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THE HINDU

Uppliyapuram farmers bet it big on papaya



A farmer with high-yielding papaya variety at his field in Uppliyapuram block.— Photo: M. Srinath

A group of farmers of Uppliyapuram block in the district have taken up papaya cultivation to harness the assured and sustained profits from the crop. The soil condition in the block was best suited for raising the crop, they said. Further, the hybrid variety of the fruit helps them cultivate the crop on a large scale.

Since the selling price is based on the weight of the fruit, the returns are fixed, they said. We could harvest at least one tonne of fruit every week from one acre of land, they said.

The hybrid variety, which is shorter in height, is ready for harvest from the eighth month. It could be harvested every week for a period of two years. N.Narendran, a farmer, said that he has cultivated 360 plants on about one acre of land.

“There has been a growing demand for the fruit as it fits well into the contemporary lifestyle where the emphasis is more on a healthy diet,” he said.

Traders from Tiruchi depend on Uppliyapuram block for the fruit. The price per kg stood at Rs.10 on Sunday. The fruit could be harvested all through the year.

Mr.Narendran said that pest attack was the major problem for the crop, and he has erected a number of orange colour metallic boards smeared with grease. “Since the pests are attracted to orange colour, they fly towards the plate and get stuck to the greased plate,” he said.

Engineering students develop new implements for farmers

‘These models minimise use of human labour in farm sector’



A student demonstrating his device at the Jawaharlal Nehru National College of Engineering in Shivamogga.

Devices that farmers can use in their day-to-day agricultural operations have been developed by the students of final year B.E at the Jawaharlal Nehru National College of Engineering here, as part of their project work.

D.S. Ramakrishna, chairman of the Department of Mechanical Engineering in the college, told *The Hindu* that in wake of migration of farm workers from rural areas towards urban areas for livelihood, the agricultural sector was facing acute shortage of workers. This problem could be resolved with mechanisation of farm operations. Students were encouraged to develop models that could minimise the reliance on labour in agricultural operations, he said.

A 'rotary type coconut de-husking machine' has been developed by G.N. Chiranjeevi, H.S. Chethan, Mohammed Imad and B.R. Abhilash, students of the college. The machine, mounted on a stand, is operated by a 1 HP motor. When a coconut is placed between the rollers that are fitted with metallic teeth, the husk gets removed. Two coconuts can be de-husked simultaneously with this machine.

With the objective of helping farmers undertake harvesting operations at minimal cost, J. Darshan, Ganesh Jambige, Karthik Basavanthkar and Manoj Bapat have developed a 'pedal crank wheat and paddy threshing machine.'

This machine has been developed on the basis of pedal-cranking mechanism. The drum in the machine is propelled by a chain sprocket and spur gears. The pins on the circumference of the drum will pull the paddy or wheat from the plant. The separated grain is rubbed and rolled against the rotating drum and then thrashed without, causing any damage to the grain. The 'root crop washing machine' has been developed by H. Ajay, K.S. Arun, K.S. Ashik and Karthik Bhat. At present, the crops such as potato, ginger are washed manually that require huge quantity of water. The new machine washes the yield by using rotating belt mechanism. A 0.5 HP motor is fitted to the machine for the movement of belts. The machine for drying the agriculture produces by using condenser heat of refrigerator, mini-rotary tillers are some of the models that have been developed by the students. The models were on display on the college premises on Friday and Saturday.

· *'At present, agricultural sector is facing severe shortage of farm workers'*

· *'Crop washing machine helps save water and time in cleaning potato, ginger etc.,'*

'Double paddy, triple millets production'

The Tamil Nadu Government has asked agriculture scientists and extension officers to double paddy production and triple millets production.

Speaking at the 81st Scientific Workers Conference 2015 held at the Tamil Nadu Agricultural University on Friday, Agriculture Production

Commissioner and Secretary, Agriculture, Rajesh Lakhoni, said that in the next five years, the scientists and farmers should work together to ensure that they achieved the target by 2020.

This was the first of the three mandates he was giving them, he said.

The second was that scientists should identify the top three diseases in each of the crops and work on developing disease-resistant varieties of those crops.

Pest management

The third was that the scientists and extension officers should develop and propagate crop-specific integrated pest management practices so that farmers saved on pesticides and thereby increased their income.

This would be in keeping with the Chief Minister's objective of tripling farmers' income.

Tamil Nadu Agricultural University Vice Chancellor K. Ramasamy said that the credit for Tamil Nadu registering a record food production of 128 lakh metric tonnes was due to the joint efforts of the planners, scientists and the field-level staff.

But the sad part was that the scientific and extension staff in Tamil Nadu had better recognition and appreciation outside the State.

While the University, research stations had made considerable progress in development of new crops, there was lag in pulses development.

This would be addressed soon.

He said that agriculture scientists would have done wonders if the Centre and State governments had not gradually reduced the spending on agriculture after the Third Five Year Plan.

As far as the University was concerned, from a 1,780 faculty, it had come down 1,300 while the number of colleges had increased from two to 13, number of research stations from seven to 37 and extension centres to 14.

But the funding had not correspondingly increased, Mr. Ramasamy said and sought increased funding for research and more research stations.

J. Daniel Chellappa, Senior Scientist, Bhabha Atomic Research Centre, spoke on his organisations' contribution in groundnut cultivation and shelf-life extension of a few produce.

Directors of various Horticulture, Sericulture, Agriculture Marketing and senior scientists participated in the conference.

KAU questions safety of vegetables from TN

Calls for independent pesticide residue tests

Kerala Agricultural University (KAU) has refuted the contention by the Tamil Nadu Agricultural University (TNAU) that the vegetables sent to Kerala by farmers in the neighbouring State were free of pesticide residue.

KAU Vice Chancellor P. Rajendran said periodic testing had revealed excessive levels of pesticide residue in vegetables from Tamil Nadu. The tests, he said, were carried out using sophisticated equipment at Pesticide Residue Research and Analytical Laboratory at College of Agriculture, Vellayani. "It is clear that the government of Tamil Nadu and the TNAU are trying to protect the interests of farmers in the State who sell their produce in Kerala", he said. He was responding to a statement by TNAU Vice Chancellor K. Ramasamy seeking to allay fears of the reported toxic content in vegetables grown and sent to Kerala from the State.

Summer showers hit ready-to-harvest maize



Summer showers have affected the red maize crop in Uppliyapuram block.— Photo: M. Srinath

Summer showers in Uppliyapuram and Thuraiyur blocks have come as a boon to many a farmer. However, it has been the bane of a section of them, particularly those who had raised maize.

Particularly, ‘sencholam’ suffered extensive damage when it was nearing harvest in these blocks, the farmers said.

A number of farmers in Erakudi, Vadakkupatti, Rettiyapatti, Aaluthudaiyanpatti and Thanga Nagar have raised the crop. P.Vaiyapuri (45), a farmer of Erakudi, said that he could harvest just four bags of ‘sencholam’ of 100 kg each from his one acre of land. “The rain had ravaged the close-to-harvest crop,” he said.

In fact, the farmers of these villages were using a minor bridge across the Ayyaru on the Tiruchi-Puliyancholai highway for drying the wet crop on the bridge to salvage it. “As the wet produce dries up, a large number of heavy vehicles, particularly buses, passing over the crop laid out on the bridge help farmers in de-husking the crop,” he said.

Agriculture Department officials said that there was a growing demand for ‘sencholam’ as it was considered a healthy diet for patients. Uppliyapuram and Thuraiyur have registered sharp showers and the five major tanks in the blocks have realised good inflow.

Agriculture Department ready to meet fertilizer demands of farmers

COMFORTABLE STOCK POSITION OF FERTILIZERS

Urea : 6,331 tonnes
(PACCS: 1,323 tonnes; private outlets: 5,008 tonnes)

Di ammonium phosphate: 5,254 tonnes
(PACCS: 1,475 tonnes; private outlets: 3,779 tonnes)

Potash: 3,178 tonnes
(PACCS: 1,106 tonnes; private outlets: 2,072 tonnes)

Complex: 5,863 tonnes
(PACCS: 2,291 tonnes; private outlets: 3,572 tonnes)



Even though the inordinate delay in the onset of South-West monsoon has been worrying farmers, the Agriculture Department is fully geared up to meet the fertilizer demands of the farmers of the Salem district.

A total of 20,626 tonnes of different varieties of fertilizers are kept ready in the Primary Agricultural Cooperative Credit Societies (PACCS) and in private retail outlets in the district as on June 13. Agriculture Department sources told *The Hindu* that the district accounted for 6,331 tonnes of urea. While the PACCS have urea stock of 1,323 tonnes, 5,008 tonnes of urea is readily available for distribution to the farmers with the private dealers.

The district possessed a stock of 5,254 tonnes of Di Ammonium Phosphate (PACCS 1,475 tonnes and private outlets 3,779 tonnes); stock of 3,178 tonnes of potash (PACCS 1,106 tonnes and private outlets 2,072 tonnes) and a stock of 5,863 tonnes of Complex (PACCS 2,291 tonnes and private outlets 3,572 tonnes).

The sources said usually with the onset of the South-West monsoon in time, the 'Kar' crop season used to commence during April / May across the district. The department has also taken steps to prevent the presence of poor quality and spurious fertilizers in the open market. The staff of the quality control wing of the department along with agricultural officers of the respective blocks conducted surprise checks in the retail outlets regularly every month to ensure the supply of only good quality fertilizers and also to prevent dumping of stock by the traders. Meanwhile, a section of farmers of Attur, Gangavalli and Thalaivasal taking advantage of the summer rainfall experienced by the district in the recent past, commenced farm activities under the 'Kar' season.

Cotton auction

About 700 bags of cotton stock was auctioned for Rs. 10 lakh at the Tiruchengode Agricultural Producers Cooperative Society's branch at Konganapuram near here on Saturday. While PT variety cotton fetched a price ranging between Rs. 3,700 and Rs. 4,190; DCH variety fetched a price between Rs. 4,200 and Rs. 4,700, according to society sources. Sesame seeds was also auctioned on the occasion. While white sesame seeds was auctioned for a price between Rs. 70 and Rs. 83 per kg; red sesame seeds fetched a price between Rs. 55 and Rs. 69 per kg. About 500 bags of sesame seeds was auctioned for about Rs. 23 lakh.

‘Farmers need to be trained in providing proper nutrition to plants’

“Providing the right kind of nutrition to plants is as important as irrigation and protection from diseases. Farmers need to be regularly trained in this field,” a bio fertilizer expert said here in Bidar recently.

Basavaraj Girenavar, founder and chief scientist at Criyagen, a start up in the field of bio fertilizer, spoke to progressive farmers and farm scientists at the Krishi Vigyan Kendra.

Most farmers throw around fertilizer in their fields thinking that is the best way to provide nutrition. They don’t realise that crops need different types of fertilizer applied to different parts of the plants at different times, he said.

He said that studies had revealed that across India, soils lack organic carbon, micro nutrients and microbes.

These inputs need to be added to the soil in the right quantity and the right time, he said.

He urged farmers to gradually shift to bio fertilizer and organic manure as they would increase the count of microbial organisms in the soil that will enrich it and ultimately become a natural breeding ground for plants, without additives.

Dr. Girenavar, an alumnus of Texas Agricultural and Mechanical University, has set up Criyagen at the incubation centre in the University of Agriculture Sciences, Bengaluru.

His company is building a one crore litre capacity bio fertilizer plant in Bengaluru rural district. We will soon become a Rs. 100 crore corporation, he said.

K.M. Mahantesh, project officer of Reliance foundation, said the charity had taken up watershed development, healthcare and education improvement and capacity building for women in around 12 villages in the district.

S.A. Patil, former director, Indian Agriculture Research Institute, said several agencies including ICRISAT, were creating a 100-acre model farm in Bidar district. The best practices in farming will be used there.

It will serve as an open air teaching centre for farmers and a research and development centre for scientists, he said.

Vivek Chakote, district coordinator of the Indian Society of agri professionals, said the farm produce organisations set up in Bhalki and Basava Kalyan were helping farmers find the right price for their produce.

Ravi Deshmukh, training coordinator, KVK, and others were present. The interaction was organised by the India-Morocco Food Legume Initiative.

· *‘Most farmers don’t realise that different crops need different types of fertilizer’*

· *‘100-acre model farm is being set up in Bidar district by ICRISAT and other agencies’*

Monitoring weather for planes, plains



Aid from science: Research in Agro Meteorology yields methods of long-range forecasting of meteorological phenomena that would harm agriculture.

Meteorology is of prime importance in agriculture and aviation

We had discussed research work relating to weather forecast and air pollution under the Ministry of Earth Sciences in an earlier article. We shall explore some more areas that offer opportunities for research under the ministry.

Agro Meteorology

Agricultural operations such as planting and harvesting are intimately linked to meteorology. The study of relationships between agriculture and meteorology is termed Agro Meteorology. It studies meteorological, climatic, and hydrological conditions as they relate to agricultural production. Agro Meteorology has its base in biology, soil science, geography, and farm sciences.

Changes in climate and weather involving summer heat, drought, dry wind, dust storm, rain, and frost have a profound influence on crop growth and yield. Research in this field encompasses development of new methods of long-range forecasting of meteorological phenomena that would help or endanger agriculture.

The studies have to touch two distinct areas:

Measurements including biometric and remote-controlled measurements, and recording of crop growth

Study of meteorological factors

Apart from field studies, there would be experiments with plants grown under predetermined combinations of light, heat, and moisture. Statistical analysis is an integral part of scientific prediction.

The most opportune time for the application of fertilizers and pesticides as well as the operation of agricultural machinery may have to be tuned to the right weather conditions. Reliable forecasting will help farmers arrive at the right decisions. The saying “Indian agriculture is a gamble in the monsoon” is no more true. The risk of weather-related hazards can be reduced to a minimum, thanks to the effective intervention by Agro Meteorology.

Useful research findings would be disseminated before various stages of farming. The Central ministry closely coordinates with the State governments in ensuring timely information to the farmers. Some of the details of such steps are indicated below.

Enabling district-level Agromet Advisory Services to deliver crop- and location-specific services to farmers at block-level advisories.

Designing optimum observatory network for issuance of village-level advisories for the implementation of crop weather insurance.

Establishing District Agromet Units as nodal centres for catering to needs of agriculture services

Providing customised advisory bulletins through last mile connectivity to farmers

Extending the weather based advisory service to allied areas such as livestock grazing

Establishing appropriate dissemination and support system for weather-based crop insurance

The main participants of the programme are the India Meteorological Department, New Delhi and the various agricultural universities

Aviation services

Air safety is a major global concern. The carrier activity today is estimated to be more than 100 times what it was in 1945. There has been substantial growth in aeronautical technology. The industry is projected to continue its growth. Irrespective of the type of technology that drives the aviation industry, basic requirements for safe flights can be ensured only with timely inputs from dependable weather forecasting systems.

Standard meteorological services are provided by all countries in tune with the norms of the International Civil Aviation Organization and the World Meteorological Organization. This contributes towards the safety, economy, regularity and efficiency of global air navigation.

The information provided should touch the following aspects as well.

The route of flight and approximate altitude

Wind and temperature aloft forecast charts for 'departure, destination and alternate'

Significant weather charts

Terminal Aerodrome Forecasts

India Meteorological Department is our national agency, which discharges all functions related to aviation meteorological services. Aviation services are provided for national and international flights. These services that ensure safe and efficient take-off, flight, and landing are provided through a network of meteorological watch offices.

The instrumentation system has to be continuously upgraded. State-of-the-art observing systems are essential components of upgradation. An Aviation Weather Decision Support System is made available at major airports. Effective planning and execution of these schemes should have strong support from research work.

Natural disasters

Though it is humanly impossible to prevent or even control natural disasters, we can mitigate their impact through careful planning, timely warning, and concerted rescue measures.

The quality and reliability of prediction systems have to be improved through research. The major players in this effort are the National Centre for Medium Range Weather Forecast at Noida, and the India Meteorological Department at New Delhi.

Meteorology is of prime importance in agriculture and aviation.

‘Mat nursery’ method being promoted to raise paddy seedlings

As rains lash Dakshina Kannada district, the Agriculture Department here has taken steps to promote raising of paddy seedlings under the ‘mat nursery’ method.

H. Kempe Gowda, Joint Director, Agriculture, told *The Hindu* that seedlings were raised on trays or on top of plastic sheets in a small area under this method. Such seedlings could be directly planted in fields using a machine. “It reduces the mortality rate of seedlings while planting. Seedlings raised on a 80-ft long and four-ft wide plot are enough for planting on an acre,” he said.

He said that paddy grown under mechanised planting could be harvested using a combined harvester which separates paddy from the stalks. Under the traditional method, paddy seeds are strewn across the field, seedlings plucked after about a month, and then manually transplanted. Seedlings raised thus cannot be transplanted using a machine.

Manual method results in damage to seedlings while plucking and transplanting and the loss of seedlings would be more.

Mr. Gowda said that farmers could get more yield under mechanised method. “Yield will be 20 per cent to 25 per cent more per an acre than under the traditional method,” he said.

He said that the department was promoting MO 4, Jaya and MTU 1001 varieties in Dakshina Kannada. Mr. Gowda said that 33,000 hectares were available for paddy cultivation in Dakshina Kannada and 2,800 tonnes of fertilizer were in stock. He said that the department organised a three-day training last week for staff in its “custom hire centres” on how to reach farmers and prompt them to go for the ‘mat nursery’ method. As many as 23 staff participated in it.

Onion farmers hoping for bumper harvest

Farmers in and around Tiruchi and Perambalur have taken up onion cultivation, particularly the “chinna vengayam” during the current “vaikasi pattam” taking due advantage of summer showers.

Farmers were confident that, if the monsoon sets on time, they would realise bumper harvest.

A farmer of Maniampatti village near Peramangalam on the Tiruchi-Thuraiyur highway says he had cultivated “chinna vengayam” on about 40 cents of the land. He was confident of registering 30 bags each of 50 kg at the end of the season which lasts 70 days. He said that the recent summer showers has facilitated the onion cultivation. He had adopted drip irrigation system in his fields to ensuring maximum utilisation of available water.

Explaining the advantages of the drip irrigation techniques, it facilitated not only maximum utilisation of water but eased the process of clearing the weeds.

Agriculture Department officials said that the “chinna vengayam” crop needed adequate rain after 15 days from the date of sowing the seeds. Further, the absence of showers beyond 50 days would bring about a higher yield.

It will be a gold mine for farmers

Balvinder Kumar, DDA Vice-Chairman, on why the Land Pooling Policy could add a Midas touch to farmers’ land.

Why should farmers, who are the primary owners of land, surrender it? How does the DDA plan to overcome initial apprehensions?

The land, which will be returned to farmers, will be like a gold mine as they would get fully-developed residential pockets that they can later sell. They can even enter into an agreement with the developer, which could facilitate them for selling the residential units.

Don’t you think the External Development Charge (EDC) will deter people from surrendering plots?

Not at all. It is because of this that we have included the provision of waiving off EDC in lieu of 8 per cent of the developed residential land. Surprisingly, people in the five zones under the policy are aware of existing prices. We are charging an EDC of Rs.1 crore for 1 acre of land, which comes to around Rs.2,500 per square feet. Such rates in Delhi are very cheap and they are aware of it.

How do you connect the policy with the Smart City concept?

Delhi as a whole will be one smart city and the policy will create a bunch of smart sub-cities. The DDA is supposed to provide basic infrastructure in these areas and each aspect of it will be designed on the basis of Smart City norms. For this, we have even appointed JLL, which is advising us on appointing project management consultants. Ensuring 24x7 water supply is going to be an issue, but we are working on alternatives like recycling grey water.

Rain gun boosts fodder cultivation

Subsidy of Rs.18, 750 offered for each rain gun which costs Rs.25,000



A fodder farm irrigated with rain gun at koolinayakanur in Karur district.—
Photo: A.Muralitharan

Rain gun, a micro irrigation tool, has come as boon to farmers to increase fodder cover in the rain shadow Karur district.

The district hardly has any dedicated area for growing fodder as the farmers are used to open field grazing. However, the idea has slowly but steadily made inroads in the hinterlands of Karur.

The farmers, who came across reports of fodder farms, have shown interest in growing fodder in their lands. Several of them have approached their respective officers at the veterinary hospitals for getting the rain guns sanctioned under the scheme.

More than 200 acres of land with facilities for irrigation using rain gun have been brought under fodder cultivation. So far, 70 farmers have received rain gun with 75 per cent subsidy. The government offers a subsidy of Rs.18, 750 for every rain gun which costs Rs.25,000.

“I prefer rain gun for irrigating fodder field as it saves water to a great extent. It saves energy as well,” says V.Pommuraj of Koolinayakanur.

“The interest in using rain guns for fodder cultivation is catching up among farmers. The authorities have been asked to make use of the opportunity to bring more farmers under fodder cultivation,” says S.Jayandhi, Collector.

M.Ramanathan, Joint Director, Animal Husbandry, Karur, said in addition to rain gun and assistance for irrigating fodder cultivation, 1,500 acres of rain-fed area have also been brought under fodder cultivation. In 2014-15 alone, as many as 5,000 farmers have availed the State Fodder Development Scheme (SFDS) to cultivate fodder in their fields.

N.Kulanthaisamy, Assistant Director, Animal Husbandry, said that a sum to the tune of Rs.70 lakh had been distributed to the farmers under the State Fodder Development Scheme in 2014-15.

Fish prices remain high long after 45-day ban

Owing to dwindling fish catch, adverse weather



Waiting for the bounty:Mechanised boats anchored in Tuticorin fishing harbour.— FILE PHOTO

Even after the 45-day annual ban was lifted and fishing by mechanised boats resumed from May 30, prices of fish have not come down.

Even prices at stalls run by Tamil Nadu Fisheries Development Corporation (TNFDC), which used to sell fish at reasonable prices against high prices fixed by vendors at the fish market and the roadside, are high now.

TNFDC sources said that since they procured fish from merchants, the prices had to be kept high, though the profit margin was thin. They attributed the high prices to dwindling fish catch.

TNFDC sources said that a kilo of 'seela' (barracuda) was selling for Rs.900; 'Oola' for Rs. 400; 'vila' for Rs.380; 'vaaval' (pomfret) for Rs. 750 to Rs. 1,200; and prawns for Rs. 380. 'Kelangan,' which used to be sold for Rs.220, was being sold at Rs.300; 'nethili' (anchovy) was sold at Rs.250 (Rs.180); and squid at Rs. 200 (Rs.180).

Unfavourable

F. Robert Villavarayar, former president, Country Craft Fishermen Association, Threspuram, said that fishing season should be at its peak now, but weather conditions, the key factor for fishing, was adverse this year. Lack of winds had also led to a decline in fish catch. When the turbid sea got cleared by the winds and water current, it would be conducive for fishing.

Besides, delayed onset of monsoon in Kerala did not auger well for fishing. Out of the 900 country boats in Threspuram, only 600 had been venturing into sea, he said. S. Xavier Vas, president, Tuticorin Mechanised Boat Owners' Association, said that by selling the meagre catch, they could meet only the expenses they incurred for buying diesel. With the enforcement of annual fishing ban along the west coast now, traders from Kerala were procuring fish from Tuticorin coast, leading to high price of fish in the local market, he said.

'Pre-monsoon shower will fetch a good catch'

Fishermen hope that the recent pre-monsoon shower and extended ban period will fetch them a good catch. "We have utilised the ban period to overhaul our boats. We are banking on the pre-monsoon showers and the extension of the ban period. We are hopeful for a good catch this season," said Ch. Satyanarayana Murthy, a boat owner.



THE TIMES OF INDIA

ICAR scheme sees farmers take up multi-crop farming

A one-hectare plot of cultivable land in Bhars, Canacona, has been converted into a multi-crop unit with cashew, mango, guava, turmeric and other crops being raised under an integrated farming scheme.

Farmers in the hinterland hamlet on Canacona-Sanguem border are witnessing a pleasant change, as Indian council of agricultural research (ICAR) Old Goa complex has adopted the area under the tribal sub-plan to implement its integrated farming system model aimed at raising farm yield and profits.

"A total of 42 farmers under Taleshir farmers self help group have started community cultivation recently with the help of ICAR scientists," Dhillon Velip, consultant of the unit, said.

The farmers have planted different and better varieties of 150 cashew and mango saplings each, two varieties of guava, lime, pineapple and other crops. "The farmers harvested six tonnes of turmeric on Thursday as part of the scheme," Velip said. "ICAR has purchased part of the harvested material of turmeric under a buy back arrangement and given it to 25 farmers in Cotigao for planting," N P Singh, director, ICAR, Old Goa complex said.

Irrigation facilities have been upgraded with ICAR's help while electricity connection to facilitate farming will be provided soon.

ICAR scientists first tried a model of rice-based farming system (crop-livestock-mushroom) on 0.7 ha area at its Old Goa farm.

"Different enterprises of the model are crops - rice followed by sweetcorn, brinjal, groundnut, cowpea in 0.4 ha, fodder grown on bunds - 0.032 ha, dairy in 24 sqm, mushroom in 21 sqm, vermicomposting (10 m²), kitchen garden (80 m²) and others," Gopal Mahajan, soil scientist, ICAR.

The Old Goa model yielded a net return of 1.17 lakh in a year, excluding cost of farm employment and products recycled within the system.

"This helps in increasing productivity and profitability and reducing cost through recycling of waste. It also helps reduce malnutrition by means of producing a variety of food products round the year," Mahajan said.

‘No pesticide tests on veggies coming into markets daily’

An average of 3,000 tonnes of vegetables and 1,800 tonnes of fruits arrive daily at the Koyambedu wholesale market from neighbouring districts and states like Andhra Pradesh and Karnataka but there are few checks to ensure these are safe for human consumption, warn experts.

As no government agency takes samples from the market to check the pesticide levels, customers could be exposed to high risks, they caution. The food safety department, so far, has done checks only on artificially ripened mangoes in the wholesale market. There are no checks even at the retail outlets where the vegetables end up.

Consumer activist T Sadagopan said there had been an increase in the use of pesticides in vegetables and fruits over the past few years and that government had failed to create awareness among farmers, traders and customers about their ill-effects. "Only regular inspections and testing samples can instill fear among traders," he said. There should be good coordination among agencies like food safety department, agriculture department, horticulture department and the city corporation to ensure that food consumed is safe, he said.

While cabbage, cauliflowers and tomato plants are sprayed with pesticide the most, mangoes are ripened using calcium carbide, water melons are injected with erythrosine and highly concentrated chemicals are used on grapes and bananas.

Many traders bristle at being accused of involvement in such unfair practices. Former Koyambedu market management committee member V R Soundararajan even alleges that there is a conspiracy against traders. "There seems to be a hidden agenda to reduce vegetable prices because of the huge demand in summer. Traders cannot do anything if a few farmers use harmful pesticides," he said.

There are few alternatives, many customers complain. "Organic vegetables and fruits are unaffordable to the common man. And, there is no assurance that these are actually organic. It's unfortunate that there are no proper ways to ensure our vegetables are safe for consumption," said K Malathy, a homemaker in T Nagar.

A food safety official admitted that they were unable to keep an eye on all vegetables and fruits coming to the city. "Some loads arrive in the wee hours. We can only collect random samples for testing. We have decided to intensify raids with the help of the agricultural department," he said. A senior corporation official said they would soon write to the food safety commission for more raids. "The food safety department alone cannot conduct regular raids because of staff shortage."

Doctors say the prolonged consumption of vegetables sprayed with pesticides can weaken muscles, impact the digestive system and harm the nervous system as well.

[Nabard brings variety of mangoes to Bhubaneswar](#)

Mango lovers in the city have a sumptuous treat this year at the four-day mango festival organized by National Bank for Agriculture and Rural Development (Nabard) here.

Mangoes such as Amrapali, Baiganpalli, Totapuri, Alphonso, Lengda, Dusseheri, Sundari, Subarnarekha, Himsagar, Mallika and Neelam brought by tribal farmers assisted under the wadi (small orchard) project of Nabard are on display.

Tribal farmers from Mayurbhanj, Malkangiri, Kandhamal, Nuapada, Kalahandi, Gajapati, Rayagada, Keonjhar, Koraput, Nayagarh, Sambalpur, Sundergarh and Nabarangpur districts have come with their produce for the exhibition-cum-sale.

"Nabard provides loans to tribal and poor families through voluntary organizations to set up small orchards. The project has boosted their earnings," said CGM of Nabard S K Kale.

The bank is implementing 47 wadi projects in 17 tribal dominated districts

of the state spread over 35,560 acres of the tribal land covering more than 42,000 tribal families since 2005.

"The wadi model of tribal development is holistic in approach addressing production, processing and marketing of produce and also other livelihood activities," Kale added.

NABARD organised this mango festival for the first time in the city and is planning to do it in a bigger way from next year. The festival has aimed to provide an opportunity to the tribal families to exhibit and sell their horticulture and farm produce and interact with senior government functionaries and bankers, official sources said.

Besides, other tribal produce like onion, pineapple, spices, turmeric, herbal tea, herbal medicine, honey, broom, cashew are also be available for sale.

Rough weather in '14 pushes up dal prices

Prices of the country's staple foodgrain — pulses — have been on a steady rise over the past year. Now, the price of 'tur' or pigeon peas has gone up by around 50% and urad or black gram by over 70%. Wholesale and retail prices have shot up simultaneously.

Experts attributed the increase to not just the drop in production of pulses in 2014-15 in India due to inclement weather such as recurring hailstorms, unseasonal rain and rainfall deficiency, but also due to the pulses' crop failing in countries such as Myanmar, a major exporter of pulses to India.

The production of pulses in India in 2014-15 came down to 17,380 thousand tonne from 2012-13's yield of 18,343 thousand tonne, as per rough estimates. In Maharashtra, production of Kharif pulses came down by around 61% in 2014-15 and around 17% in case of Rabi pulses, as per third advance estimates from the state agricultural department.

A recent report by the department of agriculture and cooperation stated that there has been a moderate to high price fluctuation for lentil (Masur Dal) in the domestic as well as in the international markets between April 2012 to April 2015. The report said that the average domestic price of lentil has been moderately high in 2015.

The report further revealed that the domestic prices for 'tur' or 'arhar dal' have been higher than that of international prices for over the last two years up to February 2015.

V N Saroja, chief executive officer of Agriwatch, an agribusiness information, research and consulting firm, said that India has not been able to increase its production of pulses in a long time. "The demand for pulses in India, however, has been increasing steadily. Over the years, different countries have started growing pulses particularly for exporting to India, such as Mozambique, Myanmar, Malawi and Tanzania to some extent. India in fact is the largest producer, consumer and importer of pulses," said Saroja.

Saroja said that in the current season, the pulses' crop failing in Myanmar has created additional shortage of this category of foodgrain in India. India's own production of pulses in 2014-15 suffered due to various weather extremities such as hailstorms, unseasonal rainfall and a deficient monsoon. "Normally, even if our production is on the lower side, it is compensated with pulses' imports. In the current season, however, not only our production but that of Myanmar was also on the lower side, ultimately pushing up the prices of pulses in the country," she said.

According to estimates from Agriwatch, the demand for pulses in India per year is about 30 million tonne. India's own pulses' production is about 18 million tonne per year, while its imports of pulses are about four million tonne in a year.

Closer home, an Agriculture Produce Marketing Committee (APMC) official in Pune said that in early part of 2014, 'dals' in general cost around Rs 60 to Rs 70 per kg in the wholesale market. Its price in 2015 has gone over Rs 100 per kg. "In the Pune market, the arrival of pulses have fallen by about 30% in the current year as compared to the past," the official said.

G R Mitkari, a pulses wholesaler in Pune's Market Yard, said there has been a rise in the prices of black gram dal and pigeon peas in particular. "Three months ago, pigeon peas in the wholesale market cost around Rs 70 per kg. Now, it has gone up to Rs 105, while black gram dal has gone from Rs 75 per kg to Rs 110. Even wholesale prices of split Bengal gram dal have gone up in the last two months from Rs 45 per kg to Rs 60. As the prices have risen, traders and wholesalers have started hoarding, creating a shortage of pulses in the market," he said.

Another APMC official said that pulses' arrivals in the market have been lesser than usual due to inclement weather last fiscal, which resulted in a crop damage. "With monsoon rains in the coming months, we expect prices of pulses to stabilize," he said.

Pesticide control in India: 3 agencies but no action

For a country that consumes one of the largest amounts of pesticides in the world, the level of regulation is woeful. While there is no dearth of government agencies to regulate use of pesticides in the country, what is absent is action on the ground.

There are three government agencies that function under three different ministries to control and regulate pesticide usage in India. However, there is very little coordination among the three agencies, allege activists.

While Central Insecticides Board and Registration Committee (CIBRC), functioning under the Union agriculture ministry, approves introduction of new pesticides, officials from Food Safety and Standards Authority of India (FSSAI), under Union health and family welfare ministry, are responsible for checking the maximum residual level (MRL) of pesticides in food crops at the end level.

The third agency, Agricultural and Processed Food Products Export Development Authority (APEDA), under Union ministry of commerce and Industry, sets the guidelines and standards for certifying organic farms.

CHEMICAL TRAP

NEWSICLE

PESTICIDES THAT ARE BANNED OR SEVERELY RESTRICTED IN MOST PARTS OF THE WORLD ARE EXTENSIVELY USED IN INDIA. WE DO NOT HAVE A CLEAR-CUT SYSTEM TO ENSURE THAT THEY ARE MANAGED IN A SOUND MANNER SO THAT THEY POSE ONLY LIMITED RISK TO HEALTH

CARBOFURAN

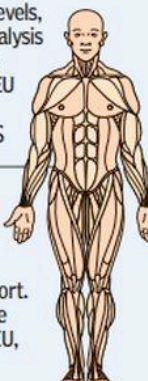
Carbofuran is one of the most dangerous pesticides and is most often marketed under the trade names Furadan and Curater. It is extremely toxic to birds, fish, and bees. Chronic exposure can damage the nervous and reproductive systems. It is banned in the US, Canada and European Union



ATRAZINE

This chemical remains one of the most widely used herbicides. Atrazine is an endocrine disruptor. Studies link low-level exposure to birth defects, delayed puberty and infertility. Higher cancer risk and environmental toxicity are also of concern. It is banned in the European Union

"While CIBRC gives approval to pesticides without hesitation, FSSAI's norms on permissible level of pesticides are not supported by any scientific base," said Kavitha Kuruganthi from Alliance for Sustainable and Holistic Agriculture.

India does not just lack a system to manage pesticides in a sound manner, it also allows the sale and usage of highly toxic pesticides banned in several countries. DDT is known for the danger it poses, but India still continues to produce it. Endosulfan was banned only in 2011 after the Supreme Court intervened.

<p>CHLORPYRIFOS</p> <p>It is used to kill insect pests by disrupting their nervous system. Chlorpyrifos is one of the leading causes of acute insecticide poisoning in the US. It can interfere with the brain development of fetuses and children. It can cause nausea, dizziness and confusion, respiratory paralysis and death. Banned for domestic use in the US</p>	<p>PHORATE</p> <p>Phorate is a powerful pesticide and considered an 'extremely hazardous' chemical by the WHO. Small amounts of phorate can cause nausea, confusion, dizziness and at very high exposure levels, respiratory paralysis and death. It is banned in the EU and used with restrictions in US</p>
<p>MONOCROTOPHOS</p> <p>Despite being labelled highly hazardous by WHO, out of patent monocrotophos is widely used and easily available in India. It affects the respiratory system and causes chest discomfort. Severe poisoning will affect the central nervous system and cause paralysis of the body. It is banned in Australia, Cambodia, China, EU, Indonesia, Laos, Philippines, Sri Lanka, Thailand, US and Vietnam</p>	



Also, there is no control over sale of pesticides at the retail level. "In India, pesticide dosage depends on how much the farmer can afford. Given the extent of farming, it is impossible for any ministry to regulate pesticide consumption at the end level," said former director at Central Food Technological Research Institute V Prakash.

Officials at the department of food safety and drug administration in Tamil Nadu say they are doing their bit to ensure pesticides do not reach the consumers. However, their annual report for 2013-14 and 2014-15 did not list any checks on raw vegetables.

Since pesticides are organic, they are soluble in lipids and not in water. "As a result, they accumulate in the body as we do not have a mechanism to excrete them," said ecologist V Arun.

Some activists suggest banning is the best way forward to tackle the growing unregulated pesticide consumption in the country. "Regulating pesticides is almost impossible," said Kuruganthi.

Bad weather: Peas, beans rates double in one week

Retail prices of french beans, green peas and beans have skyrocketed since last week as unseasonal rains and hailstorm in March followed by drought in April and May had damaged crops.

While retail price of beans has doubled from Rs 90/kg to Rs 180 compared to last week, peas and french beans are being retailed at Rs 140 and Rs 200 respectively compared to Rs 80 and Rs 150 last week.

Last June, peas, beans and French beans were retailed Rs 100, Rs 90 and Rs 100/ kg respectively.

On Sunday, wholesale prices of green peas, beans and French beans were Rs 100, Rs 110 and Rs 120/kg respectively.

However, retail prices of essential staples, such as green chillies, ginger and tomato, remained the same as in May—green chillies and ginger are both priced at Rs 100/kg and tomatoes cost Rs 40/kg.

Wholesale trader Balasaheb Bondle told TOI, "Supply of French beans and beans have stopped from produce areas such as Nashik, Baramati, Pune and Satara due to unseasonal rain and drought. Mahabaleshwar is the only place from where the present crop is arriving, but the quantity is insufficient. Till the new crop arrives, prices are expected to remain high."

Other vegetables, such as cauliflower, cabbage and lady's finger, are being sold at Rs 80/kg.

"This entire season we've had to pay such high prices for vegetables. The government had failed to stabilize the price index," said Shanti Iyenger, a homemaker.

Monsoon delayed in Maharashtra, sowing on in rest of peninsula



The monsoon has been delayed by five-six days over Maharashtra and adjoining parts of peninsula.

The normal date of onset here is June 10 to 15, said N. Chattopadhyay, Deputy Director-General of Meteorology (Agricultural Meteorology), India Met Department, Pune.

MONSOON UPDATE

On Sunday, monsoon has reached south Gujarat, remaining parts of Konkan, north interior Karnataka, Rayalaseema, entire Telangana, most of coastal Andhra Pradesh, Madhya Maharashtra, Marathawada, parts of Vidarbha, Chhattisgarh and south Odisha.

The extended range forecast suggests that there is likelihood of increase of rainfall over northern parts of west coast during the ongoing week ending June 18.

The other rain belts of the week will be southeastern coastal regions including parts of central India and also Northeast India.

TREND SO FAR

During second week (June 19-25), rainfall belt is likely to move northwards covering some more parts of central India.

Normal or above normal rainfall has occurred during last two weeks in Tamil Nadu, interior Karnataka, Andhra Pradesh, Telangana, Madhya Maharashtra, Vidarbha, Chhattisgarh, Arunachal Pradesh, Assam, Meghalaya, sub-Himalayan West Bengal, Sikkim, West Rajasthan, Punjab and Jammu and Kashmir.

Normal or above normal rainfall occurred in either of the last two weeks in Saurashtra and Kutch. It was below normal rainfall over rest of the country during the last two weeks.

SOWING/CROP UPDATE

Kerala: transplanting of virippu rice. In upland areas, direct sowing of virippu rice, planting of banana.

North-Eastern States: Plenty of rainfall has allowed all operations i.e. nursery bed preparation/main field preparation for sowing of rice, groundnut and other crops.

Rice nurseries are likely to be affected in Sonitpur, Darrang and Lakhimpur districts of Assam due to flood.

Farmers are advised to stop nursery bed preparation of sali/kharif rice and sowing of green gram and black gram crop and drain out excess water from rice nursery field.

In affected areas, resowing of rice nursery and direct sowing of rice may be continued after cessation of rain and receding of flood water.

Coastal Karnataka: Sowing of finger millet (ragi) and rice.

South Interior Karnataka: Sowing of rice, ragi and red gram.

North Interior Karnataka: Sowing of kharif moong, black gram, groundnut, sunflower, maize, Bt. cotton, bajra.

Telangana: Sowing of kharif cotton, maize, groundnut, jowar, soybean and pulses.

Konkan and Goa: Sowing of rice and ragi.

Madhya Maharashtra: Nursery sowing and transplanting of kharif rice in Kolhapur region, Western Ghat region (Nashik) and Pune (western parts) and sowing of kharif jowar, soybean, cotton, green gram, black gram, redgram and sunflower.

PICK-UP OF WINDS

Naveen Mathur, Associate Director-Commodities and Currencies, Angel Broking, said that westerly monsoon winds should pick up speed given that the disruptive cyclonic storm 'Ashobaa' has dissipated.

Scattered rains are being observed in Telangana, Odisha, Chhattisgarh, east Madhya Pradesh and isolated rainfall activity is being observed over Gujarat and Rajasthan.

In South Interior Karnataka, land preparation is going on for sowing of kharif red gram, groundnut, maize and sunflower.

In Madhya Maharashtra, Marathwada and Vidarbha, conditions are ideal for sowing of kharif soybean, cotton, jowar, green gram, sunflower and redgram.

In Andhra Pradesh, sowing has started for irrigated cotton, okra and cluster beans and land preparation for irrigated groundnut, castor and maize in the scarce rainfall zone.

Land preparation for sowing of maize, pulses and cotton should continue the in Krishna-Godavari zone.

In West Bengal, land preparation for sowing of soyabean is on in the hill zone after current spells of heavy rain.

West Bengal govt to take over Mother Dairy project in Bengal; rebrand it Bengal Dairy



Ashoke Chakrabarty The state unit of Mother Dairy will be taken over by West Bengal Government as per a Cabinet decision taken on Friday. The organisation will be renamed as Bengal Dairy and will be run as a state own enterprise.

The West Bengal Government has decided to take over the Bengal unit of Mother Dairy and re-brand it as a government enterprise.

According to a decision by the State Cabinet, the enterprise will be re-branded as Bengal Dairy and run as a "state-owned enterprise." All Mother Dairy employees will be considered as State government employees.

“State Cabinet decides that Mother Dairy, which was earlier a project, will become a Govt Enterprise, the name will be changed to Bengal Dairy,” the party said on Twitter.

Mother Dairy was being run in the State as a part of the “Operation Flood” project taken up the National Dairy Development Board (NDDB) in the 1970s.

While over the years, various State governments moved out of the project and started having their own set-ups; West Bengal continued with the “Mother Dairy” brand and the project.

Blenders’ demand heats up tea prices at Kochi auction

A better demand noticed from blenders resulted in value appreciation for good liquoring teas in Kochi auctions this week.

The market for this particular tea variety was steady to firm and sometimes dearer. The same trend was replicated in CTC leaf market with good liquoring teas appreciating by ₹2 to ₹3 and sometimes more.

The auctions also witnessed increased arrivals vis-à-vis last week with CTC dust quoting 12,98,000 kg in sale no 24.

There was value appreciation for Grainier varieties following export enquiry. Major blenders continued to be active along with regional blenders, the auctioneers Forbes, Ewart & Figgis said.

However, in Orthodox dust the market was lower at ₹3 to ₹5 and also witnessed heavy withdrawals. The quantity on offer was 18,000 kg. Exporters absorbed a small quantity sold.

In Cochin CTC dust quotation, good varieties fetched ₹93-134, mediums quoted ₹65-96 and plain grades stood at ₹53-65.

In leaf sales, the quantity on offer in orthodox was 184,000 kg, showing an increase compared to last week. The market for select best highgrown brokens, whole leaf was steady to firm and sometimes dearer. Others were irregular and tended to ease.

With a good demand, the quantity on offer in CTC leaf was 66,000 kg.

In dust category, Monica SFD quoted the best prices of ₹134 followed by both Sholayar SRD and Waterfall SFD at ₹131 each. In leaf grades, Chamraj FOP-Sup Green tea fetched the best price of ₹331 followed by P’s Woodlands Hyson Green tea at ₹290.

Basmati exports to Iran will pick up after October



First quarter numbers for basmati rice exports to Iran – the biggest buyer, accounting for a fourth of sales overseas – are yet to be released, but industry sources say that volumes are likely to pick up only after October even if issuance of import permits may be undertaken from July.

Policy hassles

The current delays are due to the Iranian government’s policy of Indian units and exporters being required to be registered with the Teheran’s Health and Medical Education Ministry. The process can only be initiated by an Iranian importer, who has to furnish a list of intended exporters.

“The main factor is the initiation of a new process which requires Indian mills to be assessed for good manufacturing practices. They will be eligible to export to Iran and it’s a slow process, since few units have got themselves registered so far,” said R Sundaresan, Executive Director, All India Rice Exporters’ Association (AIREA).

“Exports to Iran are on, but not at the same quantity or speed as the same time last year. We expect sales to pick up after October, since their own produce is available currently,” he added.

While there is no guarantee of basmati sales gathering pace, the issuing of import licenses should begin next month.

“A resumption of issuing import permits will take place after Ramadan, which is in July,” said AK Gupta, Director, Basmati Export Development Foundation, APEDA.

Iran stopped issuing authorisations last October which saw India’s basmati rice exports slide from \$1.4 billion in 2013-14 to \$600 million last fiscal.

By volume, exports fell from 1.44 million tonnes (mt) to 0.94 mt over the same period.

Importer cartel

Agriculture Minister Radha Mohan Singh met with his Iranian counterpart Mahmoud Hojjati on the sidelines of the UN’s Food and Agriculture Organisation conference in Rome earlier this week to enhance agri-cooperation and increase farm trade.

Some domestic millers alleged that political intervention in granting these import permits is partly responsible for dragging basmati prices down to around \$1,000/tonne from \$1,400-1,500/tonne during the same period a year ago.

“A syndicate has been created in Iran on the pretext that it’s easier to monitor quality of Indian basmati. There are 5-10 importers who work with a few exporters from here. It’s skewing the market in favour of the buyer and driving prices down,” said Vijay Setia, Executive Director, Maharani Rice, told *BusinessLine*.

The process of selling basmati on a loan-basis under a clean direct-advance (DA) system needed to be corrected as well, he said. “It’s a matter of judgment, once you have a system of import permits, how many people will get them and the number issued is up to the Iran government since it’s their system,” said Gupta.

Prices dip

With the acreage under Basmati expected to rise 5 per cent this year in the country against 2.1 million hectares coverage last year, prices could come under further pressure.

“The association has no confirmed reports of a cartel operating in Iran. Prices are lower mainly due to huge production of 8.1 mt last year, up from 6 mt the year before and there’s a lot available at the moment,” said Sundaresan.

Monsoon enters Mumbai; heavy rain likely for West Coast next week



The onset of monsoon over Mumbai is delayed by two days but most weather models indicated sustained rainfall for the west coast, including the metropolis, next week.

The weakening of cyclone ‘Ashobaa’ off Oman on Friday saw the monsoon make fresh surge along the West Coast to enter Mumbai and parts of Madhya Maharashtra.

The onset over Mumbai is delayed by two days but most weather models indicated sustained rainfall for the west coast, including the metropolis, next week.

A helpful offshore trough will likely come into place by then.

An elongated area of low pressure, the trough will receive the flows before directing them into the Western Ghats.

Scaling up

Here they are lifted up, get cooled, and are precipitated as heavy rain.

The European Centre for Medium-Range Weather Forecasts has predicted formation of a low-pressure area off the Andhra Pradesh-Odisha coast by Thursday.

In tandem with the offshore trough along the west coast, this will help drive the monsoon to peak form across peninsular India and parts of adjoining central India.

A 'low' forming in the Bay of Bengal is the best bit of news since it holds up the Bay of Bengal arm of the monsoon ensuring rain for the farming heartland of the country.

Less over coast

Statistics until June 10 suggested that in areas covered already by the monsoon, rain was deficient along the west coast, excess over Tamil Nadu and coastal Andhra Pradesh, and normal in rest of peninsula.

The European centre said that entire Maharashtra, Telangana, Andhra Pradesh, and north interior Karnataka and parts of northern Tamil Nadu may get moderate to heavy rainfall next week.

According to the Indian Institute of Tropical Meteorology, the monsoon is likely to enter central India by June 25.

It will cover almost the entire country except the north-west India by June-end.

The US Climate Prediction Centre too agrees with this outlook.

It has forecast heavy rain for the west coast two weeks starting Friday and going until June 25.

Rain for east

Mumbai, western parts of Maharashtra, west Madhya Pradesh, Rayalaseema, Telangana, south interior Karnataka and Kerala are expected to come under a wet spell during the first week (June 12-18).

The week that follows will see rain sustaining at many of these areas and also extending over central and adjoining east India.

India Met Department has said that Bihar, Jharkhand and Odisha would witness rain/thundershowers by end of next week.

Thundershowers are also forecast for isolated places in plains of northwest India and adjoining hills.