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Farmyard fairytales



GIRISH KRISHNAMURTHY

Support manager in an IT firm

Farms at: Rocky Ridge Farm, Denkanikottai, Tamil Nadu (about two hours from Bengaluru)

I bought this 15-acre abandoned mango orchard in 2007 as an investment when real estate in Bengaluru plateaued. When we started cleaning it up with an intention of selling it some time ago, I heard of an organic farming course run by ISKCON and enrolled and came across like-minded people -- some who had succeeded, some who had failed -- at it. But that motivated me to set up the farm as a self-sustaining venture.

A farmer's family from the village had moved to a nearby town -- I set them up on the farm. I trained myself, and then them, in organic farming. I wanted my land looked after and they got a steady revenue stream too. We struggled in the initial phase -- there was no consistency -- and whatever little we grew, we sold off in the local market.

Later I adopted natural farming practices as propounded by Subhash Palekar, which believes in multi-cropping, is low on labour, uses Jivamrit catalyst for in-situ manuring. Right from 2008 I had applied for organic certifications.

We renew it every year. I have supplied vegetables and fruits to three organic stores in south Bengaluru but it proved to be a logistical challenge in terms of transport; and I had a full-time job so couldn't give it attention. Finally Lumiere Organic Restaurant near Marathahalli offered to pick up vegetables from our farm.

This farm is not a money-making venture. It's a learning experience. My kid loves going there, and that's something I cherish. Instead of spending on a grand vacation every year, we go to the farm every weekend.

SHIRLEY PERIES

Clinical psychologist

Farms at: Brindavana Community Farming, Bannerghatta Road (11 kms. from her home in J.P. Nagar)

We are about eight people, who have rented small plots from a farmer to do our own organic farming; we started in January 2014. This rental community farming started as a break-off from the larger Organic Terrace Gardening Group on Facebook. It's a two-acre farm, which we've split into 1,000 sq. ft. plots. We're all connected on a Whatsapp group. Most of us visit the farm on weekends, though some, who live close by, go even during the week.

I've been a balcony gardener, growing fruits and vegetables. I wanted to grow more and work towards a bigger goal of sustainability. Growing in pots and then learning to grow on land is such a different ballgame altogether. You have to understand the seasons, soil, figure out what to do for pests; container gardening is so much more controlled. When the pump fails, we run dry. We get a closer experience of what a farmer goes through and you have a deeper appreciation of how your food comes to the table. We have a like-minded and supportive owner who backs our organic initiative and responds quickly when we have issues. We have an appointed caretaker who de-weeds, waters and acts as security. We all pool in to pay him.

We grow almost all varieties of fruits and vegetables between us. We also do "bartering" among ourselves -- sharing and exchanging excess produce is a regular feature. We have recently started growing thuar dal as an experiment.

This farming initiative has been a great experience for us as a family and specially enriching for children. My kids, aged 10 and seven , recognise birds by their calls, play with earthworms, and get to climb trees regularly. Generally people go to malls to entertain themselves on weekends. Instead, this, I feel, is a great outlet and release, and a great connect with nature.

LAXMINARAYAN S.

Works in the software industry

Farms at: Bettada Budadha Thota, Malavalli, over 70 kilometres from Bengaluru

We are a group of 11 like-minded friends, who bought land as a shared investment, and are growing everything our families might consume on a 20-acre organic farm. It works like an apartment association! We all contribute every month to pay the labourers. None of us do this full-time, because it is not viable. Many of us are in the software industry and go to the farm when time permits.

Our aim is to grow local dry land crops, and slowly bring about a change in lifestyle by consuming this nutrient rich local food. This year we are growing ragi and millets, in addition to vegetables, groundnuts, and fruits. I am personally looking at living on a farm full-time in the future, in a sustainable manner, and making small-scale farming viable for everyone to hopefully follow.

Water and power are challenges. We have created bund and tanks, and practise rain water harvesting. We are researching solar power to pump water.

I spend a minimum of two days every week on the farm, but it doesn't always happen. Some of us manage to go more often, some others visit once in two weeks or once a month. At the end of the day, the venture works because everything depends on trust in the group.

H.R. JAYARAM

Lawyer turned full-time farmer/organic hotel owner

Farms at: Sukrushi Organic Farm, Marasarahalli, 6 kms. from Nelamangala
I'm a farmer by birth, and by default, our farm is in my village, where my father at 86 still ploughs the land, that's the only way of life I have seen. I came to Bengaluru, became a lawyer, made my money, and decided to go back to being a farmer. I've almost quit my legal practise. Life in Bengaluru is not good – it's all artificial. I strongly believe organic is the only way forward. If only our farmers turned organic, they would hardly incur any farming costs, wouldn't be in debt, and wouldn't commit suicide.

On my farm, Sukrushi, started 18-years-ago on barren land, I grow fruits, vegetables. In Coorg I have another farm where I grow organic paddy and coffee.

My farm is run entirely on rain water – we are a “no borewell” model and have been awarded for this initiative. One day's rain is enough for about 20 days of watering on the farm; we save every drop. I also adopt the “food forest” model of growing, where we do tree-based agriculture — it's also called multi-storey farming – it allows for mulching. Everything gets generated on the farm – from manure to pesticide, naturally. I have trained the 15 people, who work on my 40-acre farm. I opened Era Organics earlier in Dollars Colony. Now in Malleswaram I run The Green Path, which has an organic shop, an organic detox café, an eco-hotel, and will soon have a full-fledged restaurant.

FARMS for the future

Meet Sriram, an entrepreneur, who grows sustainable gardens for a living. He also helps people set up their own.

Did you know that plants can grow without water or that fish play a role as nutritional agents for plants?

Ask Sriram Gopal of Future Farms, Chennai. He has developed and implemented an urban, soil-less, alternative farming system to grow food that is not only healthy and organic, but is also financially rewarding.

“I picked up the concept of urban farming which makes use of agriculture and technology,” says Sriram.

Matter of sustainability

Future Farms stemmed out of a desire to grow fruits and vegetables in an urban environment — at home, in communities, in constrained spaces by saving water, optimising space, and increasing yield without adverse effect on the environment or the consumer.



Hydroponics is the art of growing vegetables without soil. Aquaponics uses the nutrition from fish to sustain and grow plants.

“The Hanging Gardens of Babylon is an example of this type of farming. Water gets rotated using pressure, and it flows through the rocks making the plants grow. Having applied the science, it was only a matter of using the right technology,” he adds.

With a team of engineers, Sriram decided to create a space to cultivate. Thousands of plants can be grown in minimum space. “All one needs to do is add water soluble fertilizer or you could switch to aquaponics, where fish excreta mixes with the bacteria to provide nutrition to the plants,” says Sriram.

“At Future Farms, we make use of indigenous technology. We import only fish food and the water soluble fertilizer,” Sriram adds.

His day begins early. He needs to monitor crop conditions thrice a day besides harvesting and planting. He has developed apps that can monitor the farm and control water pressure even while sitting miles away.

“The advantage of vertical farming is that it gives you scope to grow more despite space constraints. We have start-up kits for beginners and modules to help you grow your own food. We also have open sessions over the weekends to talk about green revolution. It would seem like a packed day, but it’s something I enjoy and it gives me immense satisfaction to know that Future Farms is one among those who have initiated change.”

Nine new species of wild mushrooms discovered in India



*Among the species discovered *Canthrellus sikkimensis* is edible. This species is tall and slim and interestingly is being consumed by locals.*

Eastern Himalayas, particularly the small mountain state of Sikkim, is emerging as a treasure trove for botanists, mycologists and naturalists who in the year 2015 alone have discovered as many as nine species of wild mushrooms (belonging to kingdom fungi) of which at least one species is highly appreciated and consumed by the locals.

Scientists from the Botanical Survey of India (BSI) have found these species from North Sikkim particularly in the subalpine region dominated by coniferous trees. Of these nine species, four belong to the genus *Lactarius*,

whose characteristics are that they exude latex in large quantity and are commonly known as milk-caps.

“These new species of fungi are mushrooms, seasonal in nature growing in different times particularly during the rainy season. These species were established after undertaking extensive and intensive field explorations followed by thorough micro-morphological studies and molecular systematics of the species,” Kanad Das, scientist of BSI who discovered the species told *The Hindu*.

Mr Das, along with his team, has taken at least four survey tours to Sikkim to discover these species.

Among the species discovered *Canthrellus sikkimensis* is edible. This species is tall and slim and interestingly is being consumed by locals. “What is unique about this species of *Canthrellus* is that they are more than double the size of other species of the genus reported from Indian subcontinent. While other species of the genus is about 3-4 inches high this species is about six to seven inches high,” Mr Das said.

Other interesting species discovered by Mr. Das and his team is *Austroboletus oblivceoglutinosus* which exudes a pleasant smell and has very bright colours. “When we located the species in the wild we found that a number of flies had got stuck to the cap of the mushroom attracted by the odour and the colour,” he pointed out.

“Fungi (including mushrooms) play a very important role in the growth and development of forests, as food, in industry and even in medicines like antibiotics. The discovery of new species can open new avenues for research and enhance availability of new food,” BSI Director Paramjit Singh told *The Hindu*.

So far about 2,000 species of mushrooms have been discovered from India. Across the world about 12,000 to 15000 species of mushrooms (small representative of Fungi) are found.

It is believed that there are 5.1 million species of fungi are expected to be found in the world of which 1.03 lakh species are so far identified and reported from the world.

A success story written by diverting water



How diversion-based irrigation system changed the lives of this Odisha village?

The residents of this tiny village tucked into the forested hills of the Eastern Ghats range in R. Udayagiri Block of tribal-dominated Gajapati district are a happy lot.

Even as the sceptre of drought looms large over several regions of the State, they are able to irrigate their land on the hill slopes by using water from the perennial streams originating from the hill adjacent to their hamlet.

For decades together, the 37 tribal families of Sinising used to grow maize and ragi totally dependent upon rainfall. But their lives have changed for the better since water from the perennial hill stream originating in the upper slopes has been brought to their land through the diversion-based irrigation system (DBIS).

Seventy-two-year-old Maheswar Pujari of Sinising has not only been able to grow different crops in his fields since the initiative was implemented in their village by voluntary organisation Institute of Social Action and Research Activities (ISARA) three years ago with support from Mennonite Central Committee, a development agency. Pujari has also added more cultivable area by levelling his land that was lying unused on the hill slopes. Apart from maize and ragi, he now grows paddy, groundnut, turmeric, sweet potato, brinjal, beans, cauliflower and many other vegetables.

All families of Sinising are now cultivating their own land throughout the year and also selling their excess produce in the local markets to meet their other expenses. The smile of their faces tell a story of success and achievement because they contributed the labour for the construction of the tank at the hill where water from the stream is collected and laying the pipelines that brings water to their village.

Similar is the contentment among the residents of Anagha, a hamlet with 40 tribal families located a few kilometres away. Water from the perennial stream in Bhaliabada hill is flowing into the fields surrounding their hamlet.

“The use of water from the hill stream has changed our lives,” says Dandapani Raita of Anagha. He along with many fellow villagers is engaged in cultivating a variety of crops.

Other villages in R. Udayagiri Block where similar structures have been put up and hundreds of acres are being irrigated with the water from the perennial streams are Abarsing, Patrabasa, Kharipada, Munigadiha and Dambadiha. Earlier, water from the perennial streams was going waste by flowing in other directions and sinking into the ground. That’s not all. Rabindranath Patra of ISARA and members of his team have already identified more villages in the area to replicate DBIS. But the same could be replicated in a big way if the State government takes note of the venture to ensure that the tribals take to multi-crop farming instead of migrating to far off places to work as daily wage labourers.

Krishi mela from Sunday

The four-day annual Krishi Mela, which will begin on the University of Agricultural Sciences (UAS) campus here on Sunday, will focus on farmers' self-esteem and farm stability.

UAS Vice-Chancellor D.P. Biradar told presspersons on Thursday that in the wake of a deficient monsoon this year, extensive interaction between farmers, scientists and bankers would be held.

Besides, technical issues such as the use of hydroponic units, which would help produce fodder in a short period; field visits; and special talks on hi-tech horticulture, millet cultivation, and adoption of mix farming would be highlighted.

A documentary on agriculture and allied activities too would be screened, he said.

Chief Minister Siddaramaiah would formally inaugurate the mela on Tuesday. Minister of State for Agriculture Krishna Byre Gowda would be present.

Krishi Bhagya will be extended to all farmers: Krishna Byre Gowda

Minister for Agriculture Krishna Byre Gowda has said that the Krishi Bhagya scheme will be extended to all interested farmers from this year. He was addressing presspersons here after visiting a beneficiary of the Krishi Bhagya scheme at Basavatti village in Chamarajangar taluk on Thursday.

The government had implemented the scheme to help farmers in the rain-fed areas take up rainwater harvesting. Earlier, beneficiaries of the scheme were being chosen through draw of lots. Now, it had been extended to all the farmers interested in adopting the system, he said and urged the farmers to avail themselves of the benefits of the schem.

He said, a study report had revealed that crops cultivated on a total of 38,000 hectares of land had been damaged due to drought in Chamarajangar district. The government had released Rs. 25 crore to the Deputy Commissioner for relief works. Another Rs. 50 lakh had been released to each taluk to tackle drinking water problem. Steps had been initiated to distribute compensation to the bank accounts of farmers through RTGS facility, soon after getting the Central aid, he said.

The Minister visited various places in the district to check whether the Krishi Bhagya scheme was beneficial to farmers or not. He got the feedback from farmers who had benefitted from scheme. Basavaraju, farmer, told the Minister that he had benefitted from the scheme and cultivated various crops in his 2.5 acres of land.

Some farmers complained about spurious cotton seeds allegedly being sold in various parts of the district. The Minister said he would send a team of experts from Bengaluru to examine the seeds. Later, he visited the sericulture farm at Seegevadi in Gundlupet taluk.

Government has released Rs. 50 lakh each to all drought-hit taluks to tackle drinking water scarcity problem.

***Krishna Byre Gowda,
Minister of State for Agriculture***

CM to inaugurate facilities at KAU

Chief Minister Oommen Chandy will inaugurate various infrastructure facilities on the Vellanikkara, Mannuthy, and Kannara campuses of Kerala Agricultural University (KAU) on Monday.

The new facilities, developed at a cost of Rs.67 crore, include a central technological museum, seed technology laboratory, centre for high tech horticulture, academic block for climate studies academy, postgraduate hostel, visiting scientists' hostel, guest house, trainees hostel, and virus indexing laboratory.

The function to be held at the university auditorium will be presided over by Minister for Agriculture K.P. Mohanan. Members of KAU executive committee, including Government Chief Whip Thomas Unniyadan, C.N. Jayadevan, MP, M.P. Vincent, MLA, and I.C. Balakrishnan, MLA; KAU general council members; and former Thrissur MP P.C. Chacko will be present on the occasion.

“The new buildings covering an area of 82,635 square feet would enhance facilities for students, visitors and academic activities of the university. These buildings have been constructed using Central aid under Rs.100 crore project and State Plan funds,” said KAU Vice Chancellor P. Rajendran. The Chief Minister will also inaugurate a new pesticide residue analytical laboratory at Vellayani on September 30.

Two farm fresh outlets to be set up in Tiruchi



People buying vegetables at a farm fresh outlet.

Farm fresh outlet of the State government, which has received good patronage from people in Chennai and a few other cities in the State, is set to extend its wings in Tiruchi from October 1.

The Department of Cooperation, which is the nodal agency for running the outlets, has chosen Srirangam and Srinivasa Nagar to set up farm fresh outlets.

The department has completed feasibility study that evolved on business prospects, market sentiment, sourcing of vegetables and others.

K.C. Ravichandran, Joint Registrar, Cooperatives, Tiruchi, told *The Hindu* that the study had revealed good prospects for farm fresh vegetables. Hence, it would open up two outlets in the first phase. Depending upon the source of vegetables, it would explore the possibility of opening more outlets.

The farm fresh outlet concept was aimed at selling vegetables at reasonable price by removing intermediaries. The price stabilisation fund that could be used for stabilising the vegetable prices in the market at the time of distress sale and steep hike would be used for farm fresh outlets. It would keep the market price of vegetables under check.

Mr. Ravichandran said each farm fresh outlet would be established at a cost of Rs.5 lakh.

It had identified Joint Liability Groups (JLG) operating in rural areas for supplying vegetables. It would offer good price to farmers. Line departments such as agriculture and horticulture would be involved in it. The outlets would have all types of vegetable.

The department would purchase vegetables grown in hill areas at the Gandhi Market so as to make them available in the outlets.

Farm pond helps increase groundwater table

Over 55,800 hectares brought under Integrated Water Management Programme



ideal proposition:A farm pond dug in Pilliarkuppam in Pudupattu village panchayat, in the Kaveripakkam block, being inspected by Vellore Collector R. Nanthagopal on Tuesday.

Given the drought conditions in Vellore district on account of the absence of running water in the Palar River, and the depletion of the groundwater table in the river owing to the failure of monsoon, rain water harvesting is the ideal proposition for the district to ensure availability of water for irrigation and drinking.

Under these circumstances, farm ponds have come in handy to harvest rain water and recharge their deep bore wells and open wells. It can also ensure recharge of the water sources in the surrounding fields.

Press tour

The visit to a farm pond in Pilliarkuppam in Pudupattu village panchayat in Kaveripakkam block during a press tour of agricultural activities in the block on Tuesday revealed that the pond proved to be an oasis in the village.

Settu, the owner of the land said that the pond which was dug with funds provided under the Integrated Watershed Management Programme (IWMP)-III 2014-15 at a cost of Rs.50,000 has recharged the deep bore wells of other farmers in the vicinity. Other farmers have also started demanding assistance to dig similar ponds in their lands, he said.

R. Jayasundar, Joint Director of Agriculture said that the IWMP is being implemented on a total area of 55,880 hectares at a cost of Rs.6705 lakhs in 12 blocks in Vellore district.

The scheme is being implemented with 90 per cent funding by the central government and 10 per cent by the state government. The farmer beneficiary has to contribute 20 per cent of the funds, while the remaining 80 per cent will be borne by the central and state governments.

Activities

The activities under the programme include digging of farm ponds, village ponds and cattle ponds, construction of check dams, and renovation of supply channels and existing ponds.

Besides, livelihood activities are also funded for farmers and non-farmers in the watershed areas to enable them to eke out their livelihood during drought seasons.

At district level

The IWMP is being implemented at the district level by the District Watershed Development Agency of which the District Collector is the Chairman, and the JDA the Project Officer.

The other members included a Deputy Director of Agriculture, an Assistant Executive Engineer of the Agricultural Engineering Department and an Extension Officer. The programmes are implemented based on the needs of each village as decided by the local village watershed committee.

Each project has a watershed development team comprising three members _ an agricultural official, an engineer and a sociologist.

Teak seedlings were planted on the bunds of the farm pond in Pudupattu. The JDA said that the teak seedlings, when they grow into big trees will help provide assured income to the progeny of the farmer 50 years later.

Saplings of fruit crops such as mango and sapota are supplied to farmers having lands in the vicinity of the farm pond so that they can cultivate the crop using the water available, thanks to the farm pond.

The activities under the programme include digging of farm ponds, cattle ponds, construction of check dams, and renovation of supply channels and existing ponds

Palm trees to be raised to strengthen bunds

The district administration has put in place a plan of action to raise palm trees to strengthen tank bunds and canal embankments, by involving departments of forest, agriculture, education, and rural development.

Students of schools and colleges are already into the process of collecting palm seeds for the purpose.

The idea is to prevent breaches from water bodies in rainy season as also safeguard the slow-growing palm trees that have a unique drought-resistant characteristic from extinction.

Officials acknowledged the practice of planting of palm trees followed in the ancient past for strengthening bunds of water bodies, alongside deriving benefits of the palm fruit and palm sugar.

The seeds will be planted along the embankments of Lower Bhavani Project Canal, and embankments of tanks, besides the sides of National Highways and panchayat roads with participation of the public, particularly the farming community, the Collector said chairing a preparatory meeting on Monday.

He instructed the Public Works Department to identify tanks under its control where palm seeds could be sown, and directed the local bodies also to

follow suit. Volunteers, farmers' associations can join hands with the district administration for the initiative, he said, advising those interested to secure more details by contacting District Forest Officer M. Nagarajan (9443370311) and T. Geetha, District Coordinator - Eco Clubs (9487041241).

Kaveripakkam tank, turns into a banana plantation

The biggest irrigation tank in Vellore district at Kaveripakkam seen covered by banana crop grown by local farmers.



The major irrigation tank in Kaveripakkam, which is the largest one maintained by the Water Resources Organisation of the Public Works Department in Vellore district today presents a picture of a vast banana plantation thanks to the cultivation of the crop by farmers owing to the tank remaining dry for nearly a decade.

It was in November 2005, that the 178-year-old tank with a storage capacity of 1440 million cubic feet received copious inflows following the flooding of the Palar River thanks to the release of water from the Bethamangalam dam in Karnataka.

Then it was filled to 80 per cent of its capacity, and up to a level of 26.9 feet against the full level of 30.5 feet.

After the water receded in the successive year, the tank never saw inflows. This has encouraged farmers to cultivate banana and sugarcane crop in it. While many of these crops can be termed as agricultural encroachments, many farmers have been cultivating in this space for the last two generations, enjoying the benefit of 'conditional pattas' given to them as early as in 1952. The condition being crops can be cultivated in the tank if it is dry.

Students plant saplings

Students of Brindhavan Vidhyalaya, Madukkarai, on Sunday planted 1,065 saplings to celebrate Prime Minister Narendra Modi's birthday and improve the green cover near the school. Principal Vanitha Thirumoorthy said that the students also placed tree guards to protect the saplings.

The school would water the saplings and the students would pay a visit during their gardening class.

The objective of the school taking up the exercise was also to highlighting the importance of trees to students.

Workshop on remote sensing

Guru Nanak Dev Engineering College is organising a faculty development programme on application of remote sensing and geographical information systems for civil engineers from September 25 to 27. P.P. Nageshwar Rao from the Indian Space Research Organisation and resource persons from IIT Chennai and IIT Hyderabad will speak. College committee chairman Balbir Singh, principal Ashok Biradar, will be present, said a release.

Go for natural or organic pest control methods'

Nochi, Neem leaves will prevent pests, says Tiruchi Siva

Tiruchi Siva, MP and Chairman of State-level Consultative Committee, Food Corporation of India, inspecting a godown in Dindigul.

Food Corporation of India Tamil Nadu Committee Chairman and MP 'Tiruchi' Siva advised use of only natural or organic pest control measures to prevent contamination of grains stored in godowns.



Inspecting a FCI godown at Seelapadi near here on Wednesday, he said that the godown officials informed him that aluminium phosphate tablets had been used to prevent pest attack. The rice stocked by FCI in the godown was safe.

Keeping Nochi and Neem leaves between bags would prevent pests. Besides, spraying sweet flag juice inside the godown would also control all kinds of pests.

This point would be discussed with officials for implementation of the same, he noted.

Briefing on FCI godowns, he said that 21 had been functioning in the State to stock and supply PDS goods to all ration shops. The team visited the godown on a complaint from a section of people at Seelapadi panchayat who stated that pests from the godown swarmed houses at Seelapadi often.

Centre plans to liberalise Tea Act

The Centre is planning to liberalise the Tea Act, so as to increase tea production and productivity by bringing additional areas under cultivation.

R.R, Rashmi, Additional Secretary, Union Commerce Ministry said here on Thursday that while it is proposing to amend the Tea Act to waive the present stipulation of obtaining permits for bringing additional areas under tea cultivation, the state governments would also need to match the initiative by easing its process of granting permissions.



“We are yet to get a response from the West Bengal government in this matter,” he told reporters after addressing the Tea Research Association’s annual general meeting.

“Our move is aimed at increasing production, which is among the three areas of concern for the government with regard to the Indian tea industry. We would like the West Bengal government to have flexibility in giving its no objection certificate,” he said.

This was needed mostly in this state where there are restrictions on land-use.

Tea production has to grow vertically (through productivity increases) and horizontally (through land expansion), he said.

Pointing out that ensuring quality and increasing exports were the two other areas of concern, he said that C-DAC (Centre for Developing Advanced Computing) is presently working with TRA on a spectrometer which will enable tea growers especially small ones to detect traces of pesticides early. On the minimum wage issue, he indicated that there was need to evolve a package which integrated the cash and ‘kind’ components in tea wage so that the statutory costs (on account of benefits given to labour on account of the Plantation Labour Act) could be met while also incorporating minimum wage, but without affecting competition.

Ryots lose interest in tobacco farming

Growers go for remunerative crops like chilli and Bengal gram

Tobacco growers are set to go for alternative crops in a big way in Prakasam district.

Having burnt their fingers, tobacco growers in Prakasam district are all set to go for alternative crops in a big way.

The task of the Tobacco Board, which reduced the crop size from 172 million kg last year to 120 million kg in the State this year owing to dip in demand for tobacco in the global market, will be relatively easier, with the growers voluntarily switching over to the relatively remunerative crops like chilli and Bengal gram.

Hardly 75 per cent of farmers coming under southern black soil (SBS) and southern light soil (SLS) auction platforms registered their names with the Tobacco Board by September 18, the last date for the purpose, forcing the crop regulator to extend the deadline for registration without fine till September-end.

Even registered growers may move to other commercial crops in the present uncertain market condition, official sources say, adding that market sentiments have not improved even after the Commerce Minister's visit last week. Farmers in tobacco growing areas have already switched over to cultivation of chillis in 8,000 hectares so far, and the extent may go up to 25,000 hectares this year. Likewise, the extent of land under Bengal gram cultivation is likely to double to one lakh hectares during this rabi, says Agriculture Joint Director J. Muralikrishna.

Losing interest in tobacco, the growers have raised tobacco nurseries in 100 hectares as against 365 hectares in SLS region, according to SLS Regional Manager G. Ratnasagar. Meanwhile, former Tobacco Board member M. Bangarababu urged the board to announce a Minimum Guaranteed Price

(MGP) so that growers could take a conscious decision whether to grow tobacco or quit.

In the SBS auction platforms, the farmers got a relatively better average price of 93.07 per kg marketing so far 49.5 million kg, SBS Regional Manager G. Bhaksar Reddy said. YSRC Whip in Parliament Y.V. Subba Reddy has asked the Centre to double the compensation of Rs. 20 per kg announced by the Union Minister.



Express Recipes: How to make Kheer Baadshahi

The rich flavour of boondi laddoo combined with the freshness of pomegranate and grapes lend this Kheer a Baadshahi status. Those with sweet tooth cannot afford to miss this.



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Kheer Baadshahi

Serves 8

Ingredients

1 kg full cream milk
6-8 boondi laddoos at room temperature
seeds of 4 green cardamoms (chhoti illaichi) – crushed to a powder
15 almonds (badam) – cut into thin slices and toasted
10-12 pistachios (pista) – blanched and sliced
varak
kesar – soaked in 1 tsp warm water
refrigerate in a bowl till serving time
½ cup fresh pomegranate (lal anar ke dane)
8-10 grapes – chopped and deseeded

Method

- * Boil 1 kg milk and let it simmer for about 30 minutes till it is reduced to almost half the quantity. Add chhoti illaichi and keep in the refrigerator to chill.
- * At serving time, crumble 6-8 boondi laddoos and add to the milk to get the desired consistency of the kheer.
- * Add half of the toasted almonds.
- * Spread fruits at the bottom of a dish. Pour the boondi kheer on it. Decorate with varak, blanched pistas and almonds. Dot with kesar. Sprinkle the anar on top. Serve.

Note- Do not add refrigerated laddoos. Warm in a microwave if kept in the fridge.

Nita Mehta is a celebrated chef and has penned over 600 books. Her book cover a multitude of cuisines from around the world. 450 of her books have been on the best-seller list, and in the short span of a few years she has sold over 7.5 million books. Several of her books have also won International Awards. She has conducted cooking classes in USA, UK, Canada and several other countries, and appeared on many TV channels in cookery shows. For following Nita Mehta's recipes and buying her books online visit <http://www.nitamehta.com>

Vegetables export clusters to come up in and around Pune

Last year, India's vegetable exports had dipped to Rs 176.47 crore from Rs 188.44 crore in 2013-14.



Last year, India's vegetable exports dipped to Rs 176.47 cr from Rs 188.44 cr in 2013-14.

In an attempt to help farmers access overseas markets, the state's department of agriculture and cooperative has decided to set up special export clusters in and around Pune exclusively for vegetables.

Spread over 500-1,000 acres of land in the districts of Pune, Nashik and Jalgaon, these clusters will grow Okra and green chillies for export to England.

Shriram Gadave, president of the Vegetable Growers Association of India (VGAI), said, "This project will be developed through the Public-Private Partnership (PPP) model. Exporters will tie up with farmers to set up packing houses and for backward and forward linkages," he said.

Accredited packing houses have been set up in Nashik. On their part, the farmers will take care of input costs like seeds, fertilizers etc. The first consignment for export is expected to be ready by April.

Last year, India's vegetable exports had dipped to Rs 176.47 crore from Rs 188.44 crore in 2013-14.

Phaltan, Murmad and other places in the three districts have been chosen for the clusters, which will see farmers producers companies (FPOs) work

together in deciding their cropping pattern, seed intake and other details. The agriculture department will ensure close coordination with the exporters.

“Other than helping farmers deciding on the quality of the seed and other technical details, the exporters will help in packing also. Nashik already has an accredited packing centre, with more to be constructed in days to come,” he said.

FPOs are formed under the umbrella of Small Farmers Agri Business Consortium and are given access to markets in metro cities like Delhi and Mumbai bypassing the mandis.

Paddy procurement begins in Haryana

The FCI will procure paddy from October 1. Till then, state agencies will buy paddy from mandis allotted to FCI

The procurement of paddy began in Haryana mandis on Thursday, a week ahead of schedule. The Centre also agreed to the request of the Haryana government for procurement of PB 1509 variety of paddy. Procurement will continue till December 15.

Paddy of common variety will be procured at a Minimum Support Price (MSP) of Rs 1,410 a quintal and Grade-A at MSP of Rs 1,450 a quintal. Arrival of nearly 36 lakh metric tonnes of paddy is estimated in mandis and purchase centres of the state in the current season. Procurement of Bajra will be made from October 15-November 30 in the state. Bajra will be procured at MSP of Rs 1,275 a quintal.

A spokesman of the food and supplies department said the five procuring agencies — Food and Supplies Department, HAFED, Food Corporation of India (FCI), Haryana Agro Industries Corporation and Haryana Warehousing Corporation — have been given the share of procurement in the ratio of 33, 35, 12, 9 and 11 per cent respectively. The FCI will procure paddy from October 1. Till then, in the mandis allotted to FCI, purchase will be made by state procuring agencies.

PB 1509 variety of paddy started arriving in the mandis a few days ago. The farmers were getting low prices for the same, leading to demands that procurement of this variety should also be done. The rate of PB 1509 has

been reducing over the past two years. The variety was encouraged by the government as it gets ready for harvesting within 120-125 days and the yield per acre was more.

In 2013, the variety fetched around Rs 4,500 a quintal for the farmers. Last year the price reduced to around Rs 2,500 a quintal. This year, the variety is fetching between Rs 900 and Rs 1,200 a quintal.

Haryana Chief Minister Manohar Lal Khattar had earlier directed that a senior IAS officer be deputed in every district for conducting regular inspections. Deputy commissioners were also told to ensure that district milling committees hold meetings regularly.



THE TIMES OF INDIA

[Kharif sown area increases by 12 lakh hectares; Raises hope of better output](#)

In what could be an indication of better food-grain production, the country has recorded an increase of nearly 12 lakh hectares in total Kharif sown area as on Thursday this year as compared to the corresponding period last year despite almost similar amount of rainfall deficit during June-September Monsoon season.

The latest figures, released by the agriculture ministry on Kharif sown area, show that the total area under summer crops as on Thursday reached 1026.23 lakh hectares as compared to 1014.24 lakh hectare last year at this time.

Except cotton and jute, sown area under other major crops, including pulses and oilseeds, increased this year as compared to 2014 - reflecting result of contingency measures taken by the government, based on advance input of deficit rainfall from the Indian Meteorological Department (IMD). Such measures had supported farmers in different ways to ensure sowing operation after late revival of Monsoon in certain parts of the country.

In fact, sown areas under pulses, oilseeds, sugarcane and cotton are more than the 'normal' sown area of these crops. The 'normal' sown area of a particular crop is calculated as an average of sown areas of particular crop in last five years.

Though the area under cotton (115.20 lakh hectares) is less than last year (125.75 lakh hectares), it is still higher than its normal sown area (115.02 lakh hectares).

The country has so far reported 12% deficit in Monsoon rainfall, exactly in line with the IMD's prediction. This figure will slightly change once the country's national weather forecaster comes out with its final report covering June-September period. The country had last year recorded 12% of Monsoon deficit by the end of the season - making it a drought year.

Though the initial report estimates slightly less food-grain production this year as compared to last year, the increase in sown area shows sign of improvement. Some parts of the country witnessed late start of sowing operation. Rainfall distribution this year has, in fact, been fairly good.

According to agriculture ministry's data, the sown area under rice was 374 lakh hectares as compared to 373 lakh hectares last year. While sown area under pulses stand at 113.45 lakh hectares as compared to 101.83 lakh hectares last year, the area under oilseeds reached to 183.68 lakh hectares as compared to 177.49 lakh hectares in 2014.

Though the government's first 'advance estimate' put the total Kharif food-grain production for the year 2015-16 at 124.05 million tonnes (MT) which is 2.26 MT less than the 'actual' Kharif output of 2014-15, it is expected that the output would eventually be increased backed by higher sown areas under different crops.

Three day Krishi mela from September 27th

University of Agricultural Sciences, Dharwad will organize four days Krishi Mela from September 27th and it will focus on farmers' self-esteem-farm stability, said D P Biradar, Vice-chancellor, UAS, Dharwad.

He told reporters that on first day, the Beeja (seeds) Mela will be inaugurated by Mallanna Nagara, who is a progressive farmer from Bagalkot district and after the inauguration; Matsya mela will also be organized. There will also be interaction of farmers with Scientists to discuss their problems and to find solution to face drought like situation.

On 2nd day, discussion on financial issues will be conducted for the benefit of farmers. Well known financial experts from various financial institutes will participate to guide farmers in financial management.

CM Siddaramaiah will also participate in the mela and inaugurate core fest mela on the third day of Krishi mela. Agriculture minister Krishna Byregowda will also attend. We are expecting nearly 10 lakh farmers to attend Krishi mela, he added.

"Arrangements have been made to hold exhibition of newly invented agricultural equipment, Matsya mela, organic farming, Hi-Tech horticulture methods, integrated farming system, home science, Bakery products, medicinal and aromatic plants and animal husbandry. Scientists will also hold demo on new crop production pattern, animal science technology and achievements of institute of organic farming," he said.

New variety of sacred bael fruit developed in Godhra

Godhra-based Central Horticultural Experiment Station (CHES) popularly known as 'Bagayat Kendra' has developed a new variety of bael named 'Thar

Divya' - the indigenous rainfed dryland fruit tree of the country.

Before 'Thar Divya', the research station that works under Bikaner-based Central Institute for Arid Horticulture, an ICAR institute, had developed 'Goma Yashi' in 2011.

"After thorough evaluation under rainfed conditions for ten years, 'Goma Yashi' was developed. And now we have released 'Thar Divya' - an early maturing variety for the health, nutritional and economic security of farmers of dry tracts of the country," said senior scientist (fruit science) and the man behind developing this variety at the station, Dr A K Singh.

Singh, principal investigator at CHES since 2003 is working on the crop. "So far, we have established 151 germplasm of this crop at the station," said Singh, adding that the crop possesses high therapeutic value and can be grown without irrigation.

Bael - a native tree species of India is considered to be sacred as the trifoliate leaves are offered to the Lord Shiva while fruits form holy offering during 'havan'. "Its therapeutic significance has been highlighted in the 'Yajur Veda', Buddhist and Jain literature. Recent advances prove that compounds purified from different parts of bael are biologically active against several major diseases including cancer, cardiovascular diseases and has anti diabetic, antimicrobial, anti-inflammatory, analgesic, cardio protective, anticancer, antiulcer and radio protective properties," said Singh.

"The plant also has potential to enhance the purity level of climate by absorbing pollutants by sequestering atmospheric carbon," said head of the research station Dr Sanjay Singh.

Goma Yashi - the earlier variety of Bael - that the station had developed is already in great demand throughout the country because of its dwarf size,

high yield and medicinal properties.

Thar Divya was developed based on selection from bael plants collected from Jaunpur district of Uttar Pradesh in 2006.

Fruits of this variety of bael can fulfil the need of an entire family in preparing powder, pickle or sharbet.

"This variety has outperformed others with its growth behaviour, yield and quality. It is found suitable to grow under natural conditions absolutely without irrigation and even under hot semi-arid conditions," he says.

"Bael is not only valued for its hardiness, usage against stomach ailments and improvement in digestive system but its pulp is also used as base of various value added products such as squash, powder, jam, slab, pickle, toffee, murabba and candy," adds Singh.

Pulses missing from menu due to rising prices

Pulses are doing a disappearing act of sorts in the city's plates, thanks to the rising prices of the dals in the markets. Vegetables, on the other hand, have become a valued replacement due to the stable prices, including that of the fluctuating onion crop.

"We have cut short our monthly requirement of tur dal by half because of the price. And to replace it, I have started preparing vegetables with curry," said Nandini Jadhav, a housewife.

"We love to eat 'dal' every day, but now have been replacing it with vegetables. It is always better to have two varieties of vegetables, rather going for the costly dal. Moreover, fresh vegetables are available at a very reasonable price these days," said another housewife Sangeeta Mundhe.

The hike has also affected food sales at eateries. A restaurant owner said he had raised the prices of all preparations of the pulses. "We have hiked the prices of 'dal makhani', dal fry and dal tadka recently. But it has certainly affected our customers, and they hesitate to order these items," he said.

The nation-wide hike in the prices of pulses is giving a tough time to the buyers and its demand in the local markets is going down. "Customers who used to buy 5 to 10 kg of pulses every month have now slashed their budget significantly. It is only because of the prices that are flying quite high," Jagdish Bhandari, a wholesaler of pulses told TOI.

Tur dal that was available at a price of Rs 80 to 100 per kg in wholesale market about 45 to 50 days back has now surged to a level of Rs 125 -140 per kg on Wednesday. Price of chana dal has moved up from Rs 45-50 per kg to Rs 55-60 per kg while urid dal has jumped from Rs 90-110 per kg to Rs 110-120 per kg during the same period.

Bhandari said the market is witnessing a 50% downfall in demand of many varieties of pulses due to soaring prices.

But prices of the vegetables including brinjal, cauliflower, cabbage, spinach, etc. have either come down in the last 15-20 days or maintaining their previous price tags. "Buyers are showing no signs of discomfort while buying vegetables. On the contrary they are buying more of it," said Ram Kodre - one of the vegetable sellers based at Aurangpura market.

Research group launches world's largest online rice database



The world's biggest genetic rice database online is now available free, a move scientists hope will contribute to a "green revolution", a leading rice research group said Wednesday.

Information on the genetic sequence of 3,024 rice varieties can now be accessed through the Amazon Web Services system, a cloud computing platform, the International Rice Research Institute (IRRI) said.

The head of IRRI's genetic resources centre, Rory Hamilton, said the database would make it faster and easier to develop new rice varieties in the face of climate change and a growing world population.

These new varieties could be higher-yielding, more nutritious and more resistant to pests, disease, drought or floods.

"What used to be a 20 year task... we can do in two or three years," Hamilton told AFP.

He stressed that with about half the world's population dependent on rice, it was crucial to develop varieties for another "green revolution."

The first "green revolution" -- the development of higher-yielding crop varieties particularly wheat and rice -- took place between the 1960s- 1990s and has been credited with preventing massive food shortages.

The genetic sequencing and initial analysis for the new database was funded by grants from the Bill & Melinda Gates Foundation and the Chinese Ministry of Science and Technology.

Hamilton said that this was likely the biggest genetic database of any crop ever placed online.



Cabinet clears climate goals

The cabinet has approved India's climate action plan for 2030 that gives a push to sustainable growth through ambitious targets for renewable energy, efficiency and emission intensity while seeking technology and money to cope with global warming.

The meeting chaired by Prime Minister Narendra Modi — a day before he left to participate in the Sustainable Development Goals Summit in New York on Wednesday — also decided to release India's Intended Nationally Determined Contributions (INDCs) on October 1, the eve of Mahatma Gandhi's birth anniversary.

The INDCs will have a message from Gandhi saying that "earth has enough resources to meet people's need, but will never have enough to satisfy

people's greed" and would seek that the Paris climate treaty be a "global architecture" based on climate justice and equity.

Countries are expected to submit their climate action plans called INDCs by October-end expected to be a part of the new climate treaty in Paris this December. Around 40 countries including the world's biggest carbon emitters, the US and China, have already submitted their INDCs to the United Nations while Brazil and South Africa are expected to do so in the next few weeks.

The big expectation from Indian INDCs would be on the renewable energy front where the government is likely to state that green power will contribute 40-45% of the country's electricity mix by 2030, sources said. About half of the green power is expected to come from solar and wind similar to what China had committed by 2030.

It will mean India's installed capacity of renewable energy by 2030 would be 393 Gigawatts (GW), more than double of Prime Minister Narendra Modi's target of 175 GW for 2022.

By 2030, India's total electricity generation capacity would be 820 GW, of which 49% is expected to come from thermal sources, 2% more than its share in the electricity mix in 2012. The figures presented by the Niti Aayog to the environment ministry were adopted at a meeting with the PMO earlier this month.

India is likely to voluntarily reduce its carbon intensity to GDP ratio — that of carbon dioxide to a measure of economic output — by 35% of the 2005 level by 2030, sources said.

Before the Copenhagen climate conference in 2009, India announced its carbon intensity reduction target of 20-25% by 2020 as compared to China's

emission intensity target of 40-45% for the same reference period. India is on track to meet the target.

“We can simply meet the target by increasing efficiency of thermal power plants from the existing 30% to 50%,” a senior government official said. The government has a target of saving up to 30,000 MW of power through energy efficiency by 2030.

Sources also said that India’s INDCs were “comprehensive” and will address all aspects of climate change — adaption, mitigation, finance, technology transfer, capacity building and transparency in action.

The INDCs also mention the 100 Smart Cities programme, target of generating energy from waste, Rs 800 crore for electric vehicles and steps taken to reduce air pollution in urban centres.

THE HINDU BusinessLine

Coconut oil slides as festival season ends

The conclusion of the festival season seems to have impacted the coconut oil market this week with prices started sliding both in Kerala and Tamil Nadu. According to Thalath Mahmood, Director, Cochin Oil Merchants Association (COMA), there was a drop of nearly ₹400 a quintal in the last four days with prices touching ₹11,200 in Kerala (₹11,400) and ₹10,150 in Tamil Nadu (₹10,800).

Copra prices also registered a drop with demand diminishing. Prices are quoting at ₹7,550 per quintal against ₹8,000 in Kerala and ₹7,300 (₹7,800) in Tamil Nadu.

He pointed out that the festival season in Kerala has come to an end with Bakrid and the upcountry demand is likely to revive ahead of Diwali. The market is now in the middle of the harvest season with uninterrupted arrival

of copra from production centres. There was also a good demand for raw nuts particularly from north Kerala, he said.



Our Erode correspondent adds: “The price of loose coconut oil was at ₹1,490- 1,530 for 15-kg pack. This is ₹1.50 a litre less than previous sale price on Wednesday. But the present price will not remain for long and soon the price may increase,” said RM Palanisamy, an oil trader. He said the copra price was down in all the markets at ₹7,100-7,470 a quintal which is ₹200 less than Tuesday’s price.

Heavy arrival of copra has caused the decrease in prices. Kerala oil traders procured huge quantity of copra and also the local oil crushers who are having enough stock of copra and oil, are reluctant to sell the coconut oil at the decreased price.

Meanwhile, the price of palm oil and palm kernel are in an upward trend. The palm oil was sold at ₹6,000 a quintal while the palm kernel was at ₹7,000.

NCW to initiate research of women labour in plantation

The National Commission for Women is contemplating to set up a joint research team to undertake a study on plantation labour, Lalitha Kumaramangalam, Chairperson, NCW, said.

Addressing planters at the 122nd Annual Conference of UPASI, she said, “I do not know how the negotiations between the plantation associations and labour take place; but am told that the last time any such research on the condition of the labour in plantations was made was in 1969. It is, therefore, time to undertake a fresh study of the situation. We will talk to the Ministry of Labour as this will come under their purview.”



The NCW chairperson’s observation on the need for conduct of such a study comes close on the heels of the trouble brewing in Munnar, Kerala.

“I cannot promise to find a solution to the issue, but will promise to facilitate the discussion with the plantation workers. Unless and until I hear them, I will not be able to comment,” she told reporters, when asked about her stand on their wage demand for Rs. 500/ day.

Better relations

On the scope of the study, she said, “we will come out with suggestions for improving the relations between plantation owners and workers.”

NCW, she said, would assign the job to an external agency such as a University or research institute after discussing with the Labour and Commerce ministry.

While it would take another 2-3 months to assign the work, she is expecting the agency to release the data within 6 months to a year of assigning the task.

September rains ease fears about Rabi

With sowing for the Kharif season drawing to a close, acreage this year is a little more than 1 per cent higher than at the corresponding period last year. Area under crops such as rice, soyabean, cotton and a range of pulses have touched 1,026.23 lakh hectares (lh) as of Thursday, as per the latest estimates released by the Agriculture Ministry.

A resurgent monsoon through September has helped reduce the rainfall deficit and fear of food prices shooting up. It has helped reservoir levels recover – although the situation in the South remains a matter of concern – and also improved sentiments about the Rabi season.

Earlier this week, Agriculture Minister Radha Mohan Singh told reporters that the target for Rabi output had been increased by 1.6 per cent from last year to 132.78 million tonnes (mt).

Monsoon deficit narrows

“The monsoon deficit is expected to narrow further as there good rains in most parts over the last few days. Soil moisture has improved and this will help crop planting,” he said.

According to the India Meteorological Department (IMD) data, the rainfall deficit had come down to 12 per cent from 15-16 per cent last week. Total rainfall received between June 1 and September 23 is estimated at 747.9 millimeters, while 16 out of 36 sub-stations have recorded deficient rain.

Storage levels

“A depression brought rain to Central India and this should weaken while the South is likely to get good rain over Karnataka, Tamil Nadu and Kerala over the next two days,” said an IMD official.

Water levels in 91 major reservoirs are pegged at 95.31 billion cubic metres (bcm). This is 60 per cent of total storage capacity and 23 per cent lower than the average storage of the last 10 years.

“It’s unlikely that there will be a late increase in area but this rain will help the sown crops and help realise a normal yield in places that bore the brunt of the earlier dry spell,” said a government source.

Crop patterns

Pulses recorded a significant rise in acreage with the total area sown at 113.45 lh – about 11.4 per cent higher than last year. Moong and urad areas are higher by 9.5 per cent and 20.5 per cent, respectively.

The area under rice, the main Kharif foodgrain, is marginally higher than last year. Cotton and groundnut have recorded lower coverage.

According to the Ministry’s early estimate, production of foodgrains – which includes rice, pulses and coarse cereals – is expected to decline by 1.8 per cent to 124.05 million tonnes (mt) this year from 126.31 mt last year.

Sugar rules steady in routine trade

Sugar prices ruled steady at spot and futures markets on routine demand-supply and activities. *Naka* and mill tender rates were also steady on limited volumes. Prices remained at par with Maharashtra in other centres keeping upcountry demand away from here. Sources said at Vashi local dispatches remained at par with arrivals keeping the inventory unchanged at 105-110 truck loads. However, festival demand from bulk buyers and retailers kept sentiment positive. Arrivals continued to be at 61-62 truck loads and local dispatches were 60-61 loads. On Tuesday, about 13-14 mills offered tenders and sold about 34,000-35,000 bags at ₹2,400-2,520 (2,400-2,520) for S-grade and ₹2,500-2,600 (2,500-2,600) for M-grade.

The Bombay Sugar Merchants Association’s spot rates: S-grade ₹2,520-2,635 (2,522-2,631) and M-grade ₹2,592-2,742 (2,592-2,742). *Naka* delivery rates: S-grade ₹2,480-2,580 (2,480-2,580) and M-grade ₹2,580-2,700 (2,570-2,700).

Business Standard

An ecosystem sprouts to take the chemicals out of Indian agriculture

[Agriculture](#) in [India](#) is plagued by problems like ineffective water management and excessive use of inorganic material. Many start-ups have emerged in recent years to provide solutions to these issues. The ecosystem is also coming together to support these innovations.

Earlier this year, the Centre for Innovation Incubation and Entrepreneurship (CIIE) launched a food and [agri-business accelerator](#) in Ahmedabad. [CIIE](#) uses its Infuse Ventures fund to invest in agritech start-ups, and also launched a [water innovation accelerator](#) in July.

Some of the other agri-focused funds include Omnivore Partners, Aspada Investments, and Rural Agri Ventures. [Livpure](#) is India's water tech-focused fund.

Seattle and Bengaluru-based [Unitus Seed Fund](#) is another firm that invests in start-ups that focus on building solutions for the masses. It announced the fund had led investment in VillFarm, a start-up that provides organic pesticides and fertilizers, as well as water saving technology.

The other investors in the round included Zurich-based Rianta Capital, [Sify](#) founder R Ramaraj, and non-resident Indians.

“Thanks to a subsidy-driven regulatory pricing regime, inorganic solutions have been over-used. This has resulted in compromises to crop-input efficiency, soil health, and the environment,” says [VillFarm](#) founder Sundarraaj.

[Sundarraaj](#) finds there is a surge in demand for alternative organic products. It is one of the fastest growing agri-input segments. Presently, this demand is fulfilled by small local operators delivering products with inconsistent quality and limited applicability across regions and crop categories. VillFarm claims that its products are all organic and can be used across multiple soil types, crops, and crop life-cycles.

New technologies for producing cheap organic fertilizers and pesticides and solving irrigation issues are urgently needed. Rohini Nilekani, chairperson and founder of Arghyam Foundation, which grants funds to water tech firms, believes that anything that can help stem the deteriorating scenario is worth investing in.