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# THE HINDU

## Green is the way to go

*Their mission is to make organic vegetables affordable, say Anoma and Raj Rajagopalan of their venture Green Box Direct*



The organic routeThe Green Box Direct team at workPhoto: S. Siva Saravanan

It all began with the hunt for the right kind of dog food. Anoma Raj and Raj Rajagopalan were determined not to feed their dogs biscuits made of chicken bones, feathers and other waste materials.

This also led the U.K.-based couple question the nutritious value of the food they ate. “Our dogs are eating waste. Our children are eating veggies and fruits coated with chemicals,” says Anoma. So the couple spent many days in research labs in the U.K. to develop healthy dog food.

Later they moved to Coimbatore and started a mobile pet grooming service. Their interest in the right kind of food also led them to start Green Box Direct, a door-to-door delivery service of organic vegetables.

They have a factory at Vedapatti near Coimbatore, in a farm amid trees and hills. This has almost become a weekend retreat, laughs Anoma. “Our kids love to spend time in the farm, riding on tractors. It’s beautiful here in the evenings, with birds and peacocks strutting across the fields.”

Once inside, Raj requests, “Please wash your hands, remove your slippers and wear a cap.” Potatoes, freshly plucked coriander leaves and tomatoes are neatly arranged on tables; kept at a safe distance from each other in order to prevent contamination.

The leaves dance wildly in a gush of air from table fans next to them. They have been bubble washed, using ozonised water. “The bubble wash purifies the veggies by washing away minute impurities. Even organic veggies come with layers of soil and germs, which can not be easily spotted by the human eye. A hand wash is never enough to remove all that,” says Anoma.

Months of research has gone into this venture, says Raj. “We try to reduce any kind of wastage. The vegetables stay for a longer period of time because 80 per cent are stored in a cold storage system, maintained at a temperature of zero to two degrees Celsius. We are constantly trying to keep updated technologically by seeking help from the academic community to get the right nutrient and manure for the vegetables, to maintain quality of taste and to increase the shelf life.”

Through Green Box Direct, Raj and Anoma are helping the ordinary farmer get certified to practise organic farming.

“We are negotiating with officials. The farmers we collaborate with use natural manure like *panchakavyam* and neem oil. The professors of Tamil Nadu Agricultural University have helped us to get in touch with a few farmer communities. We work mainly with farmers in Palladam, Ooty and Amaravathi. ”

The farmers in Coimbatore are a close-knit group, observes Raj. “They share their problems with each other and discuss agriculture. We try to completely

do away with middle-men. But, we are not 100 per cent free yet. We can help these farmers if the government gives us enough support. We can give them business throughout the year since we have efficient storage systems to preserve the vegetables for a longer period of time. So, during the drought season, they will still have business, even though agriculture is a seasonal occupation.”

Their mission is to make organic vegetables affordable and turn it into a movement so that a day comes when we don't have to differentiate organic from the regular veggies, says Anoma. “The awareness has to increase. Even now, many customers are hesitant to switch to organic veggies and fruits because of the high price. One cannot totally blame them, as a few stores do hike prices unfairly. But we ensure that the price rise is as minimal as possible. Our average price is just 25-30 per cent higher than that of vegetables in the market.”

They want to bring in an overall lifestyle change and, if the project does well, start branches in other cities. The couple recently ran a campaign called ‘Five-A- Day’ in which they urged the children to include at least five fruits and vegetables in their daily diet. This was based on advice from the WHO, which recommends eating a minimum of 400gm of fruit and vegetables a day. Their next project is to start an organic resort that will serve organic food, and also accept pets.

*For details, visit [greenboxdirect.in](http://greenboxdirect.in), [greenboxdirect.blogspot.in](http://greenboxdirect.blogspot.in).*

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### **Haryana to focus on high quality seeds in current Rabi season**

With a view to providing high quality certified seeds of wheat to farmers of Haryana during the ensuing Rabi season, more than 16.54 lakh quintal seeds have been made available for sale.

The government will provide high quality seeds of wheat to farmers this year, an official spokesman said here on Tuesday.

Hence, more seeds of wheat have been kept for sale as compared to last year when only 12,92,640 quintals of seeds were available for sale, he said.

So far, more than 2.02 lakh quintals of certified seeds have been made available with Haryana Seeds Development Corporation (HSDC), National Seeds Corporation (80,000 quintals), HAFED (66,000 quintals), IFFCO (77,000 quintals) , KRIBHCO (30,000 quintals), CCS Haryana Agricultural University (6,000 quintals) and more than 11.92 lakh quintals with private institutions for sale.

The official said that directions have been issued to provide additional two lakh quintals of wheat to HSDC which would be made available soon.

Similarly, directions have been issued to provide more seeds to other government institutions which included 50,000 quintals to NSC and 20,000 quintals to KRIBHCO.

### **All out efforts to meet growing demand for fertilizers in Tuticorin**

*Over 2,000 tonnes of fertilizers supplied in excess so far this month*



Farmers working on the field in Ettayapuram area in Tuticorin district on Tuesday.— Photo: N. Rajesh

Exceeding the allotted quantum of fertilizers to Tuticorin district, over 2,000 tonnes have been supplied in excess, so far this month. To help the farming



community, Collector M. Ravikumar took all out efforts to ensure supply of farm inputs. Moreover, adequate stock of fertilizers had been maintained.

Expecting a good rainfall during the Northeast monsoon, farmers had sown crops in rainfed areas in several blocks in the district. Around 70 to 80 percent of sowing had already been done. The district was allotted a total of 1,500 tonnes of urea, 650 tonnes of Di-Ammonium phosphate (DAP), 600 tonnes of Muriate of potash (MoP) and 1,050 tonnes of complex fertilizers for October. But to meet the growing demands of farmers, 1, 204 tonnes of urea through private dealers and 412 tonnes of urea through Primary Agriculture Cooperative Credit Societies (PACCS) had been supplied to farmers, Joint Director of Agriculture, V. Jeyakumar told *The Hindu* here on Tuesday. As for DAP, 1,796 tonnes had been consigned through private dealers and 932 tonnes through PACCS. These fertilizers were supplied through a total of 152 PACCS and 162 private dealers across the district. Besides, 344 tonnes of MoP and 1,067 tonnes of complex fertilizers had also been provided to farmers.

Further, he said 1,300 more tonnes of urea allotted for Tuticorin district would reach Tirunelveli railway station through wagons on Wednesday.

On cultivation of rainfed crops, a target of covering 1.66 lakh hectares has been fixed for 2015-16. During the last year, 1.63 lakh hectares were covered surpassing the target of 1.52 lakh hectares and this year also the target was expected to be crossed, the Joint Director exuded confidence.

Mostly, millets including maize and pearl millet (cumbu) would be cultivated on 87,000 ha and pulses such as black gram and green gram on 79,000 ha in blocks of Pudur, Vilathikulam, Kovilpatti, Ottapidaram, Kayathar and Karungulam.

Besides, cotton is expected to be raised on 1000 ha. Unexpected rains ahead of monsoon helped raise pulses and maize at Vilathikulam, Pudur, Kovilpatti and Kayathar. To enhance productivity in pulses, DAP spray is available under subsidy and farmers could avail it once the pulses crop attained

flowering stage after a period of 30 or 35 days. Under the scheme, 17,450 ha had been earmarked and a subsidy of Rs. 650 could be availed per hectare, he said.

### **“Food production increased in State”**

Despite a drought in the State, food production had increased to 1.30 lakh tonnes from 70,000 tonnes last year owing to effective implementation of various schemes, said Finance Minister O. Panneerselvam.

Distributing laptops to school children for the second day in Cumbum and Bodi towns on Tuesday, he said that meticulous planning and effective implementation of agriculture schemes helped in increasing the food production. Special area-specific schemes and introduction of advanced technologies also helped the farmers to increase yield per hectare and scale down production cost.

Several innovative schemes were being emulated by other States, he said. The aim was to improve the livelihood activities of the poor and propel the economic growth in rural areas, he added.

Laptops helped rural students get easy access to global knowledge and to know the latest developments taking place in different fields throughout the world. Rural students should have all facilities enjoyed by their counterparts in urban areas at their doorstep, he said and appealed to the students to use the aid and equipment offered by the government.

The Minister distributed laptops worth Rs.7.50 crore to 5,302 students in Bodi, Rayappanpatti and Cumbum.

### **Training in integration of livestock with agroforestry**

A free one-day training programme on integration of livestock with agroforestry will be conducted at Krishi Vigyan Kendra on the Veterinary College and Research Institute premises here on November 3.

A release from B. Mohan, programme coordinator, said that the programme would cover the types of agroforestry, its importance, commercial opportunities in growing such trees, fruits and fodder based trees and integration with agroforestry.

### **Sustainability**

Also, integrating trees, crops and livestock on the same plot of land had the potential to achieve sustainability in agriculture.

Farmers, members of self-help groups, youth and interested can participate. They can come in person on working days or register through phone numbers 04286 266345, 266244 and 266650, the release added.

### **Fishing harbour being modernized**



Development of fishing harbour with modern facilities being executed in 17 packages in Karaikal.— Photo: B.Velankanni Raj

Modernisation of the fishing harbour here is under way in full swing. The World Bank-funded project, being executed in three phases, has been taken up at a total estimate of Rs.19.52 crore.

The entire harbour area has been divided into three segments and a large number of building workers have been pressed into service at each unit. Once completed, it will be a boon to the fishermen of the district. The

project includes construction of slip way, power room, winch room, and boat repair yard in the first phase at an estimate of Rs.7.88 crore.

The second phase provides infrastructure such as a chilling plant, fish processing unit, and two sumps at an estimate of Rs.6.89 crore. The daily capacity of the chilling plant would be 30 tonnes and the fishermen would be able to handle the fishes hygienically, sources told *The Hindu* on Saturday. The third phase of the programme, which was taken up recently, pertains to construction of effluent treatment plant. Based on Sequencing Batch Reactor (SBR) technology, the work pertains to erection and commissioning of the ETP. It could handle one million litres of effluent per day and is executed on directly build, operate and transfer (DBOT) basis.

Mr. M. Chandrakasu, Minister for Agriculture, laying the foundation for the third phase recently, said that the project would be completed within a year. The modernisation project, sanctioned under the Coastal Disaster Risk Reduction Project, is being implemented through the Project Implementation Agency here, said Collector E. Valluvan.

Once completed, the harbour would ensure hygienic handling of fishes for a longer duration.

The efficiency of effluent treatment plant would be monitored during its maiden operation for a period of three months to rectify technical defects, if any. The repair and maintenance of boats would be more convenient to fishermen once the winch is pressed into service. Now, boats are moved manually to the repair yard.

### **Centre urged to do justice to cotton farmers**

Rythu JAC chairman and retired AP High Court judge, B. Chandra Kumar, has demanded the Central government to give a minimum support price of Rs. 7,761 per quintal cotton produce.

The State government should also give Rs.1,000 bonus to the cotton farmers to help them sustain.

Mr. Chandra Kumar heading a delegation of JAC visited Enumamula agriculture market yard in Warangal.

JAC leaders S. Malla Reddy, Pasya Padma, B. Chandra Reddy, V. Upender Reddy, T. Vishveshwara Rao and others were part of the team.

The team members interacted with the farmers and market secretary A. Raju Naik.

Later speaking to the newsmen, they wanted the State and Central governments to implement Swaminathan Committee's recommendations.

The farmers were getting raw deal at market. They did not get the much expected one time loan waiver and a result they did not fresh loans too.

Justice Chandra Kumar urged farmers not to commit suicide, but to fight collectively to achieve more MSP to their produce. The JAC would help them in their efforts.

The delegation members asked the officials to use machinery to check moisture content in cotton as manual measurement caused loss to farmers.

They also wanted the CCI to extend its operations to buy more cotton and open more procurement centres.

***The farmers didn't get the much expected one-time loan waiver and hence the fresh loans, says Rythu JAC chairman***

## **Northeast monsoon sets in**

*Sharp showers bring down temperature in Tiruchi*





Heavy rains lashed Tiruchi on Tuesday marking the onset of northeast monsoon.— PHOTO: A. MURALITHARAN

Tiruchi city and the district received widespread rainfall on Tuesday, bringing in good tidings for farmers eagerly awaiting the onset of the northeast monsoon.


Overcast conditions prevailed in the city right through the day and the skies opened up by afternoon. A bout of sharp showers for sometime brought down the day-time temperature and made for salubrious climate in the city after a long time. The rain, though not heavy, continued in the evening.

Farmers, especially in the rain-fed areas of the district, were eagerly awaiting the onset of the monsoon.

Though farm operations were in full swing in the canal irrigated delta areas where samba paddy was expected to be raised on nearly 34,000 hectares, farmers in non-delta areas are waiting for the rain to commence agricultural operations in full swing.

Samba paddy was expected to be raised on at least 25,000 hectares in the non-delta areas of the district this year but much would depend on the monsoon. A 52-year-old driver of a TNSTC bus died when he was reportedly struck by lightning at Tirunedungalam on the outskirts of Tiruchi on Monday afternoon. He had been to a nearby agricultural field when tragedy struck him.

## ‘No dearth of farm research in country’

<b>FOCUS ON SEED</b>			
 <p>Delegates admiring various hybrid varieties at a kiosk during the eighth edition of National Seed Congress in Hyderabad on Tuesday. - PHOTO: MOHAMMED YOUSUF</p>	Value of seed market in the country – <b>Rs.16,000 cr.</b> per annum	Seed industry growing by <b>15 pc</b> in India against global rate of <b>3 pc.</b>	<b>300</b> seed companies involved in seed production in Telangana
	Telangana meets 60 p.c. of country's seed demands, exports to 14 countries	International Seed Testing Associations (ISTA) Laboratory to be established in Prof. Jayashankar Agricultural University	
University to launch PG Diploma course in seed technology	Private sector dominates seed industry in cotton, maize, millets, sunflower, vegetables, where volumes are low	Public sector focus is on food crop seed - including pulses, oilseeds	

The Centre has suggested the State governments to go in for long-term seed supply arrangements with seed producers to lessen and prevent the menace of spurious seed.

The suggestion was made by Special Secretary in the Union Ministry of Agriculture and Cooperation Avinash K. Srivatsava here on Tuesday, during the inaugural session of the eighth National Seed Congress. Stating that seed was most critical input in agriculture, the official pointed out: “Normal grain was being sold in the name of ‘certified seed’ when the States call for short-term tenders for supply seed, when the demand goes up during a crop season”.

Mr. Srivatsava felt that entering long-term memorandum of understanding with seed producers could check the problem of spurious seed to a large extent. He emphasised the need for bridging gap between lab to land so that the benefits of research reached the farming community. There was no dearth of research in the country with over 100 ICAR institutions, 68 State and three Central Agricultural Universities, but the results should be translated to the field, he said. Telangana Minister for Agriculture Pocharam Srinivas Reddy said the State was seed bowl of the country already by meeting about 60 per cent of the demand and the government had plans to

make it a global hub for seed production with the advantages of congenial weather and soil conditions. Stating that quality seed would play a key role in improving the yield and production of crops by 15-20 per cent, he said it could also prevent farmers from falling prey to distress to some extent.

He requested the delegates to deliberate issues that would benefit farmers and come out with suggestions to prevent such unnatural deaths. Secretary of Agriculture (Telangana) C. Parthasarathi suggested joint-marketing of public sector-bred hybrid seed in public-private-partnership within a regulatory framework keeping the interests of farmers in mind. Kent J. Bradford of University of California, president of National Seed Association of India M. Prabhakar Rao (Nuziveedu Seeds), G.V. Bhaskar Rao (Kaveri Seeds) and others spoke.

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### **Precautions in place ahead of monsoon rains**

#### *Evacuation centres set up at coastal villages in Tuticorin*

The district administration has made necessary arrangements at 442 places ahead of the onset of the northeast monsoon season.

Evacuation centres at coastal villages had been set up at Vembar, Siluvaipatti, Keela Tiruchendur, Amali Nagar and a similar facility would also be set up at Kayalpatnam. Under the tsunami scheme, the infrastructure was established at a cost of Rs.11.46 crore, Collector M. Ravikumar said here on Monday. Around 3,000 people could be accommodated in each of these centres.



A control room had been set up and it would be operational round the clock. Wireless telecom facility had been set up at 19 locations to share information in any case of exigency.

Besides, mobile wireless facility was made available in 12 vehicles. Moreover, sand bags were kept ready and Public Works Department officials had been instructed to be on alert to check any breach of water from tanks.

### **Adequate medicine stocks**

Adequate stock of medicines was available and officials of Public Health and Preventive Medicine department were on alert to render assistance to the needy.

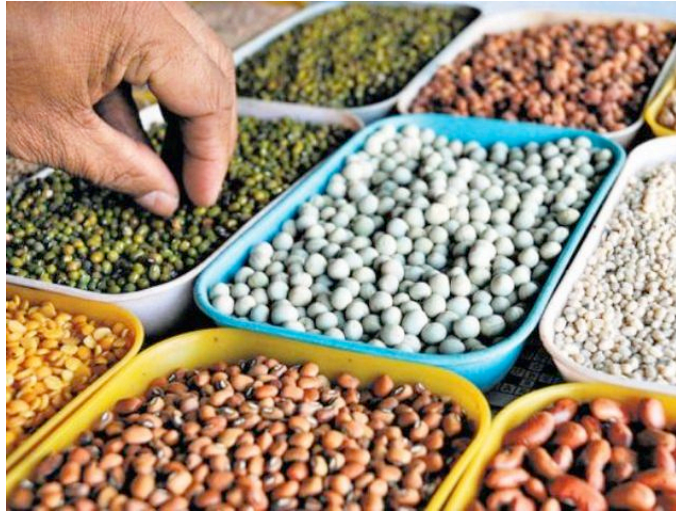
The Collector said that 250 tonnes of milk powder were readily available and essential commodities such as rice, wheat, sugar and palm oil were also available adequately in ration shops. The Collector said the average annual rainfall in Tuticorin district was 662 mm and so far this year, 180 mm had been received. So far during October alone, 75 mm rains had been received. The district is largely dependent on the northeast monsoon rains.

As far southwest monsoon season, the district experienced 60.7 mm and surpassed the average rainfall of 59.9 mm this year. During summer, from March to May, rainfall bettered the average amount of 110.9 mm after a record of 115.86 mm. But in January and February this year, rainfall was abysmally low with 11 mm against the average of 62 mm, he said.

### **Over 80,000 tonnes of seized pulses will be available in open market**

The Centre is yet to announce the rate at which pulses will be made available in the open market. - FILE PHOTO: K.K. MUSTAFAH

The Centre on Tuesday declared that the 82,462.53 tonnes of pulses seized in various States under the Essential Commodities Act would be made available in the open market within this week to augment supplies and arrest further hike in the prices of tur and urad dals.



### **Rate not decided**

There was no word, however, on the rate at which these pulses will be made available in the open market. The average price of tur has shot up from Rs. 77 per kg in January to Rs. 200 per kg in some retail markets. Average urad prices rose from Rs. 78 per kg in January to about Rs. 198 per kg.

On Tuesday, the average retail price of tur was officially reported to be Rs. 191 per kg, while urad was selling at Rs. 190 per kg.

In some States, traders have agreed to offload tur stocks at Rs. 145 per kg in the domestic market while several States have begun selling pulses between Rs. 30 to Rs. 50 per kg through the Public Distribution System.

In Delhi, imported tur is being sold through Kendriya Bhandars and Safal outlets at Rs. 120 per kg.

The landed cost of imported tur is Rs. 79 per kg while the Centre is giving a subsidy of Rs. 10 a kg on imported pulses. There is no duty on imported pulses. The bulk of pulses imports are done by private trade.

To affect market sentiment, the government has imported 7,000 tonnes of tur so far and is selling it at Rs. 120 per kg.

Meanwhile, pulses importers and millers have urged the government to lift stock holding limits on pulses. The Maharashtra government, for one, has agreed to exempt importers/millers from stock limits.

Pulses prices shot up due to shortage in supplies owing to drought.



### **Poor monsoons, but Punjab procures more than half of targeted paddy**

Till date, Punjab has procured around 74 lakh tonnes of paddy, with government agencies procuring around 69 lakh tonnes and the remaining by private players.

Despite poor monsoons this year, Punjab has procured more than half of the targeted paddy crop till date. The state is looking forward to procuring 13.7 million tonnes of paddy this year, which is higher than the procurement last year.

Punjab Mandi Board (PMB) Chairman Ajmer Singh Lakhwal said the state was eyeing procurement of 13.7 million tonnes of the crop this year as against 11.8 million tonnes procured last year.

Till date, Punjab has procured around 74 lakh tonnes of paddy, with government agencies procuring around 69 lakh tonnes and the remaining by private players. The procurement began on October 1.

Lakhwal added that the government was ensuring the immediate lifting of the crop from the mandies. Around 60 lakh metric tonnes have already been lifted till date, said Lakhwal.

A senior agriculture department officer said that the higher procurement was due to farmers preferring high-yield varieties of rice, adding that the basmati variety gave lesser yield as compared to non-basmati varieties.

Under its new diversification policy, the Punjab government had encouraged farmers to shift to growing the basmati variety, said Punjab state agriculture director Dr Gurdiyal Singh, adding that last year the state had fallen well short of the target but this year it would be a bumper crop.

Though Punjab had planned to reduce the area under paddy to around 14 to 15 lakh hectares against around 27 lakh hectares, including around seven lakh hectares under basmati, it still seems to be a distant dream owing to poor marketing of alternative crops like maize, basmati, sugarcane, etc.

### **Maharashtra govt gives farmers special incentives to cultivate tur dal**

Those taking up cultivation of pulses, oilseeds given free fertilizers, seeds.

The possibility of a delayed winter is likely to turn into a boon for farmers who are being encouraged to take up cultivation of tur dal (pulses) in the drought-hit districts of Vidarbha and Marathwada. A slightly warm, moist and dry climate works best for tur production.

Even as the Centre has imported 2,000 tonnes of tur dal and 1,000 tonnes of urad dal, Maharashtra, which accounts for almost 30 to 35 per cent of pulses production, is making efforts to bridge the gap.

Chief Minister Devendra Fadnavis has indicated that he expects prices of pulses to stabilise by December. Rabi cultivation is also likely to see a 10 to 15 per cent higher production of pulses from Vidarbha and parts of Marathwada.

District reports indicated that farmers are poised to take up cultivation of soyabeans, tur, gram and jowar in at least 18 districts of Maharashtra. Highly placed sources in the agriculture department revealed, "Generally, rabi season sets in in the month of September. But the climate change marked with severe water scarcity has upset the crop pattern."

In the wake of acute shortage of tur dal leading to surging prices, the government has decided to provide special incentives to farmers willing to invest in the crop. Agriculture Minister Eknath Khadse said, "We are providing free seeds and fertilizers to farmers willing to grow pulses and oilseeds."

Apart from pulses, the possibility of shortfall in oilseeds is also causing great concern to the state and Central governments. A senior official in the agriculture ministry said, “Tur dal is not a water-intensive crop and requires moderate to dry and moist spell in phases as it germinates, flowers and turns into pods.”

On an average, any district with a rainfall between 600 mm and 650 mm is suitable for cultivating tur dal. Unlike sugar cane and paddy, water-logging often becomes detrimental for the tender tur dal.

The sizeable expenditure on tur dal is on account of infection which often causes crop damage. To make it financially feasible, the government is providing free fertilizers which would bring down the input cost of tur cultivation by almost one third.

On an average, the production of tur dal per hectare can be 25 to 30 quintal.

However, efforts are on to enhance the production per hectare by providing better variety seeds and use of technology to make it cost-effective.

The Maharashtra government has taken the decision to promote cultivation of pulses ahead of the rabi season which commenced from September-October.

**hindustan**times

**Unhealthy digestive system? Include probiotics in your diet**





Most of us are aware of what probiotics are; they are good bacteria which are required by our body to keep our digestive system healthy. Probiotics control the growth of harmful, infection-causing bacteria in our gut. They also help the food move smoothly in the gut. Probiotics can be found in fermented foods such as yoghurt and soft cheese like Gouda.

However, probiotics are not to be confused with prebiotics. Prebiotics serve as food for probiotics and reduce the amount of damaging bacteria in our colon which improves the ph level in gut. They also boost the immune system. So, include these food items in your daily diet to everyday food choices.

### **Bananas**



Everybody loves bananas, even your gut. Bananas are one of the best sources of prebiotics, they make sure that your gut membrane functions smoothly. Bananas are high in fibre and potassium. Go for riper bananas instead of yellowish green bananas, as they may have higher starch levels and could be hard to digest.

### **Onions**



Your cheapest and easiest way to get your daily dose of prebiotics is to consume onions. They contain inulin, a type of a dietary fibre, which is essential for cleansing the gut and to promote the growth of good bacteria. Onions are essential for boosting the immunity of gut.

## **Cabbage**



One of the best natural sources of prebiotics is cabbage. And this is precisely the reason why it is used in dishes such as sauerkraut and kimchi salad. Sauerkraut is a German word for fermented cabbage. Fermented cabbage is an excellent choice for prebiotics as it fuels the growth of healthy gut bacteria and is also required for proper functioning of the bowel movement.

## **Legumes**



Easy to digest, and just as nutritious, legumes such as lentils, chick peas and green peas are the ideal choice for your natural source of prebiotics. They have the right amount of fibre and natural sugar to boost gut bacteria and keep your gut safe from infections. For optimum digestion, soak your lentils a night before consumption. Opt for red lentils as they are thin and easier to digest as compared to other varieties. They are sweeter in taste.

## Whole grains



Whole grains such as oatmeal, barley and wheat are rich in prebiotics. They are light on the stomach, easily available and help you satiate much faster. Prebiotics in whole grains also improve your ability to absorb calcium and prevent bloating.

## Beans



Beans are strong digestive boosters. However, for easy digestion, make sure they are properly soaked and well cooked. Incorporate them in your diet to get your daily dose of prebiotics. They contain oligosaccharides, which are a form of carbohydrates required for feeding the good gut bacteria.

## Apples



An apple a day is the key to a healthy stomach. Rich in prebiotics, it contains pectin, which prevents the growth of bad bacteria in the stomach and control the pH level. It also prevents acidity and aids in healthy bowel movements.



## THE TIMES OF INDIA

### Seed companies should help farmers: Telangana minister

As many as 46 farmers kill themselves every day in India and seed manufacturing companies should ponder on this issue and figure out ways they can contribute to reduce this tragedy, agriculture minister Pocharam Srinivas Reddy said on Tuesday.

The minister said as per the National Crime Records Bureau data, as many as 2,70,940 farmers killed themselves in the country since 1995. "We have to ask ourselves why the suicides are occurring. One farmer is committing suicide almost every half hour in the country. This number has to come down," he said. Srinivas Reddy was addressing the inaugural session of the three-day 8th National Seed Congress here. He said that the issue assumes importance when one considers that as many as 62 per cent of those involved in agriculture were marginal farmers while 24 per cent are small farmers.

It may be recalled that the Telangana government itself has been under severe fire for its inability to rescue distressed farmers in the state with the opposition parties and farmer welfare organizations putting the number of farmer suicides just this past year at over one thousand and five hundred.

He called upon the conference to review its resolutions from the past seven years, examine how many of those were put into action and how many of them actually ended up helping farmers.

The conference is being attended by agricultural scientists, representatives of private seed manufacturing companies and central and state agriculture officials among others. The minister said that the Telangana government will introduce a post-graduate level course in seed production at its agriculture university and would consider introduction of crop insurance for farmers involved in raising crops meant for seed production. Srinivas Reddy said the Telangana government had requested seed companies to adopt at least one

village from each of the 100 Assembly constituencies where agriculture is the primary activity. "The companies have agreed to do so. The government is determined to making Telangana the seed production centre for the world," he said.

The government, the minister also said, was determined to revive seed farms owned by the state.

Currently, he said, 2.9 lakh hectares (HA.) was being used by about two lakh farmers to grow seeds for various crops in the state. This Kharif season, 36,450 farmers from 1,458 villages cultivated seed crops in 14,500 HA. The output is expected to touch 3.35 lakh quintals. Srinivas Reddy also said that so far, Telangana used to import about 2.5 lakh quintals of soybean seed but now, the state is all set to grow its own seed for the crop in one lakh hectares.

The agriculture minister said that Telangana is home to about 400 private seed processing units, produces 670 tonnes of seed an hour and exports them to 14 countries. The state supplies 60 per cent of the seed used in the country.

Special secretary of Telangana agriculture department C Partha Sarathi said good quality seed alone can ensure a 15 per cent to 20 per cent jump in yield and the conference should deliberate also on methods that can ensure that only quality seeds reach the farmers. Instead of focusing only on low volume high margin crop seeds such as cotton, the companies should expand their activities to produce high volume low margin staple crop seeds.

### [How a techie gave up a cushy business in San Jose & offered distressed farmers a new lease of life in Mandya](#)

The story begins with a 37-year-old software developer who decided to give back to what he came from. In 13 months, this decision has rippled and changed the lives of 300 farmers in his home district of Mandya in Karnataka, through a rural cooperative and an enterprise that will generate annual turnover of at least Rs 36 crore for them.

The green Mandya district has seen the highest number of farmer suicides in Karnataka this year, mainly due to debt. With his arrival, the local boy's farmer-friends see a glimmer of hope, a means to better their lives and pull



the district's agriculture sector out of the morass it is in. They want to propagate his ideas, scale up his model and spread the goodies to the whole region.

Meet Madhuchandan SC, "Madhuanna" to the Mandya farmers. Till August 2014, he was living up the American dream, a life of comfort and ease with his wife and daughter in San Jose, California. He travelled the world, worked with various companies and became the cofounder of a company in San Jose. He had the world at his feet, as the product he designed for this company has become the leader in the field.

At that point in time, MC — as he signs himself — was on a high. "A very big IT company had junked their own product and replaced it with the one I developed," he recalled to ET Magazine. With the high came the anti-climax. "I felt I had already done all that I wanted to in the software field. What more was left? Be chief executive of yet another company? That was not fun, anymore." Epiphany struck on the morning of August 1, 2014. MC told his wife, Archana, his classmate from their engineering college in Mandya: "I want to go back to Mandya and live the life of an organic farmer. Do you want to go live that life only after we are old, or can we do it when we still have some energy left?"

### **Return to Roots**

Archana and their daughter, 11-year-old Aditi, thought about it for the whole day. Aditi's school year was to begin in 15 days. By evening, Archana and Aditi gave MC a 'yes' for the move. And just like that he snapped all links: booked tickets to leave for Bengaluru, within 10 days, on August 10; paid thousands of dollars against the pending mortgage for his house and SUV; left behind or gave away all that he owned and returned to his roots.

"I was always crazy about farming. Now I wanted to live that dream in a small farmhouse on our land in our village," he said. When he came back, though, the son of a former University of Agricultural Sciences vice - chancellor (S Chikkadevaiah) found that everything was not as simple as he had planned. He nosed around in Mandya, realised that farmers were distressed — despite owning irrigated land — and that there was no marketing mechanism for organic or even for the district's major crops of sugarcane and paddy.

That set aside his immediate plans of a small farmhouse near his village Sunaganahalli in Mandya. He settled his daughter and wife in Bengaluru and determinedly began working on a solution to the situation in Mandya — an out-of-government one. He activated the strong roots and ground-level network that he has in Mandya, which was represented by his late maternal uncle SD Jayaram, a minister in the Janata Dal government in Karnataka in the late '90s.

Then came a year of hard work, endless conceptualising, brainstorming with friends, reaching out to farmers. The germ of an idea surfaced: that there was a big market for organic products in Bengaluru, just two hours away. Several farmers, influenced by zero budget natural farming pioneer Subhash Palekar's workshops in the region, were already practising it.

All that was necessary was an intermediary to supply the product to the consumer. MC didn't let any grass grow under his feet. A friend in Mandya suggested he consult Narayana A, a professor at the Azim Premji University in Bengaluru, a London School of Economics alumnus. Narayana suggested that a cooperative society to source and market organic farm products would be the best business model.

### **Set the Ball Rolling**

Rustling up the rural cooperative was not hard. MC had the eager support of progressive farmer Venkatesh from Panakanahalli in Mandya. Panakanahalli had witnessed a suicide by a 35-year-old farmer, Mahesh, on June 30, and was also visited by Congress vice-president Rahul Gandhi on October 9. Venkatesh, nicknamed "Sakkare" (sugar) Venkatesh, has been growing sugarcane the organic way from over a decade. He is aware of all the ground level problems and his solution is: "We need to go organic, use natural methods to retain fertility of our soil, generate useful byproducts and ensure that it goes to the right market," he told ET Magazine.

Venkatesh and MC teamed up to put together the Mandya Organic Farmers Cooperative Society comprising progressive farmers, ayurvedic doctors and agriculture scientists. The youngest member is 22-year-old Sachin from Maddur taluk, and the oldest is 62-year-old Doddalingaiah, both equally enthusiastic on the subject. Simultaneously, MC got four friends from Mandya, all leading lights in the IT sector, to pool together Rs 1 crore in a company, Organic Mandya, which took on the job of planning how to reach

the 22 products grown in the district to customers.

With the bubbling enthusiasm of a 10-year-old, MC translated the dream into action by setting up an integrated organic zone at Budanur, Mandya, on the Bengaluru-Mysuru state highway. This is the second-most passenger-heavy highway in India after Pune-Mumbai — MC did a study — and the location was ideal to generate a lot of eyeballs.

The zone has a supermarket, with a farm growing organic sugarcane, vegetables, coconut, pulses and oilseeds planned right next to it. There is a restaurant selling only organic food, shops selling organic juice, a one-stop-shop for terrace gardening. There is even equipment set up to churn out fresh oil: the shopkeeper puts groundnut or sunflower seeds into it and the customer gets fresh oil instantly. Opened on October 1, this integrated zone has generated a turnover of over Rs 12 lakh so far.

"It is all about design and packaging," MC pointed out. He applied his corporate knowledge to the farm marketing field. "If you call jaggery as just that, it won't sell. We worked on promoting joni bella, a liquid form of jaggery. This is a stage just before the jaggery solidifies. We figured out how to preserve it in this form and sell it as a new product. It has high calcium and iron content, tastes better than honey and can be used in any dish." The unique product, priced at Rs 65 for 250 grams, has sold like hot cakes, with customers coming back for more.

### **More in the Making**

MC also set up a Facebook page for the company and a mail order catalogue in May, with an initial base of 1,000 customers, prior to opening the supermarket. He sent out mails to his friends, offering 32 organic items including organic rice, pulses, millets, a healthy malt drink, sea salt, sweets and joni bella, as a monthly dinasi (grocery) package for Rs 3,000. The response has been overwhelming. "All I need to do is get 10,000 families on this platform and we will generate Rs 36 crore a year, more than enough to support a taluk of farmers," MC contended. "We will do it," he added, with careless confidence.

The farmers' cooperative has set off the ground work to fulfil the orders that are pouring in. They bid for and won the rights to operate an organic jaggery farm at the state government's VC farm in Mandya to make the jaggery

byproducts. This farm is buying sugarcane from organic farmers at an unheard-of Rs 3,501 per tonne, about twice the amount they get from the state's sugarcane factories and not paid anywhere in India. "My fellow directors at the cooperative asked me how we can pay this much and still work it out. But the market is there, we are earning that money with profit and just passing on some of it to the farmers. We are showing practically that it can be done," MC said.



MC's work and ideation, however, have just begun. He is building bigger dreams from this platform. He has set up another company, Just Power, to figure out how to generate solar power and how to water the fields from pumps that don't use electricity. "We can do it with power generated from flowing water; we don't have to invent, there are existing models. We just have to apply them," he said.

At the farm level, he has worked out a project for agri-tourism and agri-fitness, aimed at the software crowd that has never seen or been on a farm. "We have tied up with three corporate teams already for agri-tourism. Software firms take their employees to spend the day at resorts as a break and money is set aside for this. Instead, we want them to come to our organic farms, eat farm-fresh food, breathe clean air and see how and where their food comes from," MC said. This, he pointed out, automatically created a community and a future market for the farmers' organic produce.

MC took his own tremendous enjoyment in the experience of sowing paddy in his fields and gave it a package form. "People spend huge amounts on fitness, to build muscles, to gain better balance or to just de-stress. All of that is possible with just digging holes in the field or harvesting the crop.

You feel a oneness with the land which is more enervating than any exercise in any gym. I have also calculated the number of calories that can be burnt this way. We will offer this experience to our friends in the IT sector." Naturally, his farmer friends are smiling all the way to the bank and are riding, blissfully, on the Organic Mandya theme: "Don't eat anything that your grandmother wouldn't recognise as food."



**I've always been crazy about farming and I want to do it the organic way**

**Madhuchandan Suganahally**  
**Chikkadevaiah, 38**  
also known as MC

**Worked with** Wipro, HP, Verifaya Corporation, TestingCzars

**Lived in** Durban, Pune, Milton Keynes, Minneapolis, Iowa, Portland, Wasau, London, Los Angeles, Manila, Israel, New York, Boston, Atlanta, Austin, San Jose. Currently in Mandya and Bengaluru

**Cofounded/founded** Verifaya Corporation, agri startup Organic Mandya, and renewable energy startup Just Power

**Came back to** Set up an organic farmers cooperative, a mail order catalogue for organic products, won a tender for an organic jaggery farm against big players and set up an integrated organic zone, right from a farm to a supermarket selling the products

**Future plans** Promote agri-tourism, agri-fitness among the software fraternity, and renewable sources of energy among farmers

**Quirk** A strong belief in the powers of the number 9. All his phone and car numbers add up to nine, his bid for the jaggery farm was for ₹603 per tonne, his price given to farmers is ₹3,501 per tonne

## **Seed industry seeks policy support to boost exports**



The seed industry has called for policy support from the Centre to facilitate exports from the country.

“There is a huge scope for exports of seeds. But we need policy support. We need to ease processes that facilitate exports,” M Prabhakara Rao, President of National Seed Association of India (NSAI), said.

Addressing the 8th National Seed Congress here on Tuesday, Rao said the industry would require government support in getting their products evaluated in the export destinations without much delay.

GV Bhaskara Rao, Chairman and Managing Director of Kaveri Seeds, asked the governments to ensure insurance cover for seed growers to protect them from the vagaries of seasons.

He wanted the Telangana government to start a Post-Graduate programme in Seed Technologies to produce skilled manpower in the area of seed production.

The proposal was immediately accepted by the Telangana Agriculture Minister Pocharam Srinivas Reddy who said a course would be introduced in the agricultural university.



Meanwhile, the Telangana government has set up a committee to vet the applications from seed firms and research bodies to take up agri biotechnology field trials in the State.

### **Panel for GM trials**

The Centre has mandated the firms and research agencies to get a non-objection certificate (NOC) from the State governments before going for field trials. Though the Genetic Engineering Appraisal Committee (GEAC) accords permission for field trials for genetically modified crops at the Central level, the firms and other research agencies must approach the States in which they want to conduct the trials.

Only a few States have appointed dedicated committees to study such applications and grant permissions. The Telangana government has appointed a six-member committee to look into such appeals. The committee will be headed by the Secretary in the State's Agriculture and Cooperation Department. The Director of Agriculture would act as member-convener of the committee.

The other members in the panel would be Director of Research (Prof. Jayashankar Telangana State Agricultural University); Special Secretary (Environment, Forest, Science and Technology Department), Nominee of Director of Centre for Cellular and Molecular Biology, and the Commissioner of Horticulture.

The private sector seed firms have alleged that endless delays in getting NOCs are resulting in hampering the pace of research, drastically delaying product releases.

### **CRIDA nod**

The State government has issued an order on Tuesday to name the committee, following a plea from the Central Research Institute for Dryland Agriculture seeking an NOC for its field trials.

## **Conditions perfect for the onset of N-E monsoon over TN, Kerala**

Conditions are favourable for commencement of the North-East monsoon over Tamil Nadu and Kerala and adjoining parts of Karnataka and Andhra Pradesh by Tuesday.

The India Met Department has located on convective (rain-bearing) clouds over Central and South Arabian Sea, South and Central Bay of Bengal, the Comorin area and the Andaman Sea.

### **‘Low’ intensifies**

The prevailing low-pressure area over South-East and adjoining South-West Arabian Sea has intensified one round into being well-marked on Tuesday.

According to the Met, it should concentrate into a monsoon depression in two days’ time. Wind field projections indicate the possibility of a cyclone developing in the area, but away from India’s coast.

The counterpart low-pressure area over South-West Bay of Bengal off Sri Lanka too persists. This system will act in tandem with the Arabian Sea system to pull in the North-East monsoon into the East Coast.

The churn in the seas is the direct fallout of the arrival of a helpful Madden-Julian Oscillation (MJO) wave in the higher levels of atmosphere and staying put over the larger equatorial Indian Ocean.

### **High seas**

The MJO wave is known to trigger the formation of clouds and stormy conditions directly under its footprint – a wide area covering South Arabian Sea, equatorial Indian Ocean and South Bay of Bengal.

The Met has maintained the ‘high sea’ alert to fishermen venturing out into the sea along and off the Tamil Nadu coast and around Lakshadweep both on Monday and Tuesday.

Heavy rain or thundershowers have been forecast over Coastal Tamil Nadu, Coastal Andhra Pradesh and the Andaman and Nicobar Islands on Wednesday and Thursday.

On Friday and Saturday, the heavy weather warning will extend to Kerala, with heavy rain or thundershowers being forecast for Coastal Tamil Nadu and Kerala.

### **Heavy rain**

An extended warning valid until November 3 stated that rain or thundershowers would lash many places elsewhere in the larger South Peninsula.

Thunderstorms would move into the rest of Peninsular India, the East Coast and the North-Eastern States, clearly suggesting the track/mode of amplification of the 'low' in the Bay of Bengal.

The US Climate Prediction Centre indicates particularly heavy rainfall over Chennai and adjoining South Coastal Andhra Pradesh and later over Odisha coast during the current week ending November 2.

The following week will see the rains concentrate mainly over South Tamil Nadu and adjoining South Kerala with spill-over forecast to the north of these two States.

### **Growth in organised dairy sector, a boost for rural livelihood**



Penetration of tech, banking systems will ensure farmers receive payments on time

Despite milk being a very important part of the Indian diet, India was a milk deficit country post-independence.

This situation pushed the government to launch “Operation Flood”, which so far has been one the most successful government-led programs on inclusive growth and livelihood generation.

Operation Flood was implemented in three phases and with three main objectives – increase in milk production, augmentation of rural incomes and fair prices for consumers.

Today, India is not only self-sufficient in milk production but also a marginal exporter. Operation Flood established systems to aggregate scattered village milk production to demand centres across the country. The programme successfully established India as the largest milk producing country.

Growth in milk production has outpaced the growth in other large milk producing countries such as the US and China. At present, the livestock sector contributes to 4 per cent of India’s GDP and the dairy sector comprises a king’s share of it.

Milk procurement is an important source of secondary income for over 80-90 million milk producers, signifying its role to alleviate rural income and employment.

### **Demand on the rise**

While India is self-sufficient in milk production, the key focus areas are – continuing growth in milk production, building scales in processing capacities, and enhancing inclusive growth through the organised sector – thereby benefiting stakeholders across the value chain.

Out of the total milk production of 140 million tonnes, about 55 per cent is marketable surplus after self-consumption.

## **Organised sector**

Currently, the organised sector processing (packaged milk and dairy products) accounts for about 25-28 million tonnes, which is 18-20 per cent of the total production.

Over the last few years, demand for processed milk and milk derivatives has been rising, driven by changing income and consumption patterns.

Demand for milk is growing at a faster rate and is estimated to be 180 million tonnes by 2021-22.

The average yearly incremental increase in production is estimated at 6-7 million tonnes in the next few years, against 3-4 million tonnes earlier.

Considering the requirements, the National Dairy Development Board launched the National Dairy Plan (NDP) in 2012 to focus on means to grow production and provide producers with greater access to the organised milk processing sector.

Processing the milk through the organised channel will facilitate standardisation of product quality and strengthening the direct supply channel will eliminate the intermediaries, both of which will ensure better compensation to small and medium milk producers.

## **Small farmers**

Nearly 80 per cent of India's milk production is contributed by small and marginal farmers, with an average herd size of one to two milching animals.

Indian yield is still much lower than that in the US, New Zealand and Germany. These countries certainly have an advantage on the cattle breed, and also benefit from extensive mechanisation and larger herd size.

In India, there is high dependence on family labour and limitations to deploying mechanised milching systems, given the small herd size holding. Dairy farming and newer concepts on herd aggregation, both of which support collective animal management and mechanisation, are at a very nascent stage in India.

Few companies like Parag Milk Foods, are testing models with dairy farms, but this requires heavy investments in animal management to satisfy the raw milk requirement for large processing capacities.

### **Boosting organised farming**

Predominant roles for co-operatives and private sector: Co-operative sector continues to play a vital role; but over the last 15 years, private sector companies have made an impressive growth in building capacities for processing milk and milk derivatives.

In the last 4-5 years, the dairy sector has received private equity investments close to ₹2,500 crore, backed by the consumption story in India. Private sector companies can capitalise on the investment interest and focus on establishing vertically integrated dairy companies (village level supply chain + high end processing capacities).

Few large- and medium-scale private sector companies like Hatsun Agro, Heritage Foods, Dodla Dairy, Paras Milk Foods, Prabhat Dairy, and VRS Foods, are investing in building village-level collection capacities, which is similar to the co-operative model.

Increasing focus from the private sector on establishing last-mile linkages will complement the dairy development initiatives of the co-operatives and thereby lead to a larger share of the organised sector in milk processing.

Digitalisation and technology innovations: The Centre has led the Jan Dhan Yojana to deepen the access of the unbanked and under-banked segment to the financial systems.

Technology-based newer payment platforms have enabled immediate funds transfer to remote users. The next big move is the launch of payments banks that will further deepen last-mile coverage.

Penetration of technology and banking systems will ensure that dairy farmers get compensation on the same day, unlike the delays in physical settlement systems.

Under the inclusive and social banking unit, YES Bank has successfully implemented Transaction Banking-based payment solutions for dairy



farmers associated to dairy companies, wherein farmers get immediate credit for quality of milk supplied.

Such developments should also reduce credit risk associated with supply of milk to private companies, and will incentivise the dairy farmer to commit increasing marketable surplus through the organised segment.

Regular income streams to dairy farmers will also ease funding opportunities for further growth in herd size and equipment.

### **Other initiatives**

Since dependence on small and marginal farmers will continue, ideas for herd aggregation, scientific cattle management, deployment of mechanisation and improving the quality of cattle breed all require momentum. Long-term goals for the sector are increasing milk yield, production through genetic progress of the cattle, and improving feed quality.

The Centre has played and will play a critical role through budgetary allocation for these goals.

Private sector companies can support the long-term goals through research and development inputs. Private companies and co-operatives can set up 'Dairy Clinics' at the village level for educating dairy farmers and provide advice on scientific cattle management.

Private sector companies can also support Cattle Hostels and skill development by facilitating technology guidance and funds under the corporate social responsibility initiatives.

### **Cattle insurance**

Penetration of cattle insurance needs a heavy push by educating dairy farmers on the schemes and driving the use of technology, given that the insured cattle are in remote locations.

Technology-driven solutions in animal identification will enhance the use of insurance schemes to access organised sector finance.

Overall policy-level focus from the Government and investments from the co-operatives and private sector will certainly lead to incremental income opportunities for rural India in the organised sector. A stronger and resilient rural economy, with higher income levels, will further support the consumption story in India.

*The writer is MD & CEO, YES Bank and Chairman, YES Institute*

### **80,000 tonnes of hoarded pulses seized so far: Centre**

Raids against hoarders by State governments continued on Tuesday with the Centre stating that over 80,000 tonnes of pulses had been seized so far, and will be made available in the retail market.

“Under de-hoarding operations, 8,394 raids have been conducted so far and 82,462.53 tonnes of pulses have been seized across the States,” an official statement by the Food and Consumer Affairs Ministry said.

The raids had begun last week with prices of pulses, particularly tur (arhar), having breached the ₹200/ kg mark in Mysuru and Puducherry.

Officials had indicated earlier that the seized pulses included tur, urad and chana, but no data has been released regarding the quantities of each of the pulses that have been recovered.

“The States have indicated that seized stock of pulses will be made available in the retail markets within a week,” the statement added.

Various States have begun selling pulses through government outlets or through the public distribution system. These include Gujarat, Chhattisgarh, Tamil Nadu, Andhra Pradesh, Telangana, Himachal Pradesh and Uttarakhand.

### **PTI adds:**

Meanwhile, the Maharashtra government is working out a mechanism for exempting importers of pulses from the ambit of stock holding limits.

Last week, India Pulses and Grains Association (IPGA) had made a representation to the Finance Minister Arun Jaitley seeking exemption from stock holding limit imposed by the Centre on October 18 to check hoarding.

The Association had also offered to supply 100 tonnes of imported tur dal at ₹130/kg on a daily basis for a month to boost supply in the State.

The State government is scheduled to hold another round of meeting later in the day to finalise both the stock holding limit issue as well as purchase of imported tur dal from importers, sources added.

Gujarat has already relaxed norms for stock holding limits on importers in the State.

The Maharashtra government may also work out a model on similar lines, they said.

The average stock holding limit for importers is about 300-350 tonnes in States.

### **Diversification, key to sustainable farming**

Policy interventions, skill development enhance opportunities for farmers

Agriculture, the largest livelihood generating activity, is fast transforming itself from a supply-driven to a demand-demand scenario. The discerning consumer (urban, rural and global) is increasingly demanding better quality, multiple choices, food safety and convenience.

Diversification is the key to convene these changing demand patterns with supply, and more importantly, to act as an overall risk mitigant for the producer himself. Further, diversification is also a key enabler for achieving sustainability, given the current state of affairs on usage of water, agri inputs and soil.

The average land holding of Indian farmers has been consistently declining over the last two decades, down by 20 per cent to 1.15 ha. The silver lining though, is that nearly 2/3rds of the total agriculture production today is of high value in nature, a definitive contrast from the state of affairs during the Green Revolution.

In terms of horticulture production, India witnessed a significant increase in production to the tune of 270 million tonnes (area of 23 million ha) in 2013, from 97 million tonnes (area of 13 million ha) in 1990, registering production growth of over 160 per cent and area growth of over 70 per cent. Similarly, milk production, which stood at around 53 million tonnes in 1990, has increased to 140 million tonnes today, witnessing a growth of more than 150 per cent.

However, this diversification has been largely driven by a few States like Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, Rajasthan, Maharashtra and West Bengal, which have been the forerunners in diversification and today produce more than 40 per cent of the high value commodities – milk, fruits, vegetables, sea food and spices.

Others like Himachal Pradesh, as well as the north-eastern States, have diversified to high-value produce, due to the inherent agro-climatic zone best suited to produce fruits and vegetables.

### **Boosting diversification**

To further augment rural income and make diversification a pan-India phenomenon, it is time to move up the curve through key focus areas of intervention.

**Innovative institutional mechanisms & structures:** Diversification should be augmented through institutional innovations like contract farming, producers' companies, cooperatives and modern retail formats that engage a larger gamut of stakeholders. In India, farmer producer organisations (FPOs) are witnessing impressive success stories and many small holder farmers have benefited from the model. It is the FPO structure that has united small producers and given them the capacity to enhance their livelihoods through aggregation, development of market linkages and value-addition, thus helping them reap benefits of diversification.

**Policy interventions:** This is the core requirement for building upon the strengths of diversified agriculture, which India has already attained to quite an extent. Government support in identifying commodity-specific clusters, developing basic infrastructure and processing infrastructure, and encouraging entrepreneurial skills, shall go a long way in providing sustainable livelihood. Goods and services tax (GST) application needs to

be uniform, easy to administer and incentivise processing over fresh produce. Also, farmers may be nudged to shift to a less water-intensive crop so as to reduce dependence on rain.

**Sustainable risk management:** So far, inefficient subsidy structures on the input and output sides of the value chain have been curtailing growth, ineffectively reaching beneficiaries and promoting unsustainable farm practices, thus dis-incentivising diversification and adding to the twin deficits challenge.

These challenges need to be overcome through a prudent policy intervention. Further, the entire paradigm of risk management for farmers through warehouse receipt financing, crop and weather insurance as well as efficient price discovery/marketing infrastructure, needs to be brought into the mainstream, and the entire policy of price support needs to be done away with.

**Technology and innovations:** The scope of diversification should expand to the wider dimension of value addition – collaborative researches in technology are required to produce process-able grades of commodities. Specific clusters need to be identified to produce such grades at a large scale. This shall not only have a far-reaching effect but also help the nation to curb imports of processed food.

Localisation is the key to achieving prolific results of diversification. Product innovations that use local resources are best suited to adapt to any kind of agri practice and its value addition. Innovative use of ICT in the Indian context, to communicate weather-based information, new technologies available, extension services and market price alerts, is key to determining risk mitigation.

**Infrastructure development:** Inadequate and skewed distribution of infrastructure such as road, power, market, pre- & post-harvest handling, and irrigation, are all major impediments for diversification. Access to basic infrastructure shall boost entrepreneurial capacities of farmers to take up non-conventional activities and enhance their income.

**Skill development:** India has witnessed several initiatives in the past focusing on the agriculture domain. However, with nearly stagnant agriculture growth, there is a clear need for a shift in the perspective of skill

development, with a focus on sustainable rural livelihoods. We need to look beyond the farm cycle and engage manpower in value-added activities like processing, trade dynamics and building efficient marketing channels. This shall generate ‘on farm’ as well as ‘off farm’ livelihood options.

### **The way forward**

Diversification has surely made its mark in select States, though value addition is still in its infancy. Further, many States are still outside the purview of mainstream diversification.

The way forward to develop sustainable livelihood for the Indian farmer needs to be addressed through a collaborative approach between the Government and industry, for establishing a much larger and significantly more efficient supply chain for value-added produce, which in turn shall generate sustainable livelihood opportunities.

*The writer is President & Country Head, Food & Agribusiness Research, YES Bank*

### **Slow buying holds cardamom steady**

Cardamom prices last week ruled steady with signs of an easier trend at auctions held in Kerala and Tamil Nadu.

Total arrivals during the week showed a decline but compared with the arrivals at this time of last year it was at much higher levels, trade sources said.

However, looking at the continued upsurge in the arrivals the buyers have become slow or were staying away from the market in order to pull the prices down, trade sources claimed.

Consequently, a bearish sentiment continued to rule the markets, PC Punnoose, General Manager, CPMC, told *BusinessLine* .

He said as the harvesting is in its peak, arrivals continued to show an increase.



The individual auction average also dropped to below Rs. 600 a kg in two auctions and it was vacillating between Rs. 580 and Rs. 530 a kg. Exporters bought an estimated 75-100 tonnes.

Total arrivals during the season up to October 24 were at around 8,878 tonnes against 4,820 tonnes in the corresponding period last year. Sales were at 8,624 tonnes and 4,734 tonnes respectively. The individual auction average as on October 24 was at Rs. 642 a kg (785).

Prices of graded varieties ( Rs. /kg): 8mm bold good colour 850-900; 7-8 mm 680-700; 6-7 mm 590-600; below 6 mm: 540- 560. Bulk was being traded at Rs. 570-580.