30 kg of seed would be required to produce nursery sufficient to plant an acre and the farmers need to wait till the seedlings mature for 30 days.

In the mat nursery 10 kilograms of seed, or even less, is sufficient to produce seedlings required for an acre and seedlings could be transplanted on its 15th day .

P. T. Rajendran, a farmer belonging to Kalasapakkam and district secretary of Tamil Nadu Vivasayigal Sangam told *The Hindu* that “the mat nursery requires less space and water.

It saves labour cost too. To form wet bed nursery we need to till the field thrice. Five labour/an acre would be required to harvest seedlings and tie them into bunches. Whereas in mat nursery no tilling is necessary and harvesting is easy.



If you hold a bunch of seedlings and lift them a big cluster of seedlings easily comes up in your hand.

### **More tillers, higher yield**

Hence labours engaged for transplantation will do it in negligible amount of time. If transplantation is done in younger age, seedlings would produce more tillers and thus yield goes up.

Harvesting seedling in young age is not possible in traditional wet bed nursery”.

“Farmers prefer mat nursery as they have realised the benefits of the method. But there are fewer trained people available for setting up mat nursery. Those who excel in the method are sought after by farmers to carry out mat nursery in their fields, he added.

### **Farmers’ grievance day meeting**

The monthly farmers’ grievances day meeting will be held at the Collector’s Office here on Thursday (August 18). Collector M. Ravikumar has appealed to the farmers to participate in the meeting and get their grievances redressed.

### **Skill development certificate course introduced in agriculture university**



G.K. Venugopal, Vice President, PI Industries, Gurgaon, Haryana, addressing at inauguration skill development certificate course at KVK conference hall in the UAS-R on Tuesday. – Photo: Santosh Sagar

Skill development certificate course on production and protection aspects of major agricultural and horticultural crops for unemployed rural youths was launched in University of Agricultural University, Raichur (UAS-R) here on Tuesday. The programme is introduced jointly by UAS-R, PI Foundation and Krishi Vigyan Kendra (KVK), Raichur. Forty students from 10 districts, most of whom are drop-outs, have enrolled for the first batch.

G.K. Venugopal, vice-president, PI Industries, Gurgaon, Haryana, who inaugurated the course at KVK conference hall in the UAS-R campus advised the students not to focus merely on securing a job after completing the course, but think on utilising the skills and knowledge in farming activities of their own.

“It is true that the certificate programme was a great success in other States as all the candidates got good placements in reputed agro companies. It does not necessarily mean that you all do the same. At least some of you who have cultivable lands should take up agriculture as your profession,” he said.

Pointing at the rapid urbanisation triggered by population growth and resultant reduction in cultivable lands across the globe, Mr. Venugopal stressed the need of improving productivity using newer technologies so as to grow more in limited land.

“As per an estimate, a million people die of ailments caused by malnutrition and starvation every year worldwide. Considering the shrinking cultivable lands on account of rapid urbanisation and population growth, starvation deaths may increase in future. Increasing food-grain production with limited land and water resources using newer technologies is the only way to bridge the widening gap between demand and supply,” he said.

G. Madan Mohan, general manager, PI Industries, advised the students to gain knowledge and skills in the course as mere obtaining a certificate would not render them a good job.

“Out of 2,000 people who have applied for the course, only you 40 are selected. It means that you need competence to achieve. You will be successful only when you can effectively transfer the knowledge you learn here to farming community,” he said.

S.K. Meti, A. Naganagoud, I Shanaergouda, M. Bheemanna, A.G. Sreernivas, S.N. Vasudevan and other faculty members of UAS-R were present.

### **Big profit from a small tract of dry land**



Success story: N.C. Patel has earned Rs. 2 lakh by growing jamun on just half an acre of barren land in Nagadasanahalli of Bengaluru Urban district.— photo: K. Murali Kumar

*73-year-old farmer innovatively uses Krishi Bhagya scheme to store rainwater in farm pond and double yield*

At a time when growers with large tracts of wetland are finding it difficult to turn farming into a profitable venture, this veteran farmer has demonstrated that it is possible to earn returns even from small tracts of dry land. He has earned Rs. 2 lakh by growing the seasonal jamun plants on just half an acre of barren land.

The 73-year-old N.C. Patel, who is credited with popularising white grapes and Mallika variety of mangoes in Karnataka, has now taken the lead in showing that dry-land farming too can be profitable if farmers are innovative.

What has come to his aid is the flagship Krishi Bhagya scheme, which focuses on creating a farm pond to store rainwater for usage during the summer months.

Mr. Patel has grown about 50 jamun plants on a half-acre land. Planted in 2005, these varieties were yielding a little over one tonne a year under the rain-fed farming method. Despite being a well-to-do farmer, he was forced to take up dry-land farming on this tract of land owing to severe water shortage. The borewell on the farm has almost dried up with its yield reducing to less than half an inch.

However, the farmer enrolled himself for the Krishi Bhagya scheme last year and created a farm pond with a dimension of 11x11 metre and a depth of about 5 m. While rainwater gets collected in the pond, which has a lining of polythene sheet to ensure that the water does not get drained out, he also pumps in whatever little water he gets from the borewell into this pond. The storage in this small pond is used to take care of the water requirements of plants for about 45 days during the crucial summer season. “This water is just enough to water plants four times over a duration of 45 days from March 15, which also marks the peak summer season. This helps improve the quality of fruits, besides increasing the quantum of yield,” he says.

“My yield touched about two tonnes a year and my income from these plants doubled from the earlier Rs. 1 lakh,” he says. People from various parts of Bengaluru visit his farm to buy fresh jamun fruits. He says Krishi Bhagya scheme can serve as a game-changer for dry-land farmers if used creatively.

### **Processing unit**

Mr. Patel now plans to set up a jamun processing unit as that will not only increase his income further, but also give the produce more shelf life.

## **Sewage sludge could be used as sustainable fertiliser**

*It enables sustainable re-use of essential and finite phosphorus resources, according to researchers*

Researchers have found that thermally conditioned sewage sludge improves soil properties and could be used as a sustainable alternative to commercial fertilisers.

Use of sewage sludge enables sustainable re-use of essential and finite phosphorus resources, the researchers said.

Without phosphorus, there can be no food production and as the source of phosphorus is non-renewable phosphate rocks, there is a strong need for increased recycling to ensure phosphorus security.

“Sewage sludge is a non-limited continuously available and sustainable fertiliser source,” said one of the researchers Andry Andriamananjara from the University of Antananarivo in Madagascar.

To assess its effectiveness, the researchers used a phosphorus radiotracer technique to measure the availability of phosphorus for plants in thermally conditioned sewage sludge.

They grew ryegrass in pots filled with soil added with either no fertiliser, thermally conditioned sewage sludge as fertiliser, or commercial triple superphosphate fertiliser.

The addition of fertiliser increased phosphorus uptake by the plants showed the study published in the journal *Frontiers in Nutrition*.

This was not only because the fertiliser offered an additional phosphorus source, but also because the plants increased their soil exploitation.

However, total phosphorus uptake from thermally conditioned sewage sludge was lower than that from the commercial fertiliser.

This could be explained by the fact that the phosphorus in the water-soluble commercial fertiliser is immediately available for plant uptake after application, whereas the phosphorus in thermally conditioned sewage sludge is present in a lower available form.

Moreover, the other nutrients present in the sludge stimulated the microbial activity, thereby inducing competition between microorganisms and the plant roots for phosphorus uptake.

However, the researchers still recommend the usage of sewage sludge as fertiliser.

“It was shown to have a higher agronomic effectiveness in comparison with commercial fertiliser,” Andriamananjara said.

“Although on the short term it enhanced the microbial biomass and therefore phosphorus immobilisation, on the longer term the phosphorus captured by this microbial biomass can again become available for the plants,” he noted.

### **An eternal wait for water for farmers in these tail-end areas**



Farmers transplanting paddy near Manvi that falls in the tail-end of Tungabhadra Left Bank Canal in Raichur district.

The State government's decision to not release water for paddy and other water-intensive crops in the Cauvery and Tungabhadra basins may have angered farmers in the irrigated belt. But the problem of farmers in the tail-end areas of the Tungabhadra Left Bank Canal (TLBC) is an old one that has gone without redress.

Every year, very little water flows down to several parts of Raichur district, which are supposed to be irrigated by the TLBC. Of around 4 lakh acres in Sindhanur, Sirwar and Yermarus canal divisions of the Tungabhadra project that fall at the lower reaches of TLBC, only half has seen sowing of chilli, cotton and other crops and transplantation of paddy. The rest have been waiting for water.

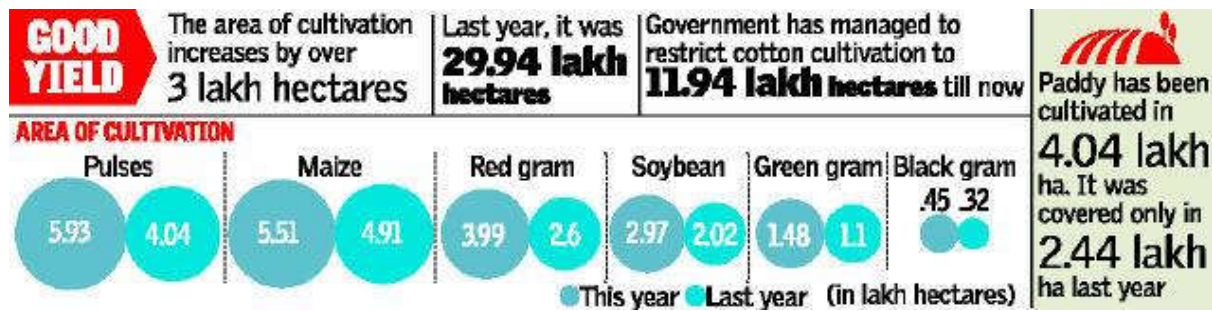
When this correspondent visited the 104th-mile-point of TLBC near Sirwar, the water-flow level was hovering around just 1.2 ft against its targeted gauge of 6 ft. The logbook maintained at the nearby outpost revealed that the water level at the point in question was zero ft till midweek, which had gone up slightly following release of large quantities of water from the dam.

“If a gauge six-ft is maintained for at least 15 days, then only paddy transplantation can be completed in all empty fields. The present gauge of 1.2 ft is nothing considering the vast tracts of lands waiting for transplantation,” Chamarasa Malipatil, State president of Karnataka Rajya Raitha Sangha, said.

Farmers and their leaders, elected representatives and even officials at the Department of Water Resources unanimously attributed water crisis at the canal's lower reaches to illegal expansion of irrigation at the upper reaches. But, nobody exactly knows the extent of illegal expansion. For, no survey has been conducted even though the water crisis and resultant farmers' agitations have been yearly phenomena for the last several years.

“Around 1.75 lakh acres of unauthorised lands in upper reaches of TLBC, most of which are in Gangavathi taluk in Koppal district, are illegally irrigated using around 600 cusecs of Tungabhadra water. As a result, over 2 lakh acres of authorised lands in lower reaches of the canal in Manvi, Raichur, and parts of Sindhanur taluks in Raichur district are deprived of their legitimate share of water,” D. Veerana Gowda, a leader of Karnataka Prantha Raitha Sangha, said.

## Record cultivation of pulses, maize, soybean thanks to good rains



The area of cultivation increased by over 3 lakh ha to 32.98 lakh ha compared to 29.94 lakh ha same period last year

Widespread rain across the State has led to record cultivation of pulses, maize and soybean during the current kharif with the total cropped area reaching 32.98 lakh hectares till August 11.

The area of cultivation has also increased by over 3 lakh hectares compared to the same period last year, when poor rain restricted it only to 29.94 lakh hectares.

### Cotton cultivation

However, the Government's plan to restrict cotton cultivation to below 10.64 lakh hectares has been successful only to the extent of keeping it much below 17 lakh hectares cultivated last year, as it has already reached 11.94 lakh hectares.

### Dry spell in June

“Dry spell in parts of central and southern Telangana during June-July has forced the farmers to opt for cotton again as it was impossible for them to take up soybean cultivation since cotton can withstand dry spell for over 180-day crop period with the capacity to regenerate whenever it gets moisture,” a senior official of the Agriculture Department said.

The crop has already been sown in over 1.3 lakh hectares above the extent planned by the government and it could go up further as farmers in some parts take up sowing till the end of August second week.



### **Govt. plan for red gram**

Officials explained that the government had plans to cover an extent of 45.49 lakh hectares this kharif against the normal extent of 43.43 lakh hectares by increasing sowing of red gram to 4.85 lakh hectares, soybean to 5.02 lakh hectares and that of maize to 6.14 lakh hectares against their normal area of 2.60 lakh hectares, 2.02 lakh hectares and 4.91 lakh hectares, respectively.

Farmers have cultivated pulses in an extent of 5.93 lakh hectares this kharif against the season normal of 4.04 lakh hectares with red gram cultivation in 3.99 lakh hectares against the normal of 2.6 lakh hectares, green gram in 1.48 lakh hectares against the normal of 1.1 lakh hectares and black gram in 0.45 lakh hectares against the normal of 0.32 lakh hectares.

Similarly, soybean has been cultivated in 2.97 lakh hectares against the normal extent of 2.02 lakh hectares and that of maize in 5.51 lakh hectares against the normal of 4.91 lakh hectares.

### **Paddy prospects**

“Good rains have improved the prospects of paddy cultivation this year and it has been cultivated in 4.04 lakh hectares already.

“It was covered only in 2.44 lakh hectares during the same period last year. It is expected to be taken up in about 11 lakh hectares this season, if good rains continue through the rest of monsoon,” the officials said.

## **Maharashtra: Pulses on the low as increased sowing sparks market losses**

Volatility of prices has been one of the major reasons for farmers being weaned away from pulses towards sugarcane.



Over the last 25 days, prices of pulses in the wholesale markets of Maharashtra have seen a drop by 20 per cent.

Last year, when prices of dal had rocketed, both the state and central governments had announced several efforts to increase cultivation of pulses in the country.

While the area under cultivation has seen an increase by 119 per cent, wholesale prices of the commodity has seen a dip, which many say might hamper a permanent increase in the cultivation area.

Over the last 25 days, prices of pulses in the wholesale markets of Maharashtra have seen a drop by 20 per cent.

Good monsoon and reports of good harvests in the overseas markets are the major causes attributed to the dip.

Pravin Dongre, chairman, India Pulses and Grains Association (IPGA) said that a further price drop is expected across wholesale markets.

The sowing report issued by the state agriculture department shows that sowing of tur dal has increased by 123 per cent, while that of moong and urad dal has increased by 115 and 124 per cent respectively.

This has changed market sentiments and has resulted in liquidation of stocks from farmers/millers/ traders.

Dongre said that at the same time, the demand from the end consumer is down.

Moong dal is already being traded near its Minimum Support Price (MSP) value.

Once imported pulses start hitting the market from September, more price correction is expected.

Volatility of prices has been one of the major reasons for farmers being weaned away from pulses towards sugarcane.

Even in water-stressed Marathwada, the cultivation area of pulses has recorded a steady decrease as farmers complain of lesser returns.

In an ambitious move, the state government has decided to increase the cultivation area, with 2016 being designated as the year of pulses.

If prices continue to dip, doubts are being raised if it could be achieved.

## **Devendra Fadnavis prescribes drip irrigation for sugarcane, solar-powered pumps**

Fadnavis convened a meeting to work out the strategy to enforce the state government's water conservation project under the banner of "per drop per crop".



Maharashtra Chief Minister Devendra Fadnavis Tuesday set a target of bringing three lakh hectares of sugarcane under drip irrigation by 2016-17 and the remaining in two to three years.

Chief Minister Devendra Fadnavis Tuesday set a target of bringing three lakh hectares of sugarcane under drip irrigation by 2016-17 and the remaining in two to three years. The total sugarcane cultivation in Maharashtra is 10 lakh hectares, of which only 2.5 lakh hectares are covered under drip irrigation.

Fadnavis convened a meeting to work out the strategy to enforce the state government's water conservation project under the banner of "per drop per crop".

Another proposal discussed relates to shifting of agriculture pump connections from thermal power to solar energy in phases.

The primary report indicates that the massive subsidies to agriculture sectors (sugarcane included) can be utilised for investments in the solar sector. Although the solar sector has initial high cost, it is less expensive once infrastructure is in place.

Fadnavis held the meeting with the department of water conservation and the department of power.

Last week, Fadnavis, during his visit to Raigaon (district Sangli) visited a drip irrigation project.

Almost 1553 farmers came together to adopt the hi-tech automated drip irrigation project across 2009 hectares.

The farmers' income per 1,000 litres of water in crop cultivation worked out to Rs 2.79 using the traditional method of floor irrigation. But after they adopted drip irrigation, the income went up by Rs 13.22.

The drip irrigation technology is based on Israeli model where computerised sensor equipment can read the temperature, humidity and nutrient levels in soil. It can also regulate flow of water assessing requirements based on climatic conditions. It also has an in-built system to allow water to reach the roots to ensure better growth.

The automated drip irrigation mechanism helps maximise water use to cover a larger area of irrigation. While citing examples from drip irrigation projects, Fadnavis told officials, "The entire 9.43 lakh hectares of sugarcane cultivation should be brought under drip irrigation in the next two to three years."

He indicated that less expensive drip irrigation projects on a smaller scale can cover other crops including horticulture.

From overall assessment of various studies by agriculture universities and farmers groups, it has come to light that crops that are better water-regulated give higher yields and financial returns.

Among aspects under consideration include tapping of private firms to work out drip irrigation models that could be more climate friendly and less expensive.

### **Maharashtra: Pulse prices dip on increased sowing**

Good monsoon and reports of a good harvest in the overseas markets are the main causes attributed to the price dip.



Over the last 25 days, prices of pulses in the wholesale markets in Maharashtra have been dropping by 20 per cent.

LAST year, when prices of dal touched the sky, the state and central governments had announced efforts to permanently increase cultivation of pulses. While area under cultivation of pulses has seen an increase of 119 per cent, wholesale prices has seen a dip, which many say might hamper permanent increase in cultivation area.

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Pravin Dongre, chairman, India Pulses and Grains Association (IPGA) said a further price drop is expected across the wholesale markets.

Sowing or reporting issues by the government of Maharashtra's agriculture department shows that sowing of Tur daal has increased by 123 per cent, while that of Moong and Urad daal has increased by 115 and 124 per cent respectively.

This changed the market sentiments and resulted in liquidation of stocks from farmers/millers/ traders.

At the same time, Dongre said the demand from end consumer is down.

Already, moong prices are trading near Minimum Support Price (MSP) value.

Once the imported pulses start hitting the market from September, more price correction is expected.

Volatility of prices has been one of the major reasons for farmers getting weaned away from pulses towards sugarcane.

Even in water-stressed Marathwada, pulses recorded a steady decrease as farmers complained of lesser returns. In an ambitious move, the state government decided to increase pulses area with 2016 being designated as the year of pulses but if prices continue to dip, doubts are being expressed if it can be achieved.

Dongre said the government should assure farmers that their stocks should be brought at MSP across all mandis in the country.

## **Agriculture ministry demands Rs 11,000 crore more to implement Pradhan Mantri Fasal Bima Yojana**

Last year, 3.07 crore farmers had taken up crop insurance under the previous scheme. PMFBY replaces the existing two schemes NAIS and Modified NAIS, which had some inherent drawbacks.



National Agriculture Market (NAM) — the online trading portal for farm produce being launched by Prime Minister Narendra Modi. (Reuters)

The Agriculture Ministry has demanded an additional Rs 11,000 crore to settle crop insurance claims this fiscal under the Pradhan Mantri Fasal Bima Yojana. The new scheme, PMFBY, was launched in January and is being implemented in the ongoing kharif (summer) season. The Centre aims to bring 4 crore farmers under the scheme.

“This year’s Budget allocation was Rs 5,500 crore for PMFBY. We have demanded from the Finance Ministry to provide an additional budget of Rs 11,000 crore for the new scheme,” a senior government official told PTI.

More funds are being sought as the burden is expected to rise with the extension of the deadline to register under the PMFBY and claims of about Rs 7,500 crore are pending from last year under the old scheme NAIS, he said.



“Out of Rs 5,500 crore budget allocated for PMFBY for the 2016-17 fiscal, Rs 5,000 crore has already been used for clearing part of last year’s claims under the National Agricultural Insurance Scheme (NAIS),” the official noted.

About Rs 476 crore has been kept aside for north eastern states and this amount cannot be utilised for other states. “So, we have asked permission to use for other states,” the official added.

The Centre has extended the deadline till August 10 for farmers to register under the new crop insurance scheme, and till August 31 for Bihar.

Barring Punjab and five north eastern states, all other states and union territories are implementing the scheme in the ongoing kharif season. Kerala is in the process of notifying the scheme.

For instance, in Andhra Pradesh over 20 lakh farmers have registered so far this season, in addition to 13.41 lakh in Gujarat, 9 lakh each in Karnataka and Madhya Pradesh and 7.5 lakh in Jharkhand, as per the official data.

“The correct figure of the exact coverage would be known by the end of this month.

The way new scheme has picked up, we think we will be able to achieve the target of 4 crore farmers this year,” the official noted.

Last year, 3.07 crore farmers had taken up crop insurance under the previous scheme. PMFBY replaces the existing two schemes NAIS and Modified NAIS, which had some inherent drawbacks.

Under the PMFBY, farmers’ premium has been kept lower between 1.5-2 per cent for foodgrains and oilseed crops and up to 5 per cent for horticultural and cotton crops.

There will not be a cap on the premium and 25 per cent of the likely claim will be settled directly in farmers’ accounts.

## **Tamil Nadu: Farmers told government to declare state as ‘drought-hit’**

There has been lesser inflow into to water bodies, acute shortage of water for irrigation and drinking purpose, the farmers claimed.



Almost all the districts in Tamil Nadu have received below normal rains in the last 75 days, leading to a drought like situation, Federation Secretary S Nallasamy said.

The Federation of Tamil Nadu Agriculturists Association has urged the state government to declare the state as “drought-hit” following failure of South West Monsoon.

A resolution to this effect was adopted at a meeting held, in which the federation said the state used to get rain for 120 days starting from June during the monsoon.

However, almost all the districts in Tamil Nadu have received below normal rains in the last 75 days, leading to a drought like situation, Federation Secretary S Nallasamy said.

There was lesser inflow into to water bodies, acute shortage of water for irrigation and drinking purpose, he claimed.

Since there was no possibility of getting adequate rainfall in the remaining 45 days, and the neighbouring states refusing to release the assured share of river water, Tamil Nadu should be declared as “drought-hit state” and steps must be taken to tackle the situation, he said.

In another resolution, the federation condoled the death of veteran farmer leader M R Sivasami, who died at the age of 83, two days ago.

### **Veggies grown along tracks: Central Railways says safe, but consumers wary**

While green patches of cultivation along the railway tracks are a common sight for suburban railway commuters, the farming techniques remain a mystery.



Under the scheme Grow More Food started in 1975, the suburban railways initiated the practice of growing simple crops along railway tracks. Express photo

WHEN nutritionist Ratna Raje goes shopping for vegetables, she ensures they are bought only from a trusted vendor sourcing produce from the countryside. Raje is particularly wary of the greens grown along the local railway tracks.

“After having heard enough of the contamination levels in the crops grown along the rail tracks, I cannot risk my family’s health and mine,” she says.

While green patches of cultivation along the railway tracks are a common sight for suburban railway commuters, the farming techniques remain a mystery.

A few years ago, laboratory tests revealed the presence of heavy metals including zinc, lead and arsenic in the vegetables grown along the tracks.

“It is an open secret that sewage water and untreated water released from factories is used in these patches. However, many consumers are lured to buy them as they are cheaper,” Ratna adds.

Under the scheme Grow More Food started way back in 1975, the suburban railways initiated the practice of growing simple crops along the railway tracks, in order to save these lands from encroachment.

Officials said lower-ranking railway employees generally use these lands for cultivation of crops as an additional source of income.

“Almost 238 employees work on around 400 acres of railway land given under this scheme. More than the rent received by the railways, offering a source of income to our employees remains our aim through this scheme,” said a senior Central Railway official.

Patches between Ghatkopar and Byculla on the main line of the CR and some patches between Guru Tegh Bahadur Nagar and Sewri on the harbor line witness cultivation of simple crops such as radish, spinach, cauliflower and other leafy vegetables. When asked if they are fit to be eaten, officials quoted a lab study.

“After receiving reports that water used in growing these crops is contaminated, we initiated a study. Results have proven that they are fit to be consumed, “ said a senior Central Railway official.”

Records indicate an annual earning of about Rs 11 lakh to the CR from land rent paid by cultivators.

## **Food prices soar to 23-month high, inflation doubles but there's good news: the monsoon to bring relief**

The reason for high inflation is the base effect and spike in prices of vegetables and pulses.



There are indications, however, that the prices of vegetables are moving downwards. (Source: File)

While the latest data shows that wholesale price inflation (WPI) increased to a 23-month high of 3.55 per cent in July — from 1.62 per cent in June — as vegetables, pulses and sugar turned costlier, there are indications that prices may moderate in the near future.

The reason for high inflation is the base effect and spike in prices of vegetables and pulses.

The sharper-than-anticipated increase in food prices has pushed up the projected trajectory of inflation over the rest of the year.

Prices of pulses and cereals were rising and services inflation remains somewhat sticky. The partial delay in the monsoon over many parts of the country also delayed the sowing of the kharif crop.

There are indications, however, that the prices of vegetables are moving downwards.

“Going forward, the strong improvement in sowing on the back of the monsoon’s steady progress along with supply management measures, augers well for the food inflation outlook,” said the Reserve Bank in its latest monetary policy review last week.

The RBI looks at consumer price inflation (CPI) while formulating its policy, saying CPI inflation is a better indicator than the WPI.

The outlook for food prices is also encouraging. First, progress of pulses sowing has been very good (+40 per cent year-on-year) and should ideally result in a bumper crop.

Historically, it has been observed that a sharp improvement in pulses results in this component being in deflation for some time.

Second, international food prices have started to soften with corn, wheat and soyabean all correcting by 15-20 per cent in the past one month.

Third, petrol and diesel prices have been cut in August with perhaps more to follow.

Fourth, post August, the adverse base will start reversing and also help push inflation lower.

The good monsoon this year will provide much needed relief. “We expect pulses and vegetables inflation to cool off.

The moderation in food inflation should result in CPI being below 5 per cent by March 2017,” said a report by Edelweiss.

## **Wholesale inflation hits 23-month high of 3.55%**

India's wholesale inflation grew 3.55% in July— a 23-month high — driven by costlier food items, including pulses, potato and sugar, latest price data released on Monday showed.

Wholesale price index (WPI)-based inflation had grown 1.62% in June.

Wholesale inflation rates, a marker for price movements in bulk buys for traders, broadly mirror trends in shop-end prices over the last few months.

Data released last week showed that retail inflation rate rose to 6.07% in July, a two-year high.

Wholesale food inflation, a broad proxy to track changes in household kitchen costs, shot up to a 30-month high of 11.82% in July, against 8.18% in June.

Experts expect prices to cool down after the arrival of new crop in the coming months on the back of abundant summer rains.

“Emerging trends regarding the ongoing kharif (summer crop) sowing suggest an imminent cooling of food inflation in the coming months,” said Aditi Nayar, senior economist at ICRA, a credit rating firm.

Manufactured products inflation, which largely captures trends in non-food, non-fuel product prices, grew 10.19% in July, from 8.35% in June.

Prices of pulses, a common source of proteins for most Indians, grew 35.76% in July at the wholesale level from 26.61% in the previous month, while vegetable prices grew 28.05% from 16.91% in June.

Potato prices rose 58.78% in July, compared to 64.48% in the previous month.

A high inflation rate will likely weaken the chances of an interest rate cut in the Reserve Bank of India's (RBI's) monetary policy review in October.

# THE HINDU BusinessLine

**Govt should take steps to address demand-supply issues: Chamber**



The rise in Wholesale Price Index (WPI)-based inflation is in line with the industry's expectation, Assocham said on Tuesday, but added that the government must take "strong action" to address the structural issues of demand and supply within the industry.

WPI inflation has been on the rise for four straight months and shot up to 3.55 per cent in July.

Warning that the increase in WPI inflation may also extend to retail inflation that would impact households and the final consumers, Assocham called on the government to take concrete steps to minimise the transition of price rise from WPI inflation to consumer price index (CPI)-based inflation.



“Prices of items such as pulses, vegetables, fruits and fibres have been rising at the industry-level and policy-makers should address these through supply-side responses,” said D.S. Rawat, Secretary-General, Assocham.

The RBI, which is targeting retail inflation, would not be in a position to address demand and supply problems as CPI inflation was above the threshold of 5 per cent.

### **Pest attacks wreak havoc on coconut farms**



Even as 2016 marks a century of coconut research in India, the sector is still fearful about the threat of various diseases.

Pests and diseases affected the country's coconut production (up to June) this year, with output dropping 5 per cent from the 20,440 million nuts produced last year.

India's coconut production, which ranks first and contributes around 31 per cent of global production, has been showing a declining trend in the last three years, dropping from 23,351 million nuts to 20,440 in 2014-15.

Industry sources point out that research activity in the coconut sector has not gained momentum vis-a-vis other agricultural crops, which have witnessed encouraging results, especially in the development of tissue culture.

However, senior officials in the Coconut Development Board attributed neglected crop management, monsoon deficiency, natural calamities such as drought and cyclones in the coastal States of Andhra Pradesh, Tamil Nadu and Odisha as well as the outbreak of diseases in different regions as reasons for the production decline.

The major villains are root-wilt diseases, which have affected coconut production throughout Kerala and are spreading to the neighbouring States of Tamil Nadu and Karnataka. Besides, Thanjavur / Ganoderma Wilt, bud rot, leaf rot are also impacting output.

Price instability is also a major problem, forcing growers to neglect the coconut crop, which is cyclic in nature. Owing to a high degree of price fluctuation, growers are now exposed to economic risks and uncertainties.

High labour costs, unavailability of sufficient land suitable for agriculture due to urbanisation and surging farming costs are other factors making coconut cultivation unviable.

Today tree climbers charge up to 30-40 per tree whereas the farm gate price is 6 per nut.

To make the cultivation viable, there should be at least six to eight tree harvests, given Kerala's average productivity of 44 nuts per tree in a year. The average number of nuts per tree per harvest is only eight nuts, which is inadequate to meet even the harvesting charges.

The Coconut Development Board has started popularising Integrated Pest Management (IPM) and Integrated Nutrient Management (INM) among the farming community. However, application of such practices for effective management of pest and diseases at the farmer level is very low.

### **H1 black tea output up 8.80%**



Global black tea production in the first half of calendar 2016 showed a growth of 8.80 per cent over the same period of 2015.

“Our compilation of the latest official data received from different countries shows that the global black tea production till now has risen to 840.42 million kg (mkg) from 772.51 mkg.

This increase of 67.91 mkg marked a growth of 8.80 per cent”, Rajesh Gupta, compiler of annual ‘Global Tea Digest’ told *BusinessLine*. The highest increase of 70.80 mkg came from Kenya whose production soared to 213.78 mkg. Timely rains helped higher harvest of tea in the fields across the nation.

India's production rose by 9.40 mkg to reach 416.66 mkg, while Bangladesh posted a gain of 8.17 mkg to reach 22.66 mkg.

The major loss of 19.42 mkg came from Sri Lanka whose production dropped to 152.51 mkg. Most plantation pockets in the island-nation suffered adverse weather in the first half due to dry conditions.

### **Pepper continues to rule steady**



Pepper markets on Tuesday ruled steady on matching activities.

Buying interest from Maharashtra and Madhya Pradesh was visible in the market, while that from Bihar, Jharkhand and Rajasthan has slowed down following floods in these States. Vietnam pepper was allegedly being sold at 680 a kg while Sri Lankan pepper was being traded at 710.

On the terminal market, 16 tonnes of pepper were traded at 695-710 a kg. Spot prices remained unchanged at 69,000 (ungarbled) and 72,000 (garbled) a quintal. September, October and November contracts on the IPSTA remained steady at 71,000, 70,000 and 69,000 a quintal.

Export prices were at \$10,950 a tonne c&f for Europe and \$11,200 for the US.

## Spot turmeric loses 200/quintal



Spot turmeric prices decreased on Tuesday by 200 a quintal at Erode markets.

“Only 4,000 bags arrived for sale and the traders quoted decreased price and procured 60 per cent stocks,” said RKV Ravishankar, a trader.

Local traders are waiting for demand from North India. Regarding the price, the finger turmeric decreased by 200 a quintal, while the root variety by 170.

The good quality finger variety fetched 9,166-9,534 a quintal.

At the Erode Turmeric Merchants Association, the finger variety was sold at 7,444-9,534 a quintal and the root variety 7,299-8,477. Of the arrival of 1,197 bags, 670 were sold.

## Monsoon busy in North; stays subdued over South Peninsula

The fourth low-pressure area in a series in the Bay of Bengal has intensified a round and is forecast to become a depression by Wednesday.

This is the second successive time that a monsoon depression will take shape in the Bay; the preceding one had gone on to become a deep depression to preside over heavy rainfall in East and Central India.

## **BUZZ IN BAY**

The busy state of the Bay from early this month indicates strong monsoon conditions but the gains are accruing only for the northern half of the country.

According to India Met Department, yet another low-pressure area might materialise over the Bay in another five days (around August 20) that will sustain the monsoon over East and Central India.

But the southern half might continue to suppressed rain conditions since, like in all preceding cases, the rain-driving 'low' will be located too far away for comfort.

The Australian Bureau of Meteorology attributed this to the displacement from the Indian Ocean region of the Madden-Julian Oscillation (MJO) wave towards the North-West Pacific/South China Sea.

The location where the MJO wave decides to drop anchor also decides where the monsoon will be most active. This is evidenced in the enhanced activity in the North-West Pacific/South China Sea currently.

## **PACIFIC TYPHOONS**

A number of typhoons (cyclones) have been already generated in these twin basins, some of which have gone on to supply 'pulses' and lob them into the Bay of Bengal across the Indochina region.

These 'pulses' have in turn grown in intensity over the Bay to become low-pressure areas, including the current one which is set to become further intensify into a depression.

This is a 'pulse' hurled into the Bay in advance of a typhoon brewing in the South China Sea, according to the European Centre for Medium-Range Weather Forecasts.

It is in line to hit the southern parts of China and Hong Kong, and would likely have sent in another 'pulse' to precipitate the next 'low' in the Bay by August 20, according to India Met Department.

But the European Centre is not that optimistic for the time being, though it points to a likely possibility of 'some churn' in the Bay around that time.

## **MONSOON PERFORMANCE**

Meanwhile, the monsoon performance for the country as a whole stood at exactly normal as on Tuesday. But this indicates sequential deterioration from a surplus of three per cent of the last week.

This is attributable a persistent deficit in the East and North-East right from the beginning of the season (-16 per cent) as also a growing shortfall in the South Peninsula (-8 per cent).

Central India (+10 per cent) and North-West India (+8 per cent) have posted comfortable surpluses and looks like would sustain them for the time being, given the current buzz in the Bay.

In contrast, the monsoon clouds have left the South Peninsula for the South China Sea/North-West Pacific and there is no indication when they would return.

Short-to-medium forecasts indicate that the monsoon would stay subdued over the South Peninsula (except parts of the West Coast) for the rest of the month.

# Business Standard

## Getting markets to the farmer

That's both stock and financial ones, and goes well beyond what Modi mentioned from Red Fort. Read on for how ongoing projects and regulation changes will transform the way produce is stored, financed



The prime minister's Independence Day address referred to the hope placed on e-NAM, the electronic project to create a national agricultural market for farm produce. The aim here is to, in two to three years, link the 600-odd major wholesale markets (mandis) in the country.

More than this, though, what will revolutionise the way farmers sell commodities is the way these are traded and also financed by banks. For this, the Warehousing Development and Regulatory Authority (WDRA) is trying to make warehousing receipts (WRs) a negotiable instrument.

And, for trading in these, the Securities and Exchange Board of India (Sebi) is changing its regulations.



## **Making receipts tradable**

WDRA is increasing warehouses' accountability for the goods they store. There will be a rating mechanism for warehouses and norms for commodity repositories. That would set the stage for making WRs negotiable. These would then be traded on exchanges, with banks willing to provide financing, with a higher degree of safety.

The agri-centric National Commodities and Derivatives Exchange (NCDEX) has started moving in this direction, using technology to make WRs tradable.

"The warehousing regulator wants sector reforms to be implemented as soon as possible, to make WRs issued against deposited commodities a negotiable instrument," said a source. For this, a sound regulatory mechanism and ecosystem are needed, "which all stakeholders have to ensure".

With negotiable WRS, financing by banks is safer, for it becomes easier to dispose of goods in case of default. Hedging of commodities and trading on an exchange platform, whether a derivatives exchange or e-mandis would become seamless. The national mandi-linking e-platform is ongoing and a company set up by NCDEX has already linked mandis in Karnataka and is doing similar linkages for other states. States independently linking their mandis will then link their markets with the national e-market.

## **Tight tracking**

As for Sebi, it is finalising tighter regulations for warehouses, to ensure they recognise only those registered with WDRA. Those yet to do so would get six months to fall in line, beside other new norms.

And, WDRA is working on registering the repositories for commodities. Unlike securities, commodities cannot be dematerialised because even after converting into electronic form, it retains an underlying asset in the same form. An entity keeping an electronic record of commodity transactions at a centralised place is a repository; NCDEX has an in-house one, Comtrack, which keeps e-records of goods in exchange-approved warehouses.

WDRA is in the process of finalising the Warehousing (Development and Regulation) Repository and Participants Rules, 2016. It is also working on giving ratings for registered warehouses. Although registration with WDRA for all warehouses is not mandatory, registered warehouses have larger acceptance for business. Eventually, depositories like NSDL and CDSL can apply for becoming commodity repositories.

All these measures are aimed at making WRs a negotiable instrument. Tighter regulations and technology, and a system of grading and assaying agencies, repositories, and inspection and auditing by outside agencies for warehouses, will be aimed to check potential scams.

### **Bringing in banks**

For exchange-traded commodities, there is a separate set of warehousing regulations. Banks are ready to finance goods that are hedged on commodity exchanges (comexes). According to a research paper published by the Indian Institute of Banking and Finance, non-performing assets (NPAs) in the agricultural sector have been showing a rising trend since 2010, up from 1.9 per cent of the total in March 2009 to 4.7 per cent in March 2015.

NCDEX has proposed an action plan for banks till they are allowed to hedge risk on behalf of borrowers on comexes. Banks could mandate borrowers to list their risk exposure and on a risk mitigation strategy. The Reserve Bank had, two years earlier, advised banks to do so. They could also provide guidance and advisory services on borrower risk exposure

NCDEX has also introduced a 'Hedge Passport' programme to help enable banks to assess their borrowers' risks vis-a-vis commodity price risks. And, to facilitate reduction of those risks. Hedging will help lower the probability of credit default. Hedged collateral on exchanges will enable a bank to lower the collateral requirement and lend at reduced rates, increase the loan to value ratio and so on.

## **Innovation**

However, financing for agri products entails several risks - on prices, quality and those associated with the warehouses where the commodities have been stored. Banks would have a lien on the commodities financed but, explains Aditya Gandhi, director (technology), Sapiient Global Markets (a global derivatives advisory): "A challenge in the physical commodity space is the need to verify because of lack of tight control over inventory, its quality or authenticity of title."

WDRA had only a few days earlier issued a proposed set of rules for inspection of registered warehouses, warehousemen, and oversight inspection agencies. For WR trading, which provides real negotiability, Gandhi advises use of block chain technology, which made bitcoins possible. The latter hasn't got government approval but RBI has endorsed block chain.

Says Gandhi, "Using block chain, the physical or digital proof of ownership of a commodity can be captured in a block. Whenever ownership changes, this is reflected in the new block created and the chain passes on to the next owner. The transaction can itself be governed by rules that are embedded in a smart contract in the block. Since this chain is secured and the history cannot be altered, there is no risk of tampering or duplication ensuring proof of ownership and right to transact. This eliminates risk of fraud and reduces the cost of reconciliation and eliminates need for a number of intermediaries."

How does this arrangement work? A note by Sapiient explains how block chain technology can be used for making trading in WRs tamper-proof. "Let's say each bale of cotton is given a RFID tag and based off the tag and information like location of origin, grading, etc, a block is created. As it moves through its value chain e.g loaded on a ship, sold to a trader, etc, a full history of each transaction and change of ownership is tracked.

As these enter warehouses, these can be linked to WRs, ensuring tight coupling and tracking. If a bank needs to give loans based on WRs, enter into repurchase agreements, etc, they are ensured of authenticity.

If traded or unloaded from the warehouse, then again the link to the physical commodity is maintained. As no one can duplicate this, tamper it and it is available for all to verify, it creates full traceability and transparency, ensuring quality while reducing risk of fraud."

## **Ahead**

However, to get this implemented is a big challenge. The first is governance of warehouses, under process, with both WDRA and Sebi working on this. The next is giving RFID tags to all consignments of commodities by an exchange, ensuring these aren't stored or moved without their knowledge. Then, the issue of maintaining quality of the stored goods and generating trust in the WR issued against such stored goods, which would be freely transferable - the receipt holder becomes owner and, hence, that receipt has to be electronic and secure. This is a long process. And, dispute resolution and addressing investors' grievances has to be ensured.

NCDEX recently became the first comex to introduce RFID tagging in its warehouses, integrated with its Comtrack repository.

"This is a milestone development in the storage and management of agri commodities in warehouses. Our efforts are directed towards bringing high-technology solutions to the warehousing space, that will bring in higher efficiency and trust to the entire agri eco-system," says Samir Shah, managing director of NCDEX.

Adding: "We have also developed a warehouse and warehouse service provider rating system. This will give a competitive business edge to warehouses with higher ratings and banks can also provide finance for goods stored in warehouses, with higher ratings at easier terms. Adopting technologies like block chain when they become mature for WR trading will possibly follow."

## **NATIONAL AGRI-MARKET**

- A project of linking major national mandis through an electronic platform is being tested. Similar projects are already being implemented at state levels.

- The aim is wider market choice to farmers, making warehousing receipts issued against the deposited commodities a negotiable instrument, and tradable. This will smoothen financing for traders and farmers

### **And, related eco-system**

\* Warehousing regulator is finalising regulations for commodity repositories, a rating mechanism for warehouses and norms for independent inspection agencies

\* Sebi is strengthening the warehousing regulations to be recognised by commodity exchanges

\* NCDEX has started a project under which commodities in its recognised warehouses will be provided identification tags and record all transactions in that commodity. Setting the stage for trade in negotiable warehousing receipts.

### **Agri min demands Rs 11,000 cr more to implement PMFBY in FY17**

Launched in January this year, it is being implemented in the ongoing Kharif season



The Agriculture Ministry has demanded an additional Rs 11,000 crore to settle crop insurance claims this fiscal under the Pradhan Mantri Fasal Bima Yojana.

The new scheme, PMFBY, was launched in January and is being implemented in the ongoing kharif (summer) season. The Centre aims to bring 4 crore farmers under the scheme.

"This year's Budget allocation was Rs 5,500 crore for PMFBY. We have demanded from the Finance Ministry to provide an additional budget of Rs 11,000 crore for the new scheme," a senior government official told PTI.

More funds are being sought as the burden is expected to rise with the extension of the deadline to register under the PMFBY and claims of about Rs 7,500 crore are pending from last year under the old scheme NAIS, he said.

"Out of Rs 5,500 crore budget allocated for PMFBY for the 2016-17 fiscal, Rs 5,000 crore has already been used for clearing part of last year's claims under the National Agricultural Insurance Scheme (NAIS)," the official noted.

About Rs 476 crore has been kept aside for north eastern states and this amount cannot be utilised for other states.

"So, we have asked permission to use for other states," the official added.

The Centre has extended the deadline till August 10 for farmers to register under the new crop insurance scheme, and till August 31 for Bihar.

Barring Punjab and five north eastern states, all other states and union territories are implementing the scheme in the ongoing kharif season. Kerala is in the process of notifying the scheme.

For instance, in Andhra Pradesh over 20 lakh farmers have registered so far this season, in addition to 13.41 lakh in Gujarat, 9 lakh each in Karnataka and Madhya Pradesh and 7.5 lakh in Jharkhand, as per the official data.

"The correct figure of the exact coverage would be known by the end of this month. The way new scheme has picked up, we think we will be able to achieve the target of 4 crore farmers this year," the official noted.

Last year, 3.07 crore farmers had taken up crop insurance under the previous scheme.

PMFBY replaces the existing two schemes NAIS and Modified NAIS, which had some inherent drawbacks.

Under the PMFBY, farmers' premium has been kept lower between 1.5-2 per cent for foodgrains and oilseed crops and up to 5 per cent for horticultural and cotton crops.

There will not be a cap on the premium and 25 per cent of the likely claim will be settled directly in farmers' accounts. EoM

### **Need to raise farm sector's credit absorption capacity: S S Mundra**

Narendra Modi administration has set a target to double farm income by 2022



*Reserve Bank of India Deputy Governor, S S Mundra*

The Reserve Bank of India Deputy Governor, S S Mundra, on Tuesday called for increasing the credit absorption capacity of the farm sector to make agri-lending more sustainable.

"In agriculture, there is a year-by-year increase in targets which are accepted and are being achieved. But I'd believe that there is a limit to it," he said at the annual Fibac conference in Mumbai.

"Unless there is an improvement in the credit absorption capacity of the farm sector, it (agri-lending) would be risky," he warned.

It can be noted that every year, the government sets a direct agri-lending target for banks.

The Narendra Modi administration has set a target to double farm income by 2022.

Though typically farmers get crop loans of up to Rs 3 lakh at 7 per cent interest, the effective rate for them is only 4 per cent as the rest is subsidised by the government.

The 2016-17 Budget had set a target to double farmers income by 2022, and had allocated nearly Rs 36,000 crore for the farm sector while raising agri-credit target to Rs 9 trillion for this financial year, from Rs 8.5 trillion in 2015-16.

Banks are also supposed to ensure 42 per cent of their overall advances is towards priority sector lending.

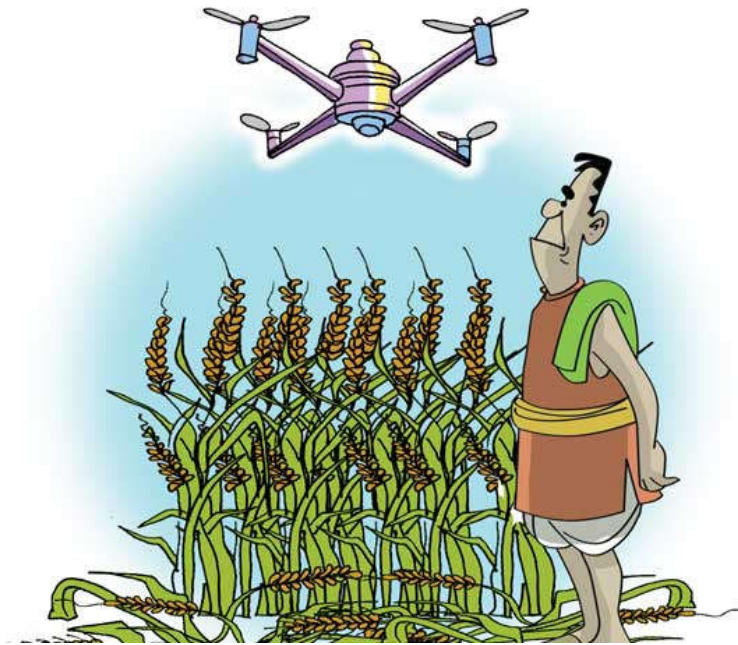
As the overall credit growth increases, the quantum of funds going to the farm sector also goes up, Mundra said.

He also said land reforms, investments, a full ecosystem which involves insurance schemes, value chain, distribution and supply can help in increasing the capacity of agriculture sector to absorb credit.



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This year's Budget allocation was Rs 5,500 crore for Pradhan Mantri Fasal Bima Yojana



The Agriculture Ministry has demanded an additional Rs 11,000 crore to settle crop insurance claims this fiscal under the Pradhan Mantri Fasal Bima Yojana.

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Barring Punjab and five north eastern states, all other states and union territories are implementing the scheme in the ongoing kharif season. Kerala is in the process of notifying the scheme.

For instance, in Andhra Pradesh over 20 lakh farmers have registered so far this season, in addition to 13.41 lakh in Gujarat, 9 lakh each in Karnataka and Madhya Pradesh and 7.5 lakh in Jharkhand, as per the official data.

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## **Declare Tamil Nadu as drought-hit state: Farmers**

Almost all the districts in Tamil Nadu have received below normal rains in the last 75 days



The Federation of Tamil Nadu Agriculturists Association has urged the state government to declare the state as "drought-hit" following failure of South West Monsoon.

A resolution to this effect was adopted at a meeting held in Coimbatore, in which the federation said the state used to get rain for 120 days starting from June during the monsoon.

However, almost all the districts in Tamil Nadu have received below normal rains in the last 75 days, leading to a drought like situation, Federation Secretary S Nallasamy said.

There was lesser inflow into to water bodies, acute shortage of water for irrigation and drinking purpose, he claimed.

Since there was no possibility of getting adequate rainfall in the remaining 45 days, and the neighbouring states refusing to release the assured share of river water, Tamil Nadu should be declared as "drought-hit state" and steps must be taken to tackle the situation, he said.

In another resolution, the federation condoled the death of veteran farmer leader M R Sivasami, who died at the age of 83, two days ago.

### **Monsoon enters weak phase in most parts**

Meteorologists said the slump could push the cumulative monsoon into the negative zone for the first time



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The southwest monsoon, which has had a stupendous run so far in 2016, has entered a weak phase for the first time since it gathered steam in July over most parts of the country. Eastern, northeastern India and parts of central India have been spared from this lull, which might continue till the end of August.

The average daily monsoon over India in August hovers between 9.5- 7.7 millimeters, but since the last few days this has fallen to around 5-6 millimeters with little chance of recovering till last week of August.

Meteorologists said the slump could push the cumulative monsoon into the negative zone for the first time.

However, it is unlikely to have any tangible impact on standing kharif crops and, in fact, a little bit of sunshine might help in faster germination and good plant growth.

The monsoon has so far this season, June 1 to August 16, been just normal at 599.4 mm. The best performers have been north-west and central India, where the rains have been 8 per cent and 10 per cent above normal, respectively.

A negative Indian Ocean Dipole and unsupportive Madden Julian Oscillation (MJO) are being talked about as the likely reasons for the southwest monsoon entering into a weak phase. Both these weather phenomena play a dominant role when the El Nino enters a neutral phase

"The monsoon has entered a weak phase since the last 1-2 days over most parts of the country, except the northeastern and eastern India and it will now revive around the end of August," D S Pai, deputy director general-climatology at IMD, told Business Standard. He said the monsoon from here onwards be below normal but it won't have any impact on standing kharif crop as sowing is almost over in most parts. "In fact, a little bit of sunshine is good for the crops," Pai said.

Mahesh Palawat, chief meteorologist at private weather forecasting agency Skymet, said the monsoon would in the next fortnight be largely confined over east and north-east India and eastern part of central India which would wipe off the surplus and push the cumulative rainfall into deficit.

"We don't see any big pick up in rains till August and IMD's forecast of August rains being 104 per cent of long period average (LPA) and ours being 108 per cent of LPA seems to be in danger as of now," Palawat said.

The LPA for August is around 261 millimeters.

Skymet might review its full-year forecast of rains around August 23, from 105 per cent of LPA. The forecast was made in April this year and was with a model error of plus or minus four per cent.

## **THE TIMES OF INDIA**

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Tamil Nadu should be declared as "drought-hit state" and steps must be taken to tackle the situation, he said.

### **Sugarcane farmers switch to eco-friendly single-bud farming**

To save the soil from ill-effects of pesticides, some farmers in Bijnor are switching to environment-friendly single-bud technique for sugarcane farming.

The initiative will not only reduce the use of pesticides but will also lessen the use of water.

"Single-bud will be placed in trenches horizontally in September when there are no rains and will be put vertically during the rainy month of August.

Germination takes place faster and light application of water in this method saves water by 50%," said OP Singh, district cane officer.

In this method, sugarcane is not infected by diseases easily and 10 % less seed is also used.

"If the farmers adopt this method in the district, it will be beneficial for them as well as the environment.

Besides this, we can use vacant space for growing pulses in the field," Singh said.

Single-bud sugarcane farming was first practised by four farmers of the district, Brahampal Singh, Gurdas Singh, Balram Singh and Jai Singh, which gained success and has now been adopted by sugarcane department for training other farmers here.

According to sugarcane department, Bijnor district has the maximum area under cane cultivation in Uttar Pradesh.

Earlier, the department had used trench technique to increase yield of sugarcane.

# THE ECONOMIC TIMES

## Need to raise farm sector's credit absorption capacity: Reserve Bank Deputy Governor SS Mundra



"Unless there is an improvement in the credit absorption capacity of the farm sector, it (agri-lending) would be risky," he warned.

MUMBAI: Reserve Bank Deputy Governor SS Mundra today called for increasing the credit absorption capacity of the farm sector to make agri-lending more sustainable.

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Banks are also supposed to ensure 42 per cent of their overall advances is towards priority sector lending (PSL). As the overall credit growth increases, the quantum of funds going to the farm sector also goes up, Mundra said.

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### **Poor rains may hit coffee, spices crops this year**



The situation in Karnataka is not that worse and could be made up if it rains in the next few weeks. "Rains are just 9% deficient at 516 mm.

KOCHI|NEW DELHI: It's been more than two months into the monsoon but both Kerala and Karnataka are showing deficient rainfall.

The situation seems to be worse in Kerala, which had 28% deficient rainfall between June 1 vest, the pepper crop was down 25% from a year ago to below 40,000 tonne.

The situation in Karnataka is not that worse and could be made up if it Rains in the next few weeks. "Rains are just 9% deficient at 516 mm.

Lack of rains has affected the districts of Shimoga, Chikmagalur, Kodagu and Dakshin Kannada. Reservoirs in Dakshin Kannada are not full yet," said Gokul Prasad, assistant director of statistics, Department of Agriculture in Karnataka.

But the slight drop in rains seems to have been a blessing for the coffee crop. "Following a drought, we thought robusta coffee crop will be down by 25% to 30%. But now we think the decline will be 15%. Had there been heavy rains, there would have been increased dropping of coffee berries," said Baba BS Bedi, chairman of Karnataka Planters' Association.and August 12. Some key plantation growing districts like Wayanad and Idukki have been hit badly. In Wayanad, the rainfall is lower by 59%.

Most of the coffee in Kerala is grown in Wayanad apart from spices. Idukki is another hub for spices in the state. "We had a long summer without sufficient rains. And now, after the monsoon started, Idukki hasn't got much rain. Cardamom production may come down sharply. Already, harvest has been delayed," said KS Mathew, a major cardamom grower.

It was a bumper crop last year at a record 30,000 tonne. Similarly, in coastal Karnataka, where rain deficit for the region is close to 17%, coffee and pepper planters are worried.

"Rains in the three main coffee growing districts of Chikkamagalur, Hassan and Coorg are 50% less than the previous year. The region produces more than 80% of India's coffee, and we expect a production fall," said GR Gopinath, founder

of Air Deccan, who is now involved in farming. He said the monsoon impact was also seen on coarse grain and millets grown in the plains.

The India Meteorological Department said the light spell of rains will occur in some parts of Kerala and Tamil Nadu in the next 2-3 days, followed by heavy rains in the rest of south India by the last week of August.

Pepper is another crop which will be affected. Growers feel the crop will decline at the time of harvest by December. Even during last har