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## THE HINDU

### Makes farming a profitable venture



#### *An edible food forest raised on zero-cost principle*

Purvabhumi, the 'adisil vanam' (edible food forest), spread across 107 acres at Mudukulam village of Gandarvakottai taluk in Pudukottai district of Tamil Nadu, was once a cashew grove. It has been brought to this shape over 22 years of hard work, continuous financial loss and a determination to make farming a profit-making venture. The turnaround was made possible with analytical reasoning, costing and application of appropriate technology.

The cashew grove was bought in 1993-94 for raising palmarosa grass when R. Senthilnathan, an entrepreneur of Tiruchi, who now manages the farm, was a student. The project was given up soon as the yield was low. Sugarcane replaced palmarosa, but it was also given up due to delay in receipt of cutting order and payment from sugar mills. It gave way for banana, which again, proved to be labour-intensive and failed to yield profit due to price fluctuation. Coconut was planted in 1997-98 but the revenue was low due to disease and lower yields.

Mr. Senthilnathan returned from the U.S. to look after his farm in 2005. He opted for precision farming after Geographical Information System mapping of the farm, including the co-ordinates of each tree. This helped in

identifying the nature and yield of each tree and eliminate the ones that bore less than 75 nuts.

Five hundred trees were removed and fertigation was optimised. The yield went up to 225 nuts per tree in 2010, against 135 in 2006. “Still it was unprofitable as the price was not under the farmer's control,” says Mr. Senthilnathan.

The price has not improved much -- it was Rs.6 per coconut in 1998, Rs.4 in 2008 and Rs.8 in 2015.

At this time, a study of daily weather readings at the farm revealed a truth – rainfall is falling due to global warming. Against an average annual rainfall of 90-120 cm, it was 47 cm in 2012, 54 cm in 2013 and 62 cm in 2014. “I foresaw a problem for agri business in this weather pattern, which paved the way to work with nature. After consulting experts, I tried different schools of scientific methods. The results were good but failed on economics. I realised that the only way out was ecological farming,” recalls Mr. Senthilnathan.

By stopping the use of fertilisers and bringing down the labour cost by focusing on essentials, the cost of production came down. Every rupee that was spent afterwards was only towards planting seedlings, which is an investment rather than expenditure.

A matrix of crops was drawn up for the farm and a variety of trees planted by applying permaculture principles, simulating the features of a natural ecosystem. The farm has a variety of timber, fruits, vegetables, spices, sugarcane, coffee and cocoa.

A zero-cost principle adopted in the farm meant that coconuts would be collected after they fall from the tree and not plucked. A solar dryer is used to convert coconut into copra and oil is extracted. “Everything, except the oil, goes back to the soil. Ultimately, I want only profit, not revenue,” says Mr. Senthilnathan.

After continuous losses since 1997-98, the farm registered a profit of Rs.1.5 lakh per acre in 2014.

Today, it adopts multi-tier cropping to enhance the soil quality and profit. “We do not allow sunlight to fall on the ground. The trees and plants harvest sunlight, converting energy into money,” says Ammapettai Venkatachalam, an expert in organic farming. The farm plans to start a centre to offer training in organic farming and various other practices.

More details about the food forest can be had from Purvabhumi, Mudukulam, Gandarvakottai Taluk, Pudukottai District 622203. Phone: 94425 70075 (P. Sunderraj, Farm Manager).

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### **CAG raps HSDC for causing extra expenditure on wheat seeds**

The CAG has rapped Haryana Seeds Development Corporation for incurring extra expenditure of Rs 2.95 crore in the purchase of wheat seeds from government agencies at a rate higher than the market rates.

In its latest report on Economic and Social Sectors, which was tabled in the ongoing Haryana Vidhan Sabha session here, the CAG also pointed out that HSDC also failed to make timely arrangement of wheat seeds for farmers.

State-owned HSDC has mandate to produce, store and distribute certified seeds on commercial lines and carry on business as seed merchants to provide quality seeds at reasonable prices to farmers in Haryana.

The company produces seeds through seed production programme and processes the same in its plants for sale to farmers.

In case of deficit in production vis a vis market demand, the company procures seeds from the market which is either from other government agencies by inviting quotation or open tenders.

For sale in Rabi season 2010-11, the company proposed to produce 2.34 lakh quintals of wheat seeds. However, the State Seed Production Committee (SSPC) fixed (November 25, 2009) the target at 3.73 lakh quintals for the company, as per the report.

The Comptroller and Auditor General said the company neither provided production programme to farmers for increased quantity nor took immediate action for arrangement of increased quantity of seed.

After the start of sale of seed in Rabi 2010-11, the company approached (Oct 29, 2010) agriculture department to allow it to arrange one lakh quintal of wheat seeds from other State seed corporations and government agencies immediately to avoid any shortage of wheat seed, said the performance audit report.

In the meantime, the company invited quotations from other seed corporations and government agencies and after negotiations, the rate of National Agriculture Cooperative Marketing Federation of India Limited (NAFED) and National Cooperative Consumers Federation of India (NCCF) was found to be lowest at Rs 2,050 per quintal.

### **SRS to release seven new varieties of sugarcane**

*Four of them will be of 10 month duration and the others 12 months*

The Sugarcane Research Station (SRS) of Acharya N.G Ranga Agricultural University (ANGRAU) here is in the process of releasing seven new varieties of the crop. They are currently in adaptive trials on a 40-acre demonstration farm of the SRS.

Of the seven varieties being tested by both SRS and farmers, four will be of 10 month duration and the others 12 months. They are called 'early' and 'mid-late' varieties, which have been bred at Indian Council of Agricultural Research (ICAR)'s Sugarcane Breeding Institute at Coimbatore.

SRS Principal Scientist K. Jhansi told *The Hindu* that six varieties were released in 14 years and the ones under trial would take about a year or two for release for commercial cultivation. They would be helpful in marginally increasing the recovery of sugar which is at 9.64 per cent per tonne of cane crushed in Andhra Pradesh compared to 10.03 per cent at the national level.

Nothing much can be done to improve sugar recovery because of the type of climate prevalent in Andhra Pradesh. Recovery is as high as 13 per cent, according to sugar industry sources, in the north, particularly Uttar Pradesh. The new varieties under field trials can withstand red rot disease which had been a bane for sugarcane farmers in the State.

All the upcoming new varieties have so far performed well in the conditions in which they are grown.

### **Learning organic farming first-hand**



Students of Government Vocational Higher Secondary School, Valappad, planting paddy saplings in the fields of Kottanellur in Velukkara panchayat as part of a Krishi Kalari.

Students of Government Vocational Higher Secondary School (GVHSS), Valappad, are on a mission to learn basics of paddy farming.

Under the leadership of Thrissur chapter of Green Community, a 'Krishi Kalari' (agriculture training) was held at the paddy fields of Kottanellur in Velukkara Panchayat.

Green Community is a common platform for nature lovers and organisations focusing on environmental protection and sustainable development.

NSS volunteers of the GVHSS, Valappad, actively participated in the 'Kalari', in which they got a first-hand experience on organic paddy farming.

The objective of the programme was to develop an aptitude for farming among children and to make them understand the nuances of cultivation, according to K.M. Andrews, trainer of the 'Krishi Kalari'. With the support of the Mahila Kisan Sashaktikaran Pariyojana volunteers students learned how to plant paddy seedlings.

Joint Block Development Officer Thambi explained them the importance of organic farming and health benefits of chemical-free organic food.

The paddy fields at Kottanellur had been kept barren for a long time. Antony Joseph and Varghese Joseph, the owners of paddy fields, expressed all support to the students' initiative to do organic farming in the fields.

### **A green revolution to bank on**



Palliyackal Service Cooperative Bank's vegetable collection and distribution centre at Ezhikkara.

Great movements begin with tiny, bold steps.



A plucky move by a bank in its death throes not just turned its own future on its head, but launched a regional agrarian revolution of sorts, adding tremendous value to people's lives.

Palliyackal Service Cooperative Bank at Ezhikkara, north of Ernakulam, was sinking, with accumulated losses of over Rs 40 lakh in year 2000 when its board, then presided by CPI(M) Area Secretary K.K. Gopi, sought to revive its fortunes by deciding to support farming. "There was trust deficit and Ezhikkara, with its high soil salinity, hardly had any farming legacy," says M.P. Vijayan, the bank's secretary all these years.

What seemed to be a wild-goose-chase suddenly looked attainable and in no time, five self-help groups (SHG) with 96 volunteers were formed. The members comprised those with marginal land holding, the landless and cut across religious, caste and party lines. "An award-winning farmer, A.P. Venugopal, introduced them to farming methods at a workshop and a landowner, Neelakandan Ilayathu of Parapilly Illam, offered 3.5 acres for the mission. Several others followed suit and we got some 25 acres of land to start with. On our part, the bank decided to grant loans at 4 per cent interest with fellow-farmers in an SHG as surety," he explains.

The project was soon brought under the Kisan Credit Card scheme and a fair share of loans was disbursed in kind, in step with the progress of farming activity. Since there was hardly any traditional agricultural activity in the area, this was integrated with the Panchayat's agri-production programme. "It so happened that the first lot of fertilisers we got as part of this at subsidised rates was organic. Excitement was in the air as the process of farming began. It's history that we were able to sell our first harvest for Rs 65,000."

Over the years, the project grew in magnitude. "At the moment, there are 28 SHGs with over 700 farmers. Over 2,200 families are involved in the activity directly or otherwise. The bank alone annually sells produces worth Rs 1.5 crore."

Palliyackal is now a model cooperative bank with deposits to the tune of Rs 51 crore; loans worth Rs 38 crore and with Rs 1.5 crore in share capital.

*A plucky move by a bank in its death throes launched a regional agrarian revolution of sorts at Ezhikkara.*

### **‘Popularise cultivation of traditional minor millet’**



Students take out a rally to create awareness of restoration of conventional minor millets and crops in Pudukottai.

Speakers at a day-long conference on “sustainable development” organised by the Eco Youth Forum on Saturday, urged the Central and State government to popularise the cultivation of ancient and conventional minor millets and traditional crops. They underlined the need for protecting and stabilising the storage in water bodies.

A. Adhappan, founder of Rose Trust, who presided over the trust, said that a majority of the river basins in the State needed adequate maintenance and restoration of their capacity for storage of water.

He said that conservation of river basins was all the more necessary for sustainable development.

Sakthivel, National Convenor of Eco Youth Forum, in his address, said the three-day United Nations Organisation’s Sustainable Development



Goals Summit, to be held from September 25, would be an eye-opener in protecting the environment.

A memorial park would be set up in the district shortly to mark the summit. Appavu Balandar, a progressive farmer, Paamaiyan, an environmentalist, spoke on the importance of conventional millets and paddy varieties.

They said efforts should be made for restoration of the same, particularly in areas with low rainfall.

Earlier, students from various schools and volunteers of service organisations took out a procession from Thilagar Thidal to Town Hall.

Carrying placards, they raised awareness slogans on conventional crops. They brought conventional crops cultivated in the bio-fields in the district. Resolutions were adopted at the end of the conference urging the Union and State government for immediate intervention for protecting the water bodies. Copies of the minutes of the conference would be sent to the United Nations Organisation, Union and State governments for follow-up action, according to Mr. Adhappan.

He said that lack of awareness about sustainable development was the main reason for various agriculture and irrigation-related issues.

The U.N. summit would go a long way in resolving the problem, he said.

### **Small tea growers plan Tea Park in Coimbatore**

The Nilgiris Tea Development Foundation, which consists of micro and small tea growers from The Nilgiris, plans to set up a Tea Park in Coimbatore on about five acres.

H.N. Sivan, chairman of the foundation, told *The Hindu* that the park will have facilities to blend, grade, weigh and pack the teas.

The primary production will be at the tea gardens in The Nilgiris. This will be brought to the central processing unit at the park.

All the teas will be blended and graded (automatic).

The packed tea will be sent to the Ooty Fresh tea points across the State. The total cost of the project is estimated to be Rs. 10 crore. The Tea Board has provision to provide 40 per cent subsidy for the proposal.

The land will be finalised soon, he said.

Of the 65,000 micro and small tea growers in The Nilgiris, nearly 2,000 are expected to be part of the Tea Park project in the next 12 months. Apart from the tea points, customers can taste the teas at the park and buy it at the park and also place orders online, when the project is commissioned.

In the next one year, the foundation plans to set up Ooty Fresh tea points across the State.

Already there are about 50 requests from different parts of the State for setting up tea points.

These will be mainly in the colleges and on the Highways.

### **Saplings planted in Vellalore dump yard**

Around 3,000 saplings of native varieties were planted at the Coimbatore Corporation's Vellalore dump yard on Sunday morning.

According to a release from the Rapid Action Force's 105 Battalion, men from the unit along with HDFC Bank carried out the drive. Mayor P. Rajkumar inaugurated the drive in the presence of Commissioner of Police, Coimbatore City, A.K. Viswanathan, Coimbatore Corporation Commissioner K. Vijayakarthekeyan, RAF 105 Bn. Commandant R. Jay Kumar, District Forest Officer M. Senthil Kumar, K. Chandrasekar, Regional Head-South, HDFC Bank Ltd. and other officers.

The release said that the RAF men planted saplings as per the Akira Miyawaki method to create forest wall to preserve environment and absorb toxic pollutants.

### **Irrigation**

Aside from planting the saplings, the RAF men had also provided drip irrigation facility.

### **2,000 saplings planted to honour Abdul Kalam**



**GOING GREEN:**Volunteers planting saplings in Perumbakkam village near Kancheepuram.

Over 2,000 saplings were planted in Perumbakkam village on Sunday as a mark of respect to former President of India A.P.J. Abdul Kalam.

The event, organised by TIST Tree Planting India in association with Wipro Care Trust, a corporate social activity arm of Wipro Limited, Bengaluru, marked the launch of the program to plant 25,000 saplings sponsored by WCT for the current year.

Speaking to *The Hindu* , B. Praveen, programme manager, said Wipro sponsors 25,000 saplings every year and plants them in five northern districts of Tamil Nadu through local groups formed by TIST-TPI.

The main objective of TIST India's programme is to create islands of biodiversity in an already fragmented landscape to help farmers said A. Joseph Raxon, director, TIST-TPI. He said around 1.8 million saplings were

planted in Kancheepuram, Tiruvallur, Vellore, Tiruvannamalai and Villupuram districts since 2003.

Over 5,500 farmers have been enrolled as members of this program. Mr. Rexon said participants were also entitled to avail greenhouse gas (GhG) credits after 20 years. This would be paid based on the World market price of GhG credits, he added.

### College to plant one lakh saplings

**GOVERNMENT COLLEGE TO PLANT ONE LAKH SAPLINGS**



- Saplings to be planted in large number on both sides of Yercaud Main Road and Junction Main road.
- Sapling planting campaigns will be conducted in educational institutions.
- Students will be entertained to plant saplings in the vacant lands in their localities.
- Service and voluntary organisations and the local bodies will be roped in in a big way in the campaign.

The National Service Scheme (NSS) unit of the Government Arts College for Women have proposed to implement a prestigious project of planting one lakh saplings in the city and its outskirts during the current academic year. The project was following the felling of a large number of trees for the road widening projects in the city limits.

The two NSS units functioning in the Government Arts College for Women accounted for about 200 student volunteers.

Both the NSS units have planned to compensate the loss of trees for development works by planting new saplings.

The Salem city used to have a big green cover, thanks to the presence of large number of giant trees on the sides of main thoroughfares. However, large number trees were felled for the widening of Yercaud road and the Junction main road a few years ago.

The NSS volunteers held discussion on this issue and decided to undertake special campaigns throughout the year for planting as many saplings as possible. “Our target is planting one lakh saplings”, said S. Manimozhi, Principal of the college.

The saplings planting campaign was launched with much fanfare in the college recently. A large number of neem, punga, badam saplings procured from the forest department were planted to mark the inauguration of the campaign.

The college understanding the importance of the service organisations and local body for the success of this campaign have sought their cooperation.

Babu, president of the Kondappanayakkanpatti panchayat, representatives of Lions Clubs, Iraippani Mandram, Bharathi Tamil Mandram, who participated in the programme commended the NSS volunteers for this project and assured their whole-hearted support.

K. Gowri, NSS Programme Officer of the college, said that priority will be accorded for the planting of saplings on the sides of the Junction Main road from Five Roads Junction to Salem Railway Junction and the Yercaud Road from Hasthampatti Junction to Yercaud Adivaram.

Dr. Gowri said that the student volunteers will also create awareness among the local community to rope in them too in this campaign. The college will provide saplings free of cost to all those who want to plant them in the

vacant areas in their locality. Already, the people have started approaching for saplings.

The Forest Department has also assured its support to the campaign, she added.

### **Missing trees on the coastline**



*A few plant species, once found in abundance along the west coast, especially the coastal belt of Kerala, have become locally extinct.*

A few plant species, once found in abundance along the west coast, especially the coastal belt of Kerala, have become locally extinct, raising concerns about the changing micro-habitat and ecology of the region.

*Pemphis acidula*, a small tree, and *Nypa fruticans*, a medium-sized palm, are among the habitat-specific species that have vanished from the Kerala coast. While *Nypa fruticans*, locally known as *Njettipana*, was mentioned in the classic text book *Hortus Malabaricus*, which described the medicinal plant properties of the flora in Kerala. There were references to *Pemphis acidula* in the book *Flora of Presidency of Madras* by J.S. Gamble during the 1920s. *P. acidula* species was locally described as Coastal Iron wood in English and Kuredhi in Dwivehi language. It was reported that *P. acidula* was “found common in sea coast and tidal backwaters in Malabar,



Travancore and Tinnevely,” said P. Sujanapal, a plant taxonomist of the Kerala Forest Research Institute (KFRI), Thrissur.

Recently, the researchers from KFRI located the plant in Olhugiri and Rasgatheemu Islands of Maldives while surveying the islands for alien invasive species. The International Union for Conservation of Nature (IUCN) have assessed that the population of the species, which has a wide distribution pattern in coastal region, is “declining in some regions due to habitat loss and collection for use in the bonsai trade.”

The “species lives in calcareous rocky and sandy beaches high in the intertidal zone, and often above the high tide line. This species is beneficial for shoreline protection against high wind. It is a very sturdy and resilient plant,” it said.

Coastal development and “extraction of the species” for bonsai are likely to be reducing their numbers, IUCN notes. “It is also likely that changes in climate due to global warming will further affect these parts of the range,” reported IUCN. Though the coastal belt of the State is extensively surveyed, no recent records of its occurrence in the Kerala coast are available. The tree with strong wood is considered an economically important species. It’s also widely used for bonsai, said Dr. Sujanapal.

Changes in micro-climate could be one of the reasons for the loss of these habitat-specific species, which is a mangrove associate. Even though the IUCN had included the species in Least Concern category globally, the vanishing of a species from the coast should be treated as a clarion call, he felt.

### **Is Roundup herbicide really safe?**

Even short-term use of the world's most popular herbicide, Roundup, could lead to a range of health problems including steroidal hormonal imbalances, says a new study.

Published in the journal *Toxicology Reports*, Medhamurthy Rudraiah and Aparamita Pandey — both from Department of Molecular Reproduction, Development and Genetics, Indian Institute of Science (IISc), Bengaluru — have found that Roundup, the best-selling herbicide, produced and manufactured by Monsanto, can cause imbalances in the synthesis of steroid hormones in male rats.



Previous studies have linked the herbicide — which contains glyphosate — to diseases such as Parkinson's, infertility and skin cancer. The herbicide kills weeds by inhibiting enzymes that synthesise aromatic amino acids essential for plant development. As humans and mammals do not have the enzymes, the herbicide was marketed as being a non-toxic alternative to chemicals.

The IISc researchers subjected male rats to varying levels of Roundup exposure — the minimum being just 10 mg per kg of the rat while the maximum dosage was 250 mg per kg. The rats were orally administered the weed killer for two weeks.

The outcome of the experiment is cause for concern: male rats were seen with decreasing testosterone production (which affects sexual functions) as well as Adreno-Cortico-Tropic Hormone from the pituitary gland (which affects the body's ability in maintaining normal glucose and fat metabolism). Both testosterone and corticosterone were down by more than 33 per cent even at the lowest doses of 10 mg and 50 mg daily. The RNA expression of

receptors for cholesterol uptake (low density lipoprotein receptor) was found to be significantly lower, notes the study. In effect, the rats seem to eat less as the course continued. Those exposed to 250 mg per day ate less than half the food as was eaten by the control group, while their body weight decreased by 33 per cent in just two weeks. Even rats administered just 10 mg of the herbicide daily saw a marginal six per cent reduction in weight. “It is therefore highly possible that the herbicide affects other endocrine glands as well...and these results were seen in just two weeks of exposure. The herbicide must be investigated as the weed killer is used extensively”, says Ms. Aparamita, first author of the study.

The Indian EXPRESS

### **Agri dept blames improper practices for whitefly attack**

Officials from the agriculture department also claim that farmers who followed correct procedure would have a bumper harvest.



The Punjab agriculture department claims that improper practices in the use of insecticides, urea and cultivation of okra along with cotton could have contributed to the whitefly menace.

Officials from the agriculture department also claim that farmers who followed correct procedure would have a bumper harvest.

“This year, over 10,000 acres in our district are under okra crop as it gave good prices to farmers last year. However, it is not recommended to grow okra along with cotton as it enhances chances of whitefly attack. Last year,

the okra crop was over about 3,000 acres in our district. So, we think this could have played a major role in triggering the whitefly menace,” said Dr Beant Singh, chief agriculture officer of Muktsar.

Farmers like Jagit Singh Johar are expecting a good harvest. “I sprayed Obran, Dotara and Neem as per recommendations from the Punjab Agricultural University (PAU) and had followed integrated pest management. However, I know many farmers had sprayed insecticides Acephate (used for American bollworm attack) mixed with Acetamipride. This is not proper,” he said.

Dr Beant Singh confirmed this.

Urea too is being blamed for the crop damage. “When whitefly was first noticed, many farmers added more urea to the crop thinking that it would save it, but this did not happen,” said Rajwinder Singh, a farmer from Bhagsar village.

The agriculture experts at Muktsar, Bathinda and Fazilka observed that all those farmers who had used excess of urea had their crops affected. Although when asked, experts said there is no scientific reason which can connect urea usage with white fly attack.

### **Dealers not checked**

Agriculture experts maintain that the improper use of insecticides was the primary reason for today’s whitefly attack in the state. Chemicals were not checked before they were sold to the farmers by dealers. Farmers claim that if the insecticides were checked well in time, the crops could have been saved.

More than a lakh hectare of the cotton crop is under whitefly attack in Malwa region.

### **ASHA workers to detect farmers in depression**

The ASHA workers will be taught to grade the farmer’s mental state under ‘mild’, ‘moderate’ or ‘severe’ categories.



The DHS will initiate the process of appointing six additional posts, such as social worker, psychiatrist, data entry operator, clinical psychologist, community nurse, and accountant at every district for the programme.

In a one-of-its-kind attempt, the state government is looking at controlling farmer suicides by getting psycho analysis questionnaires filled by them and subsequently treat them for depression, wherever required.

The new initiative under the mental health cell of the public health department is in a bid to reduce farmer deaths across the 14 districts that have been massively hit by drought in Maharashtra.

“We will train 20,350 accredited social health activists (ASHA) for identifying depressed farmers and referring them for further treatment at district or taluka levels. Depending on the grade of severity, requisite treatment will be decided,” said Dr Manish Renghe, who is attached with the mental health cell at Directorate of Health Services (DHS).

The programme is in its last lap of receiving state government sanction, following which the training process would commence. ASHA workers are local women residents known to the villagers and are educated till Std VIII. They will visit farmers from door to door and get a set of 16 questions answered in a ‘yes’ or a ‘no’ format.

The questions, prepared by a four-member committee of psychiatrists will revolve around the farmer’s crop produce, any existing disease that they might have, whether they have enough food to eat, financial crisis and remarks of family members.

The ASHA workers will be taught to grade the farmer’s mental state under ‘mild’, ‘moderate’ or ‘severe’ categories.

“Only the head of the family and earning members will be identified and checked for depression. If they are found under the ‘severe’ category, they will be referred to the civil hospital. Mild and moderate cases will be handled at public health centres or district hospitals,” said Dr Kapil Ahir, assistant director at DHS.

The 14 districts under the programme are Aurangabad, Jalna, Nanded, Parbhani, Beed, Osmanabad, Latur, Hingoli, Wardha, Akola, Amravati, Buldhana, Washim and Yavatmal.

The DHS will initiate the process of appointing six additional posts, such as social worker, psychiatrist, data entry operator, clinical psychologist, community nurse, and accountant at every district for the programme.

According to Dr Satish Pawar, director at DHS, the programme started two months ago on a pilot basis in Yavatmal and Osmanabad where maximum cases of farmers’ suicides were reported.

“ASHA workers have started identifying farmers in need of care in the districts. Once, we have psychiatrists everywhere, the process will become smoother,” Renghe said.



### China revises down 2014 GDP growth to 7.3%

BEIJING: China has revised its annual economic growth rate in 2014 to 7.3 percent from the previously released figure of 7.4 percent, the National Bureau of Statistics said on Monday.

Gross domestic product stood at 63.6 trillion yuan (\$10.00 trillion) last year, down by 32.4 billion yuan from the initial estimate, the bureau said in a statement on its website.



The bureau has revised down 2014 growth of the services sector by 0.3 percentage points to 7.8 percent, which helped drag down estimated GDP growth rate, it said.

The primary sector - the agriculture sector - grew 4.1 percent last year, while growth of the secondary sector, which includes manufacturing and construction, rose 7.3 percent.

After the revision, the services sector accounted for 48.1 percent of GDP last year, down from the previously announced 48.2 percent, the bureau said.

The manufacturing and construction sector accounted for 42.7 percent of GDP while the farm sector accounted for 9.2 percent.

The world's second-largest economy grew 7% in the first half from a year earlier - in line with the government's target for 2015, but recent downbeat data has raised the risk the government could miss the full-year growth target.

### Wheat-paddy crop cycle reason for declining soil fertility

The wheat-paddy crop cycle in Haryana is decreasing fertility of the soil, a study tabled during the ongoing assembly session has revealed.

"About 10-12 tonne production of rice-wheat per hectare removes nitrogen, phosphorous and potash at the rate of about 625-675 kg per hectare in addition to substantial amount of secondary and micronutrients," maintained the study conducted by scientists of Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar.

Haryana agriculture minister Om Prakash Dhankar informed the state assembly on Friday about the findings of the study. He said the rice-paddy crop cycle also led to depletion of the organic matter and carbon from the

soil, thereby disturbing the flora and fauna which ultimately decreased the fertility of soil.

The minister said due to excessive use of chemical fertilizers, the use of organic manure had been limited to just 20% in the fields. "To handle the situation, the state agriculture department has focused on the crop diversification.

The officials held demonstrations on maize as a substitute for rice in the paddy belt to overcome the exploitation of groundwater. The area covered under maize demonstration in the state was 13,427 hectares during 2013-14 which increased to 23,500 hectares during the current kharif season," Dhankar said. He further informed that this year millet and sunflower crops were purchased on minimum support price.

Besides, there is a proposal to provide subsidies for horticulture, agriculture and drip and sprinkler irrigation in an integrated manner.

The government informed the assembly that new varieties of crops and techniques of irrigation were being developed to promote crops that require less water.

Dhankar said the state government has been working in coordination with the agriculture and irrigation departments to check groundwater depletion and attract farmers towards horticulture and cash crops instead of traditional farming.

The issue was raised in the assembly by Tohana MLA and BJP state chief Subhash Barala asking the government about the steps taken to check the decreasing fertility of land due to cycle of wheat and paddy and the rapidly decreasing groundwater level.

## Union agriculture minister defends import of onions from Pakistan

Union agriculture minister Radha Mohan Singh on Saturday defended the central government's decision to import onion from Pakistan.

Singh said that it was not for the first time that onions were being imported from Pakistan. Previous governments too have done it, said Singh. Such decisions are taken on the basis of international bidding and whoever quoted the least price got the business, he said. The minister was interacting with newsmen at a Gaya hotel on Saturday afternoon. The minister evaded a question relating to the allegation that earlier this year, onion was exported dirt cheap and the same is now being imported at a fancy price.

Singh said there was no shortage of onion in the country. Attributing the rise in onion price to hoarding and inefficiency of the state governments, the minister said that in the states where the government cracked the whip against hoarders, onion prices had remained more or less stable. The minister failed to explain as to what was the compulsion behind the import of onion when the commodity stock was sufficiently high in the country.

The minister alleged that the Bihar government was not cooperating with the Centre in the execution of its scheme for the establishment of agricultural institutes in the state and other projects related to agricultural development. In one particular case, the land made available by the state government for the establishment of an agricultural institute did not have independent access as private land encircled the allotted plot from all sides, he said.

Calling Bihar CM Nitish Kumar as the "tallest" Lohiaite, someone "taller than both Ram Vilas Paswa and Lalu Yadav in the socialist hierarchy", Singh said that Nitish squandered his life's political earning by aligning with the same Congress which was not liked by both JP and Lohia, the two political icons of the chief minister.

## CICR developing cotton harvester with Indian manufacturer

The Central Institute for Cotton Research (CICR) has developed the country's first indigenous, self-propelled stripper type cotton harvester, which is expected to give a new dimension to cotton harvesting on small farms (anywhere from 1 acre to 3 hectare). This stripper harvester is more suited for Indian cotton as compared to the imported spindle type harvester.

The biggest advantage of the harvester is that it costs just one third and is also suitable for high density planting system (HDPS) cultivation technique. Additionally, CICR is also developing a much bigger and modified version of the harvester to compete with international players in the field through a leading Indian manufacturer. CICR director Keshav Kranthi told TOI that the first prototype of the harvester with 55-60 HP output is expected to come for trial to Nagpur in November. The commercial manufacturing of the harvester is, however, scheduled for March 2016. Central Institute for Research in Cotton Technology (CIRCOT) has also contributed technically in designing the pre-cleaning unit in the upscaled version.

While the self propelled indigenous version already in use at CICR costs 3-3.5 lakh, the tractor mounted version could range from 7-8 lakh. The indigenous version, which has to be driven by the farmer, is a result of three years of work by CICR scientist under the Technology Mission on Cotton.

"Initially, CICR scientists started work on the machine in 2012 under a project on machines by the crop production division of the institute. It all began with a small cotton picker. The institute has already filed a patent on the machine," he said.

Gautam Majumdar, scientist for farm machines and power, says that India needs small harvesters for both technical reasons as well as the cost involved in spindle based harvesters. 'Global manufacturers like John Deere and New

Holland all use spindle based technology, which cannot work for Indian farms. Hence, CICR developed the stripper type harvester. But our machine works on just 17 HP and is a riding type, which means that the farmer has to run it. It has a limitation that it has a jerking effect, uses very low power engine. hence to make it more effective, stable and safe we decided to modify the version and approached an established industry," he said.

Majumdar said that the institute is also trying to improve on the machine by adding a stationary but effective pre-cleaner unit to the machine so that farmers could remove maximum possible trash from cotton. With this additional unit the cost could rise to 4-4.5 lakh. "The upscaled version would be costly for an average farmer. But if the farmer can use the machine as an entrepreneur and rent it out to farmers in villages around him, it can be a very successful business," he said.

### **Paddy, soya crops in Vidarbha may be hit**

With monsoon season on its last leg and shortfall in rainfall of over 50% in several parts, Maharashtra may be staring at yet another dismal year on agriculture front. The situation in Vidarbha region may be far better than Marathwada or parts of Western Maharashtra, but official sources indicated that inadequate rains in Yavatmal is most likely to hit soyabean crop while paddy yield in districts like Chandrapur may be hit because of long dry spells affecting transplantation.

Nagpur division joint director of agriculture Vijay Ghawte told TOI on Saturday that losses in paddy could not be ruled out. The delay in transplantation and inadequate rains and long dry spells may take a toll of paddy crop. He said cotton and tur crops may survive with modest yields even if it rains regularly in the current month when the monsoon is likely to start retreating.

Yavatmal district, infamous as epicentre of farmers' suicide crisis, has received only 44.3% of the season's normal rainfall. Soyabean and cotton are the main cash crops in the district. "While it is too early to gauge the extent of crop losses, we are already expecting around 15% dip in soyabean yield," said an officer in the agriculture department of Amravati division.

Soya is grown on around 18 lakh hectares in Amravati division's five districts of Amravati, Akola, Yavatmal, Washim and Buldhana. While Yavatmal has received the least rainfall, figures are not that alarming for other districts in that division — Amravati 92.5%, Akola 82.2%, Washim 77.2% and Buldhana 69%.

Within Vidarbha, Nagpur is the only district to have got more than normal rains till date. While the normal is 794mm, it recorded 806mm as on Saturday. This will certainly help orange belt mainly as large numbers of water bodies have been created under the "Jalyukta Shivar", the pet water conservation project of chief minister Devendra Fadnavis.

Across the state, as on date, rainfall recorded is just 56.8% of the normal. As a result, the water stocks in reservoirs have filled up only 49% of their designed capacities. The Marathwada region is already in drought zone with barely 8% of water storage while Konkan and Nagpur divisions are comfortable with 86 and 75%, respectively.

Amravati with 61% looks set to tide over water crisis. Rainfall figures in Western Maharashtra districts like Solapur at 32% of normal and Kolhapur at 37.6% is also causing concern.



## **Rain deficit touches 14% despite rain in South**



The shortfall in worst-hit South Peninsula has readjusted to 21 per cent after a round of showers. More easing is expected next week as a likely low-pressure area springs up over west-central Bay of Bengal.

Rain deficit has reached 14 per cent (against 12 per cent forecast by India Met Department) despite the exiting monsoon stopped on its tracks over North-West India for the third day on Sunday.

For now, a western disturbance activity in the North-West and ongoing showers in the South have combined to put a spanner in the monsoon withdrawal works.

### **Peaking deficit**

But rains are so sparse over North-West and Central India that deficits have rose to 14 per cent and 18 per cent respectively. East and North-East India too are witnessing a recess with deficit reverting to 3 per cent.

The shortfall in worst-hit South Peninsula has readjusted to 21 per cent after a round of showers. More easing is expected next week as a likely low-pressure area springs up over west-central Bay of Bengal.

Early projections show that the 'low' could meander southwest from the Odisha-North Coastal Andhra Pradesh coast towards South Coastal Andhra Pradesh-North Tamil Nadu by September 15.

### **Landfall by Sept 15**

It may crawl over the coast close to Chennai immediately thereafter, pushing rains along the entire East Coast and into the rest of the peninsula. It remains to be seen what impact these late but badly-needed showers would have on the overall deficit.

Naveen Mathur, Associate Director — Commodities & Currencies, Angel Commodities, notes that dry weather has prevailed in the cotton and groundnut regions of Gujarat and cotton as well as soyabean and pulses regions in Maharashtra over the past two weeks.

In Rajasthan, guar is experiencing moisture stress since the rains dried up there for 15-20 days now. In contrast, in Madhya Pradesh, the drier climes may help salvage the soyabean crop from recent floods.

### **Prices rule firm at Kochi tea sale**

In spite of low arrivals, good liquoring teas were steady to firm at Kochi auctions last week. The quantity on offer in CTC dust was low at 10,23,500 kg.

Vendors including Kerala State Civil Supplies Corporations were active on this particular variety, which witnessed a fair demand especially when the sale progressed. However, in sale no 36, others were irregular and lower, witnessing withdrawals.

The upcountry demand was fair while there was a subdued demand from exporters and loose tea traders, the auctioneers Forbes, Ewart & Figgis said. The quantity on offer in orthodox grades was 16,500 kg and the market for primary grades remained steady. A small quantity sold was absorbed by exporters.

In Cochin CTC dust quotation, good varieties fetched □105-145, mediums stood at □64-100 while plain grades quoted at □45-60.

In leaf sales, the quantity on offer in orthodox grades was 172,500 kg. The market for Nilgiri broken and whole leaf were steady to firm and sometimes dearer. It appreciated further, as the sale progressed. CIS countries and other exporters were active.

Of the 73,500 kg on offer in CTC leaf, the market for good liquoring teas was steady to firm. Upcountry buyers and exporters lent fair support. In dust grades, Monica SFD quoted the best prices of ₹145 followed by Mayura SFD/SRD at ₹143. In leaf category, Chamraj FOP-Sup Green Tea fetched the best prices of ₹319 followed by P's Woodlands Hyson Green Tea at ₹296.