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THE HINDU

Kharif sowing crosses 967 lakh hectares



According to the latest data, the area under pulses and oilseed has increased during the period under reference.

The total area sown under kharif as on August 28, 2015, has reached to 967.83 lakh hectares compared to 956.93 lakh hectare last year at this time.

According to the latest data, the area under pulses and oilseed has increased during the period under reference.

Rice has been sown/transplanted in 345.89 lakh hectares against 345.48 lakh hectare. On the other hand, pulses sown in 105.52 lakh hectare against 94.18 lakh hectare



Similarly, the area under coarse cereals has increased to 172.52 lakh hectare from 167.23 lakh hectre and that of oilseeds to 174.59 lakh hectare from 172..26 lakh hectre.

Among cash crops, area under cotton has declined to 112.68 lakh hectare from 122.50 lakh tonnes. The area under sugarcane has increased to 48.84 lakh hectare from 47.17 lakh hectare.

DETAILS OF SOWING		<i>Lakh hectare</i>	
Crop	Area sown in 2015-16	Area sown in 2014-15	
Rice	345.89	345.48	
Pulses	105.52	94.18	
Coarse Cereals	172.52	167.23	
Oilseeds	174.59	172.26	
Sugarcane	48.84	47.17	
Jute & Mesta	780	8.13	
Cotton	112.68	122.50	
Total	967.83	956.93	

Pinworm damages tomato crop in Kolar, Chickballapur districts



Pinworm not only feasts on leaves of tomato plants but also on the fruit.
'There is no effective pesticide available to prevent pinworm attack'

Even as the tomato farmers are reeling under huge loss due to the steep fall in prices, the cultivators are worried about the prospects of damage to their crop due to pinworm attack.

Experts from a number of agricultural and horticultural farming agencies have found that pinworm, a fruit borer, is attacking the tomato crop in Kolar and Chickballapur districts where it is cultivated on a large scale.

Unlike the leaf minor, which was pestering the farmers in the past by eating up only the leaves of the tomato plants, pinworm is attacking and destroying all parts of the plant, including stems, leaves and the mature fruit, thus impacting both the quality and quantity of this fruit.

According to D.C. Halalingaiah, Senior Assistant Director, Horticulture Department, it is also called ‘South American Pinworm’ as it has its origin in that part of the world.

“Pinworm attack on tomato plants is seen more in Kolar and Chickballapur because of dry weather condition than it is found in Bengaluru Rural and Ramanagaram,” according to Mr. Halalingaiah. He told *The Hindu* that though there is no effective pesticide available so far for this newly detected insect, a number of guidelines have been framed to control it. Experts from the Regional Research and Extension Division of Gandhi Krishi Vignan Kendra (GKVK), Bengaluru, and the Indian Horticultural Research Centre at Hesaraghatta in Bengaluru conducted a joint survey to assess the loss that tomato cultivators have suffered, and then they have suggested some precautionary measures to control the pinworm attack on tomato plants.

Research scholar files for patent on Indian version of Tequila



The pith portion of ‘Naara Kalabanda’ has a high starch content, which can be used to prepare ethanol.

Thanks to the ‘spirited’ efforts of a young scientist, the Indian variant of the Mexican Tequila will soon be a reality.

The pith portion of ‘Naara Kalabanda’ or ‘Kittha Naara’ (for the biologists, it is *Agave albomarginata* of agavaceae family) has a high starch content, which can be used to prepare ethanol.

While ‘*Agave americana*’, which grows wildly in Mexico, is used to make alcoholic drink tequila, the potential of its poor Indian cousin has remained underexplored. Though some local farmers grow it to extract gel from its leaves, the pith portion is seldom noticed.

Sangati Chennakesava Reddy, a research scholar in food technology at Sri Venkateswara University, has found that the plant has high starch deposits in its collar zone (the trunk portion between the roots and the leaves), which can be extracted and distilled to prepare pure alcohol in a cost-effective manner.

The plant offers a high yield of 45 per cent alcohol with high pungency, which is suitable for consumption. “When we arrive at 99 p.c. purity after secondary distillation, it can even be used as an automobile fuel,” Mr. Chennakesava Reddy told *The Hindu*. He is currently in talks with a distiller for bulk procurement and production.

Findings validated

Further studies at the SV University’s DST-PURSE Centre validated his findings. “At 45 per cent, the alcohol content in this plant is much higher than the 10-13 per cent found in other plant sources,” confirmed D.V.R. Saigopal, coordinator of DST-PURSE programme and a professor of virology at SVU.

“The plant witnesses huge growth in two to three years and the pith portion alone grows half the size of a rice bag, weighing more than 100 kg,” says Shaik Kaleemullah, professor of agricultural engineering at SV Agricultural College, who is involved in the project.

However, the plant takes two years to grow and high starch can be extracted only from mature plants, which means more waiting time. Mallela Raveendra Reddy, an assistant professor of Food and Industrial Microbiology at ANGRAU College of Food Science and Technology, Pulivendula, also aided the study. Mr. Chennakesava Reddy’s application for a patent on his invention has been tentatively accepted.

Natural fence

This desert plant grows wildly in the arid Rayalaseema region and there is absolutely no need for water or fertilizers, no pest infestation and no fear of cattle grazing, thanks to its thorny leaves and sharp spikes.

The plant is currently used by local farmers as a natural fence along the contours of their orchards, but it has the potential to change the very economic face of the dry belt.

Organic farming

To understand the resurgence of the concept of organic farming, we need to revisit the era of the Green Revolution ([‘State View — “Organic farming caught in ‘quality vs quantity’ debate’](#), Aug.30). The Green Revolution, and the resultant and phenomenal increase in grain productivity, had a dramatic and far-

reaching impact. The fundamental strength of India actually rests on the foundation of food self-sufficiency. Therefore, would it have been possible to achieve all this had farmers followed the traditional methods of organic farming?

What our commercial farmers follow today, in terms of the use of chemical fertilisers, pesticides and irrigation, is certainly not scientific agriculture. The successes accomplished during the first phase of the Green Revolution made our farmers overzealous and their greed overtook needs. There was an overuse of fertilizers, pesticides and water, which is at the root of all problems today. No one is conceptually against organic farming. But, admittedly, our knowledge and expertise in the “science” of organic farming is inadequate to realise the productivity potential of our high-yielding crop varieties. We have to prudently regulate and control the commercial production of edible crops by introducing a farmers’ registry and provide them all possible help in terms of scientific guidance, materials and financial incentives. What we should aim for is scientific-precision farming with the least damage to our natural resources. An evergreen revolution should not be confused with traditional organic farming.

M.R. Sethuraj,

Thiruvananthapuram

Saltwater plants the only solace for farmers

Sea rise, due to climate change, threatens millions of farmers



On a sun-scorched wasteland near India’s southern tip, an unlikely garden filled with spiky shrubs and spindly greens is growing, against all odds.

The plants are living on saltwater, coping with drought and offering viable farming alternatives for a future in which rising seas, one of the consequences of climate change, have inundated countless coastal farmlands.

“It’s hard to imagine how farmers will live,” said Tapas Paul, who as a World Bank official helped channel about \$100,000 to help build the small garden a decade ago in a swampy, seaside town dominated by salt flats in Tamil Nadu. A team of scientists is searching for solutions to what they describe as a fast-approaching agricultural crisis. Their neatly plotted rows of naturally salt-tolerant plants, known as halophytes, could be a part of the answer. The scientists from the M.S. Swaminathan Research Foundation are also trying other approaches — tweaking genes and cross-breeding plants by conventional means to discover which might grow and flourish.

“Sea level rise is inevitable,” said Swaminathan, who pioneered high-yield wheat and rice varieties for India in the 1960s. Saltwater for a farmer long meant crop failure.

Natural disasters such as the 2004 Asian tsunami left countless plots unproductive for years. Coastal farmers now face such problems. Climate change will bring stronger storms and warmer temperatures that expand ocean waters and melt ice caps and glaciers. As a result, seas are set to rise up to 1 meter in this century, according to scientists.

Chellammal, a 65-year-old farming housewife in village of Tetakudi, knows the nightmare of farming on salt-contaminated land too well.

“I struggled so long to get things to grow, but nothing worked,” she said. “Every year just got worse until there was nothing left.” The farmland lost by Tetakudi’s 200 households now supports little more than a vast expanse of salt-tolerant shrubs called *Suaeda maritime* along with succulents called *Salicornia brachiata*.

To the villagers, the bright green bushes are no better than weeds. But scientists say *suaeda* is good for firewood. And *salicornia* species, which can tolerate the salinity of seawater, have enormous potential as a biofuel crop. The problem lies in realizing profits. For any crop to work on a large scale, machinery for harvesting will have to be developed. Then processing plants and markets would need to be built. None of that exists.

Experts say there will be little choice but to grow some non-food crops along the coasts. The world’s irrigated acreage could be increased by about 50 percent by reusing saline water and salinised crop fields for halophytes, said University of Arizona environmental sciences professor Edward Glenn. “As with aquaculture replacing wild fisheries, it is inevitable that halophytes will have their day,” he said. AP

Cows get a shelter in Nagarmunnoli



The goshala that was opened at Nagarmunnoli village of Belkud Gram Panchayat in Chikkodi taluk on Sunday.— PHOTO: MALLIKARJUN DANANNAVAR

The district administration has opened a goshala, the first in the district, in Nagarmunnoli of Belkud Gram Panchayat in Chikkodi taluk on Sunday.

Normally, a goshala is opened as an animal welfare measure to provide shelter with fodder and water for abandoned cattle. But, of late, these shelters were being opened due to the shortage of fodder and the depletion of water resources due to drought conditions.

Duryodhan Iholi, MLA, who was present for the inauguration of the goshala, urged farmers to take advantage of the shelter which had fodder and drinking water.

He said that the government would buy dry crops to supply to these shelters and serve 15 kg of fodder to every cattle head in a day. Farmers with no fodder could take their cattle to the shelter as well.

However, farmers reminded that though similar shelters were opened last year in the taluk, lack of adequate fodder had led to scuffles among them. Janukrishna More, a farmer, suggested that if the taluk administration could not stock adequate fodder for the cattle, it could open fodder banks at every gram panchayat level.

Khammam farmers on the edge

Demand immediate release of water



A view of the dried-up Nagarjunasagar left canal in Khammam.- PHOTO: G.N. RAO

With the water level in Palair balancing reservoir in Kusumanchi mandal hovering at 15 feet, much below its full capacity of 23 feet, the ayacutdars under the Nagarjunasagar Project (NSP) left canal system in the district are keeping their fingers crossed over the prospect of their kharif crops.

The NSP left canal system has a vast ayacut of over 2.50 lakh acres under zone I and II spread in 16 mandals across the district.

As rains continue to elude the catchment areas of Krishna river at its upper reaches, the water level in the Palair reservoir fed by the NSP is depleting gradually, triggering anxiety among the ayacutdars of the NSP canal system in the district.

The farmers of Nelakondapalli and Kusumanchi mandal, mainly the sugarcane growers, are running from pillar to post seeking release of water from the reservoir to the Palair old channel to save their standing crops on over 10,000 acres.

They laid siege to the main road in Palair on Thursday demanding release of water to protect their standing crops.

However, the NSP officials concerned reportedly expressed their helplessness to release water from the Palair reservoir at this juncture. They stressed the need for maintaining the prescribed water level in the reservoir to meet the drinking water needs of Khammam town.

Though many parts of the district received normal rainfall this month, the uneven rainfall has become a cause of concern for farmers elsewhere in the district.

A total of 30 mandals received normal rainfall, seven mandals excess rainfall and four mandals deficient rainfall in the district so far in the current month.

The district recorded 186.4 mm rainfall as against the normal of 267.3 mm so far this month.

The fate of the transplanted crops in the NSP ayacut area in the district is hanging in balance due to non-release of water from the Palair reservoir so far in the present agricultural season, says N. Nageswara Rao, assistant secretary, Telangana Rythu Sangham.

There were instances of release of water from the reservoir when the water level was as low as ten feet, he points out, and insists that the State government should immediately come to the rescue of NSP ayacutdars.

A delegation of the Rythu Sangham will submit memorandums to this effect to the persons at the helm of affairs on Monday and chalk out the future course of action in the next few days, he asserts.

SHG women now make a livelihood from algae farming

Algae has been of immense industrial, human and agricultural value



For Andhra Pradesh, which has a coastline of 974 km, algae cultivation is an opportunity to improve the living conditions of lakhs of fishermen and to earn foreign currency as well.

Popularly known as seaweeds, algae can be cultivated in seawater, including shallow and brackish waters.

It has been of immense industrial, human and agricultural value since time immemorial and gained prominence during 13th century, after the discovery of agar-agar in Japan and Alginic Acid in the European continent.

Substances of the seaweeds are being used as additives in food products and drugs to give them a smooth texture and help them retain moisture.

Nascent stage

They are also used in lipsticks, soaps, film, paint, varnish and buttons and of huge demand in the domestic and international markets.

“As far as Andhra Pradesh is concerned, algae cultivation is yet to be explored fully. Though there is vast scope, attempts are still at a nascent stage,” says A. Srinivasa Rao, lecturer at the department of Botany and Microbiology at Pithapuram Rajah Government Degree College.

Fisherfolk, especially women self-help groups from Tamil Nadu and Gujarat, have already been enjoying the benefits of algae cultivation while their counterparts from Kerala are on the job of tapping the potential.

Though a pilot project was launched in Visakhapatnam and Vizianagaram districts of Andhra Pradesh long back, the cultivation, however, has not been expanded to the other coastal districts.

“Initiative from the government is important. It is a highly subsidised crop, as the farmers would get 50 per cent of subsidy on input costs.

The crop duration is just 45 days and there has been a steady increase in the demand for the produce in the international market,” says P.V. Subba Rao, retired scientist from the Council of Scientific & Industrial Research and instrumental in the operations of Aquaculture Foundation of India that involved in algae cultivation at Mandapam in Tamil Nadu.

“There can be six crops per annum and the total output will be around 45 tonnes per hectare.

“According to today’s market, algae gets a price of Rs. 35 per kg in the domestic market and Rs. 70 in the international market,” says Mr. Subba Rao.

Popularly known as seaweed, algae has been of immense industrial, human and agricultural value

Let the fair and lovely cohabit with the dark and handsome in our farmlands



Nomenclature is a subtle art which can raise or lower status. It is practised to perfection in government and in PR firms. A joint secretary, despite the adjective, is lower in rank than a secretary in the government. While the whole of India has but one Vice President, a PR firm may have a dozen.

Such naming has come to agriculture as well. Why are dalia (broken wheat) and millets (ragi, jowar, barley, bajra, varagu, sorghum) called ‘coarse grains’ while wheat and rice are ‘fine grains’? Should particle size matter so much? Is this like a colour prejudice? Are fine grains ‘fair and lovely’ and millets, the darker cousins, the runners up and not eaten by city folk? This preference is foolish. Gram for gram, coarse grains offer more nutrition than wheat or rice.

This point was brought out in greater perspective in two recent professional contexts. One was in a seminar organised in honour of Dr. M. S. Swaminathan who turned 90 years young on August 7, on the theme “Science, technology and public policy for achieving the zero hunger challenge”; in other words, how to aim for a hunger-free world. What an audacious goal! The other is a report by Dr Ruth DeFries of Columbia University and colleagues, in the July 17 issue of *Science*, titled: “Metrics for land-scarce agriculture”- subtitled “nutrient content must be integrated into planning.”

Swaminathan has been the architect of the “Green Revolution,” which let India raise its food-grain production fivefold in sixty years, feeding a population that has risen fourfold. (DeFries and others point out likewise that intensification of food-grain production has increased the world’s cereal supply by almost 3.2-fold, outpacing the 2.3-fold increase in population growth). Over the years, he

has emphasised the need for an “Evergreen Revolution” and also the need to address what he terms as “hidden hunger.”

Hunger, we understand, but what is hidden hunger? Even if we produce and consume more rice and wheat, have we nourished our bodies (and brains) with all the requirements for growth and health? Hidden hunger refers to the deficit in essential nutrients that are needed, besides the calories that the starch in food offers. These are minute amounts of some specific vitamins, iron, zinc, iodine, calcium and others, which are termed as ‘micronutrients’. It is here that coarse grains win over wheat and rice. (Gandhiji seems to have known this, since he wanted us to eat not polished, but hand-pounded rice, which keeps the carp, with its set of micronutrients). Fine grains have far less amounts of iron and zinc than maize, oats or millets. The iron content of millet is four times that of rice, the zinc in oats is fourfold that in wheat; and maize (or corn) has the highest nutritional yield among the grains. The rural poor live largely on millets but sadly, not enough of them.

So, in the next stage of agricultural revolution, how do we plan such that the entire world is fed whole food and not just calorie-rich grains? Green Revolution has been criticised (post facto) because of its environmental consequences: excess fertilizers damaging water quality, toxicity of pesticides used, decrease in biodiversity and so forth.

Attempts are already on to make it more acceptable. Cultivation of nutrient-rich coarse grains is expected to be environmentally less demanding (less water and fertilizers) and more eco-friendly.

What we need is thus a change in the mindset, and a newer strategy of mixed agriculture. Rather than measure agricultural production by tonnes per hectare of land (as done now), DeFries *et al.* propose a new metric termed ‘nutritional yield’, which refers to the number of adults who would be able to obtain 100 per cent of their recommended daily dietary need for one year from a food item produced per year from one hectare.

This new metric can be used to formulate policies for a mix of crops that balance yields with nutritional needs. This would address the problem of hidden hunger and produce healthier, better nourished people of tomorrow.

Put another way, let ‘Fair and Lovely’ cohabit with ‘Dark and Handsome’, so that the disturbing number of 165 millions of malnourished children across the world (23 million in India alone) can be drastically cut within the next decade.

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Organic farming caught in 'quality vs. quantity' debate



Despite growing clamour for pesticide-free produce, doubts persist about the capability of organic farming to generate high yields.

Organic farming began finding momentum in Kerala since the unveiling of a policy in 2010 that set the goal of converting the entire agricultural production in the State to organic within 10 years. That policy announced by the then Left Democratic Front government is now being fast-tracked by the present United Democratic Front dispensation. If public pronouncements of Agricultural Minister K.P. Mohanan are anything to go by, all of Kerala's agriculture will take the organic route by the end of 2016.

Organic farmers and proponents of the concept are passionate about reviving traditional farming practices and methods, to save the soil and agricultural produces from contamination caused by chemical inputs. Another section backed by segments of the agri-science community in the State however warns that the claims that organic farming is a 'second agricultural revolution' may have little to do with contemporary realities.

The organic farming policy of the government captures the concerns over adverse impacts of scientific farming. It states that farmers are now realising that they are fighting a losing battle with the "high-yield variety fertilizer-pesticide pack" of the Green Revolution. Revival of the traditional sustainable ways of cultivation is portrayed as the only way out.

The narrative that Green Revolution created an ecological and social crisis - in the country in general and in Kerala in particular - has the backing of cultural figures and celebrities such as poet Sugathakumari. The agricultural scientists,

for their part, contend that if the alternative organic farming is enforced all the uncertainties that prevailed in the pre-Green Revolution era cultivation will be revived.

At the centre of the debate over organic farming are the growing public health concerns triggered by high morbidity and lifestyle diseases in the State, as also fears about contaminated vegetables and food grains being consumed in the State. It is perceived that agricultural production is contributing to several health-related and environmental problems.

“If you want to prove that organic farming is a better and a viable option to feed the growing population, it has to be proved scientifically,” says Dr. C. George Thomas, Professor at the Kerala Agricultural University (KAU).

As it is a proven fact that productivity of organic cultivation will be far lower and that more organic resources are required to ensure there is no substantial decline in productivity, organic farmers will be forced to sell their produces at premium prices unbearable to the common man, he noted.

Environmental toll

Many advocates of organic farming say that it is just propaganda that yields are low in traditional organic cultivation. C.K. Sujith Kumar, a Thrissur-based promoter of organic farming and author of *Karshika Paramparyam Keralathil* (agricultural tradition in Kerala) is one of them. “What is science? Is science only the practices promoted by the KAU or the government?” he asked.

The science of organic farming, according to him, is different from the ‘so-called scientific farming’. While the former is based on the limits of the natural system, the latter seeks to break those limits, he pointed out.

Though individuals and groups promoting organic farming share a common view on the environmental and health toll of the farming methods depending on the use of chemical inputs, there is no unanimity among them over the methods and objectives. They often come under different garbs with different slogans. Mr. Kumar, for instance, is even sceptical of the current “media hype” about organic farming. “It raises a suspicion that big businesses are planning to utilise the current momentum that the organic farming concept has gathered,” he observed.

Though some analysts link the concept of organic farming to ruralism rooted in romantic notions of an organic society promoted by the political Right, many of its proponents defy that characterisation as they often locate themselves

politically on the Left or Left-of-Centre pursuing organic farming on anti-corporate or eco-feminist slogans. The spectrum of organic farming movement in the State has groups and individuals advocating either extreme or moderate versions of organic farming.

Dr. A.K. Shareef, Director of the KAU's Centre for e-Learning, who is an advocate of organic farming, says the philosophy of organic farming is not based on output. "There are farmers who are doing natural farming for years and they are satisfied if they get enough returns, not more," If cultivation in a farm is to be completely organic, soil has to be conditioned for that and it requires time, he said adding that organic farming in the past was successful because farmers in those days had animal components. He even recommends use of safe chemicals if extreme situations warrant it.

Land availability

His view comes close to admitting that organic farming may not be practical for large scale cultivation essential for feeding the population. According to agricultural scientists food grain production rate should either match or exceed the population growth rate. Equally important, according to them, is the availability of arable land.

"India's arable land is 2.4 per cent of the total arable land in the world while the United States' share is 6 per cent and India's population is 15 to 16 per cent of the world's population while the U.S.'s population is around two per cent," said Dr. K.M. Sreekumar, Professor, KAU's College of Agriculture at Padannakkad in Kasaragod. The U.S. can completely go organic, if they want, but countries in Asia and Africa cannot afford to do that, he noted.

The debate over organic farming is not likely to find a resolution any time soon. "What is required is a balanced approach that makes a judicious blend of organic methods and science and technology," advises Dr. K.P. Aravindan, State president of the Kerala Sasthra Sahithya Parishad, a popular science movement.

He, however, warns against using organic farming as a fetish, though he admits there is misuse of chemical fertilizers and pesticides, especially the post-production use of pesticides.

The spectrum of organic farming movement in the State has groups and individuals advocating either extreme or moderate versions of organic farming

City mouse meets country mouse



Working lunches are much in vogue but here is a learning lunch that connects the urban consumer with the food producer in a unique agro-tourism initiative

How do you get your wonderful lunch? Is it because you can afford it or because somebody worked to produce it? Where do you think your food comes from, and from where it will continue to come in the future? Far from intimidating, such questions attract hundreds of weekend tourists to Saguna Baug — the agro-tourism hub located in Karjat taluk in Maharashtra, a little over two hours from Mumbai and Pune.

Ever since it shot into the limelight almost two decades ago, the 50-acre farm has been getting a steady stream of about 400 city-dwellers every weekend in the quest to understand the multi-functionality of farming — combining leisure with learning. A team of over 60 youngsters, drawn from nearby villages, provide back-up services to the hordes of men, women and children who descend on the farm week after week.

Once known for the variety of captured snakes that attracted the first set of visitors to the farm, Chandrasekhar Bhadsavle has since transformed the barren landscape into a learning laboratory. Over the years, it has emerged as a platform where leisure, learning and amusement merge to create a rural-urban interface. “Saguna Baug combines the tangible (farm produce) with the intangible (rural environment) as a unique payment for environmental services model,” explains Bhadsavle. From bird watching to water sports and from catching fish to learning farming, visitors not only learn the intricacies of food production, but are also exposed to external pressures which demean farming as a vocation.

To reverse the continuing decline in agriculture, restoring farmers’ confidence in farming and a turnaround in rural-urban migration is crucial. A visit to Saguna Baug works in two ways. While bringing visitors close to nature, the

interactive discussions help the farmers earn appreciation from unrelated quarters as well. “Appreciation not only ignites confidence but restores dignity too,” says Bhadsavle. Restoring the dignity of farming as a vocation has been the key behind setting up the farm as an agro-tourism hub. Saguna Baug has been able to uplift the social status of farming, which in the recent past has taken a beating.



Saguna Baug has demonstrated that methods and approaches for participatory learning and action can help re-connect farmers and citizens with the biodiversity that sustains their livelihoods and culture. It further reflects that not only can sustainable agriculture practices be promoted by engaging farmers in extension activities, its economic value can be enhanced through eco-tourism as well. Agro-tourism’s share in total income at Saguna Baug is 40 per cent.

Converting degraded ancestral land into a productive landscape was daunting for Bhadsavle, a U.S.-trained food technologist. Trained to produce potato chips in the U.S. for soldiers in the frontline during the 1970s may have been easy, recalls Chandrashekhar, but the social reality that considered farming a lowly profession had opened up an altogether different front back home. Transforming a 50 acre patch of land, later named Saguna Baug, into a hub of productive agriculture was daunting.

Not only was money scarce, poor conditions did not evoke any confidence either. Initial attempts at rearing milch cattle and enhancing canopy cover had met with limited success. Improving agronomic practices for cultivating food crops had proved ineffective on account of poor soil fertility.

Though options were fast running out after seven non-productive years, Chandrashekhar was nevertheless determined to go the distance to transform his dismal situation. Opportunity came knocking in the most bizarre form when some villagers requested him to help catch a poisonous snake. Much to the

dislike of his family, catching snakes and selling venom soon became a profitable vocation at the farm. “At one time,” says Chandrashekhar, “I had no less than a thousand snakes of varied species to meet the growing demand for venom.” Since the original plan was to uplift the social status of farming, profit from venom sales was ploughed back into the farm. Creating ponds for holding rainwater and improving canopy cover during the late 1980s were to become the foundation on which Saguna Baug rests today.

It is important for the farming community in the deep interiors of the country to interact with their counterparts from the cities. Agro-tourism offers the best platform for this interaction. The farmers at Saguna Baug double up in tourism work over the weekend, leaving a good amount of time for farm development during the week. The farmer thus has a change in his routine hard work, something to look forward to over the weekend. And, by directly engaging with farmers, urbanites learn how food is produced and in turn re-shape their own eating habits. Their involvement ranges from direct purchases at the farm, to talking with farmers about what to produce and how, to providing inputs such as labour, knowledge or finance.

Having established its niche in agro-tourism, Saguna Baug is now moving to the next stage of its engagement with urban tourists. An innovative new concept ‘Find Farmer Friend’ (3F) has been launched, enthusing interested visitors to connect with farmers. It is a fresh start to building a new rural-urban relationship and for a learning lunch between city and farm dwellers.

Dr. Sudhirendar Sharma, from works at The Ecological Foundation, New Delhi, India and researches and writes on agriculture and related development issues. email: sudhirendarsharma@gmail.com. For more on Saguna Baug, visit www.sagunabaug.com

Diversified farming can lead to sustainable income



P. Elango at the farm where cauliflower and brinjal are grown.— Photo: R. VIMAL KUMAR

P. Elango (37) from Karaiyapalayam in Tirupur district, is showing the way to the farming community that how opting for diversified farming activities, instead of concentrating on crops alone, can ensure sustainable income.

A graduate in corporate secretaryship from P.S.G. College in Coimbatore, Mr. Elango chose not to enter his family pesticide business. Instead, he bought a nine acre plot and cultivated paddy on it since a decade ago.

“Planning is crucial in generating consistent income from farming, After starting with paddy, I realised that integrated farming is crucial to offset the possible losses incurred on any individual crop,” he told *The Hindu* .

With that objective in mind, Mr. Elango also cultivates onion, brinjal, coconut, banana and tomato. He maintains cattle for milk production, goat and country fowls for meat and a vermin-compost production unit to meet his needs for organic manure.

Mr. Elango’s farm is like a school for those who wish to start farming and for students pursuing agriculture studies.

R. Sivakumar, the Assistant Director of Agriculture, said that planning like Mr. Elango was essential in today's scenario. This way farmers would not have to worry about price fluctuations or market glut.

Mr. Elango is now readying tanks to venture into fish farming.

Stress on increasing fodder cultivation

R.Viswanathan, Regional Joint Director, Department of Animal Husbandry has stressed the need for increasing fodder cultivation area to improve dairy cow productivity in the district.

Addressing a seminar on ‘Soil-fodder-livestock interface augment livelihood security’ at the Krishi Vigyan Kendra (KVK), Tamil Nadu Veterinary and Animal Sciences University at Kundrakudi, near here recently, he said there was good scope for increasing the fodder cultivation area in the district.

“The land availability for fodder cultivation has to be increased in the coming years through Tamil Nadu fodder development schemes,” he said.

In Tamil Nadu, fodder crop was cultivated in about 1.72 lakh hectares, but there was an actual physical need to enhance the output by 42.6 per cent, he said.

The seminar was sponsored by State planning commission – Tamil Nadu State Land Use Research Board Scheme (TN-SLURB). Gurumoorthy, Joint Director of Agriculture, Sivaganga district stressed the need to eradicate ‘karuvelam trees’ (*prosopis juliflora*), which posed serious threat to farming.

District Forest Officer S. Gurusamy said that the department was taking necessary steps to promote tree fodder in the district for the benefit of the farming community. KVK scientists T.Selvaraj, V. Kumaravel and C. Sankar took part in the technical session.

Earlier S. Sendur Kumaran, Associate Professor and Head of KVK felicitated the special guests. He distributed tree fodder saplings to the farmers. An awareness exhibition was also conducted to benefit the farmers.

10 lakh soil health cards soon

Agriculture Minister Pocharam Srinivas Reddy on Saturday said about 10 lakh soil health cards will be distributed in the State in the coming months. He said samples are being collected for processing and readying the cards at present from different places in all districts.

Distributing the soil health cards at Indervelli mandal, where a pilot project to determine soil health was taken up earlier, the Minister said as many as 2.9 lakh of the cards will be given to farmers in rainfed area while the remaining 7.1 lakh will be distributed among farmers cultivating irrigated lands.

Talking about the Paramparagat Krishi Vikas Yojana, Mr. Reddy said the government has selected 50 acres each in 35 mandals for implementation of the Yojana which envisages cultivation of traditional crops. Endowments Minister A. Indrakaran Reddy, Forest Minister Jogu Ramanna and Khanapur MLA A. Rekha Naik also attended.

Getting to the root of agriculture

Improved biodiversity will help a farm, says expert

With the indiscriminate use of chemical pesticides causing widespread environmental pollution and affecting food safety, the concept of agro-ecological engineering is gaining steady attention for improving plant health and pest management.

This was the main focus of an awareness programme organised by the Krishi Vigyan Kendra (KVK) of the Kerala Agricultural University organised at Kottarakara near here last week.



Fading away

Ecological engineering involves the design of human activities using locally available natural resources in ecologically balanced systems. The system prevailed centuries ago but has now begun disappearing.

Ecological engineering focusses on reviving the practice.

Manu C.R., entomology scientist attached to the KVK, who coordinated the programme, says that our agricultural system comprises a vast area of a single crop tended with excess of fertilizers and plant protection chemicals or even hormones with a single aim — bumper production leading to maximum profit.

Ecological engineering stresses on pest management based on cultural practices and propelled by ecological knowledge rather than high technology approaches such as synthetic pesticides and genetically engineered crops.

He says that biodiversity is crucial to crop defence. “Therefore increasing the biodiversity of farms is crucial. The more diverse the plants, animals, and soil-borne organisms, the more diverse will be the community of pest fighting organisms the farm can support,” he says.

Flowering plants

Studies show that sowing of diverse flowering plants helps curtail crop destroyers.

The programme displayed plants that can be grown alongside crops for the purpose.

Flowering plants in gardens and even plants considered as weeds can be used, Dr. Manu says. Mixtures of plants with relatively long overlapping bloom times are to be used and it can lead to reduced use of pesticides.

SPV fund to promote Indian food industry

The Centre, in association with major food and beverages brands, is planning to float a new Special Purpose Vehicle Fund, with an initial corpus of Rs. 50 crore. This fund will help Indian brands to market themselves more competitively in major markets such as the U.S. and Europe.

While 50 per cent of this fund would come from industries, the remaining would come from the Centre and other agencies.

Industry should raise Rs. 25 crore with contribution from companies, said Piruz Khambatta, Chairman, CII National Committee on Food Processing, at the 11th edition of the biennial event, Foodpro 2015, organised by the CII in Chennai.

“One of the major challenges for the industry is brand building and finding a space for Indian products in retail stores globally. Branding is the key aspect for the industry now,” he said.

To promote the brand India abroad, the Centre should extend the Market Development Assistance (MDA) and provide fiscal incentives to the food processing industry.

Mr. Navas Meeran, Chairman, Foodpro 2015, said the Indian food industry was poised for huge growth. However, the industry is facing constraints like non-availability of adequate infrastructure facilities, lack of adequate quality control and testing infrastructure, seasonalities of raw materials, taxation issues, high packaging cost, affordability and cultural preference for fresh food.

Statistics indicate that the food processing sector contributes about 9.7 per cent to the manufacturing GDP of India. This sector employs close to 13 million people directly and 35 million indirectly.

Noting that the food processing sector is worth \$70 billion, Ms. Rajshree Pathy, Chairperson, CII - Southern Region said, “We need to ensure that there is value addition for the growers. We should reduce wastage, promote crop diversification, generate employment opportunities and increase export earnings”.

The exhibition saw a huge delegation from Korea and Netherlands displaying their products in the food processing sector.

In addition to Indian participation there were teams from Israel, Canada, China, Germany, Italy, Malaysia, Spain and Switzerland.

Mr. Kyungsoo Kim, Consul General, Consulate General of the Republic of Korea, Chennai, who was also present at the event, said the cultural similarities, food habits and life styles of the people of Korea and India could pave the way for greater co-operation in the food processing sector.

Research centre developing iron-rich banana variety



The National Research Centre for Banana (NRCB) has taken up research on developing a genetically modified banana variety rich in iron content.

The research project commenced a year ago and has been taken up jointly with the Queensland University, Australia, Department of Biotechnology, and the Indian Institute of Horticulture Research in Bengaluru, said B. Padmanaban, Director (in-charge) of NRCB at the centre at Podhavur village near here on Friday.

Speaking at a function to mark the 22nd Foundation Day of the NRCB, Dr. Padmanaban said that banana was rich in various vitamins, minerals, and iron content. The research would seek to develop a banana variety with enhanced iron content. It would be of much benefit for persons with iron deficiency, he said.

The NRCB was a pioneer in producing value-added banana products particularly banana-fibre based products. Apart from encouraging farmers to take to its technologies, NRCB was motivating entrepreneurs in banana by honouring them with awards.

S. Ayyappan, Director-General of Indian Council of Agricultural Research, in his address, said there was a growing increase in the area under horticulture crops. He said that a series of programmes on value addition in banana,

research, and extension services by NRCB had gone down well with the banana cultivators across the country.

K. Alagu Sundaram, Deputy Director-General (Agricultural Engineering), ICAR, appealed to banana growers to adopt better post-harvest technology for higher profit.

Earlier, Mr. Ayyappan honoured the banana growers with certificates and awards in recognition of their achievement in banana cultivation during last season.

Farmers from Andhra Pradesh, Karnataka, and Kerala participated in the meet.

Efforts being taken to popularise cultivation of paddy, millets

Pudukottai district is ideally suited for raising conventional paddy and millets and farmers should resort to these varieties, taking into consideration the scanty rainfall in parts of the district, said speakers at an awareness seminar and exhibition at Munasandhai village near here .

The seminar was organised jointly by the National Bank for Agriculture and Rural Development in co-ordination with the service organisations “Terre De Hommes” and “Rose Trust”.

T. Chandrasekaran, Joint Director of Agriculture, advocated the need for reviving these conventional varieties which involved less expenditure in terms of crop protection techniques.

A. Adhappan, managing trustee of Rose Trust, said that so far 17 varieties in conventional paddy and seven varieties in millets had been re-introduced in the district. The paddy varieties, included *mappilai samba* , *puliyadichan* , *thangasamba* , *poongaar* while the millets were *varagu* , *samai* , *thinai* , and *kuthiraivali* . R.P. Gnanamalar, Professor and Head, Krishi Vigyan Kendra, said the conventional varieties enriched the fertility of soil and its humus content. Soil erosion would be prevented to a great extent. S. Somasundaram, District Development Manager, said that efforts were being taken to restore more conventional varieties in paddy and millets.

G.S. Dhanapathy, a leading farmer, said that these varieties were drought-resistant and hence were suited for parts of the district where rainfall was far less. It would be a boon to livestock as its trash could be used as feed for cows and goats.

Solar dryers to be popularised

The Agricultural Engineering Department will implement a subsidy-based programme to popularise non-conventional energy in the district to give an impetus to agriculture.

To start with, solar dryers would be set up at select places in the district, said E. Saravanel Raj, District Collector.

Presiding over the monthly “Farmers Grievances Redress Day” meeting held here on Friday, the Collector said the solar dryers would be utilised for drying the agricultural produce such as chillies, copra, banana, tomato, and other crops. Value-addition in horticultural and agricultural crop was the objective of the plan.

The Collector said the dryers would be set up on the farmer’s land on an area of 400 square feet. The unit cost would be Rs. 3.68 lakh for which the department would release a subsidy of Rs.1.84 lakh.

When a cross-section of farmers pleaded for some concession to benefit cotton growers, the Collector said that rotavaters would be sanctioned to cotton cultivators with 50 per cent subsidy. The quantum of subsidy would be Rs. 55,000 for small and marginal farmers and Rs. 44,000 for big farmer.

Another subsidy-based to benefit paddy cultivators would be implemented this year.

They would get power tiller with a subsidy of Rs. 75,000 under the scheme.

Adequate stock of seeds

On a plea by farmers for availability of quality seeds, the Collector said that all arrangements had been made for the timely supply of seeds during the samba season. About 326 tonnes of seeds had been stocked at agricultural depots and private shops.

Need to increase fodder cultivation area in State

R.Viswanathan, Regional Joint Director, Department of Animal Husbandry has stressed the need for increasing fodder cultivation area to improve dairy cow productivity in the district.

Addressing a seminar on ‘Soil-fodder-livestock interface augment livelihood security’ at the Krishi Vigyan Kendra (KVK), Tamil Nadu Veterinary and

Animal Sciences University at Kundrakudi, near here recently, he said there was good scope for increasing the fodder cultivation area in the district.

“The land availability for fodder cultivation has to be increased in the coming years through Tamil Nadu fodder development schemes,” he said. In Tamil Nadu, fodder crop was cultivated in about 1.72 lakh hectares, but there was an actual physical need to enhance the output by 42.6 per cent, he said.

The seminar was sponsored by State planning commission – Tamil Nadu State Land Use Research Board Scheme (TN-SLURB). Gurumoorthy, Joint Director of Agriculture, Sivaganga district stressed the need to eradicate ‘karuvelam trees’ (prosopis juliflora), which posed serious threat to farming.

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“In Tamil Nadu, fodder crop is cultivated in about 1.72 lakh hectares, the output must be raised by 42.6 per cent”

Centre blames Delhi govt for not acting against onion hoarders

With onion prices rising up to Rs. 80 per kg in the national capital, Union Food and Consumer Affairs Minister Ram Vilas Paswan on Monday blamed the Delhi government for not taking adequate action against hoarders for spiralling the prices.

The minister also said the passage of Goods and Services (GST) bill could have helped in controlling onion prices.

After reviewing the supply and the price situation, Mr. Paswan urged all state governments to take stringent action against hoarders to rein in prices, while assuring that steps taken to import the key kitchen staple and curb exports will help control the rates.

On sharp rise in onion rates in Delhi, Mr. Paswan said, “Last year, adequate measures were taken against hoarders but this time the state government has not taken enough steps.”



During 2014 monsoon when onion prices had risen, Delhi was under the President's rule and was governed by Lieutenant Governor Najeeb Jung.

Terming price rise in onion as a temporary phenomena, Mr. Paswan said there is no shortage as such in the country but hoarders are trying to take advantage of the situation.

“There is a production shortfall of only five lakh tonnes in the country. Hoarders get active when there is production fall. The state governments should take action against hoarders to control prices,” Mr. Paswan told reporters.

Wholesale onion price at Lasalgaon in Maharashtra, Asia's biggest onion market, has increased to almost Rs. 60 per kg, while retail onion prices have risen up to Rs. 80 per kg in the may parts of the country.

Asked as to why the BJP-ruled Maharashtra, the leading onion growing state, not been able to control the prices, Mr. Paswan said the passage of GST would facilitate for easy movement of onions across the country, thereby improve supply and control prices.

Highlighting the measures taken to boost domestic onion supply, the minister said MMTC has floated a tender for import of 10,000 tonnes of onion and the tender will be opened on August 27.

The minimum export price of onion has also been increased to USD 700 per tonne from USD 425 per tonne to restrict exports and the state government has been asked to impose stock holding limits on traders, he added.

Total onion production is estimated to be at 189 lakh tonnes in 2014-15 crop year (July-June), slightly lower than 194 lakh tonnes, a year ago.

UoH to patent tomato breed rich in vitamin B9

Tomatoes could become a rich source of vitamin B9 or folate in the near future once efforts of the University of Hyderabad (UoH) to patent their latest research are successful.

If all goes well, then the Repository of Tomato Genomics Resource (RGTR) in the UoH campus will patent a breed of tomato, which will be rich in vitamin B9. The patenting exercise comes after a good three years of research in the RGTR which is currently headed by the varsity's in-charge vice-chancellor Prof. R.P. Sharma.

“Vitamin B9 is present in different plants and vegetables, but its presence is high in spinach, which is not consumed much by people in India. It is important for pregnant women, as it helps the foetus develop properly,” mentioned Prof. Sharma.

But why were tomatoes chosen over other vegetables? “After potato, tomato is the second highest consumed vegetable, as it is used in several dishes in India. It is consumed commonly in households,” said Prof. Sharma. He further stated that though tomatoes have vitamin B9 in them, it is not high.

According to Prof. Sharma, the varsity is currently in the process of filing a patent for the RGTR's latest result. When asked if a national or international patent will be filed, he said that it has not been decided yet.

More flowers in the sky

There are several farmers in Coimbatore and the Nilgiris Districts who are into floriculture and grow a variety of flowers which go to markets across the State and even abroad.

According to Dileep Abraham, president of Coimbatore Custom House and Steamer Agents Association, four to five tonnes of flowers are exported directly from Coimbatore to Sharjah and Singapore every week by air.

The volume of flowers from the region going to other countries through Chennai and Kochi airports and from Tiruchi and Calicut is higher.

Demand

One of the flower exporters here says that the demand goes up in the west Asian countries during Onam.

Flowers from Coimbatore and the Nilgiris are sent to Calicut or Kochi to be sent in flights.

But, availability of space in the aircrafts is a problem as priority is for vegetables and fruits.

Potential

Mr. Abraham says the potential for export of flowers from here is high.

For example, roses are in demand during Valentine's Day and during the rest of the year, other varieties of flowers are exported.

However, a couple of challenges need to be addressed for the exports to pick up: there are international flights to just two destinations from Coimbatore.

The capacity for cargo in each flight is approximately one to one-and-a-half tonnes.

Passenger traffic

Further, when the passenger traffic increases, the baggage also increases and the space for cargo comes down. These reduce the space available for flowers.

And, frequency and the number of international flights from here will go up only when there is a growth in passenger movement.

The plant quarantine office here needs to be strengthened to provide phytosanitary certificate for teas, food products, flowers, vegetables, wooden products, etc.

Staff strength

Though there is an office here, the staff strength should be increased so that the exporters are able to get the certificates at the earliest.

When some of these issues are addressed, there is potential for increase in direct export of flowers from here, he says.

Rs. 2.70 lakh given to SHGs as seed fund

With a view to propagate total sanitation among rural masses, 18 women Self Help Groups (SHGs) through the Village Poverty Eradication Sangams of Gnnalam, Thadikkarankonam, Therisanankoppu and Vellambi were given seed fund of Rs. 2.70 lakh.

The funds were distributed to the SHGs by Collector Sajjansingh R. Chavan during the consultative committee meeting held at the Collectorate on total sanitation recently.

A release said that the Collector also gave away Rs. 5,000 each to 14 beneficiaries in Thovalai, Killiyoor and Agasteeswaram village panchayats for construction of individual toilets.

The funds were given through the Tamilnadu State Rural Livelihood Scheme under the Mahalir Thittam.

Distributing the assistance, Mr. Sajjansingh R. Chavan appealed to the beneficiaries to construct individual toilets in their houses and make the district free from open defecation.

T. Sadayappa Vinayaga Murthy, Project Officer, Mahalir Thittam, Assistant Project Officers P. Antony Siluvai, M. Kalaiselvi, M. Pichaiappa, animators and field staff of the Mahalir Thittam participated in the consultative meeting.

Vaccination camp for cattle

As many as 6,03,350 cattle in the district will be vaccinated against foot-and-mouth disease during the special camp to be held from September 1 to 21 in all villages.

The State government has ordered to conduct the camp twice in a year in March and September.

Aavin in association with the Department of Animal Husbandry will be conducting the camp to administer vaccine to the cattle to prevent the outbreak of the disease.

Officials said that villagers would be given prior information about the camp in their areas, and asked them to bring their cattle without fail.

In Namakkal district, about 3.53 lakh cattle would be vaccinated during the camps. Collector V. Dakshinamoorthy said that 111 special teams would visit every village in the district and administer the vaccine to the cattle.

Hence, he asked the farmers to utilise the opportunity.

Mobile library – for couch potatoes

Though the branch libraries and the village libraries have been well patronised, it is the novel mobile library concept which has been widely welcomed by all sections of society.

The mobile library, attached to the District Central Library, is a specially designed vehicle with shelves on all three sides for the display of books.

It has adequate space to enable the people to register their names, move around and select books of their choice.

A majority of the members of the mobile library are homemakers, and senior citizens, as they find it easy to collect books of their choice at their doorstep.

The mobile library visits various parts of the district on six days in a week. A librarian, a driver, and a cleaner are in charge of this vehicle. The rules and regulations designed for the branch libraries for the enrolment of members and patrons, lending books apply for this mobile library too.

The areas situated far away from the branch libraries and village libraries with strong roots for library movement are identified for the camp of the mobile library.

In Salem district, the vehicle camps at 60 locations with specific time schedule for each location. In some places, it halts near the schools.

It also visits homes such as Annai Sathiya Kappagam too, says M. Karthikeyan, District Library Officer.

K. Mekala Devi, a homemaker, says one more mobile library should be launched in the district.

She wants more translated works from other languages too, included in mobile libraries

Thottiam farmers take baby steps in packaging

Banana farmers take a look at the packages of banana chocolates being marked by Thottiyam Banana Producers Group at Thottiyam.— PHOTO: A. MURALITHARAN

Having succeeded in producing quality and hygienic banana chocolates, the Thottiam Banana Producers Group has now taken up innovative steps for marketing it. The company now produces about 1.5 tonnes of banana chocolates a month using two solar dryers.



Efforts are being made for popularising the chocolates across the nook and corner of the State.

“We have been distributing samples of the chocolates to the masses, so that they understand its taste and nutrients,” say A. Subramanian, Director of the group.

While packed chocolates weighing 250 grams, is sold for Rs. 75, it is now sold in sachets each sachet containing one chocolate priced at Rs. 10. The shelf life of the chocolate is about six months.

Second solar dryer set up

The Group took up the production using a dryer donated by Thailand-based firm at an estimate of Rs.5.50 lakh. Based on its success, the state government sanctioned second dryer for Rs. 4.13 lakh including a subsidy of Rs. 1.84 lakh. The second dryer was commissioned recently.

Mr. Subramanian said that not many have tasted yet the quality chocolates. Hence, the company has been adopting innovative strategy. “There has been overwhelming response to our business online,” he said. The group purchases fresh *poovan*, *karpooravalli*, and *elarasi* varieties. The same is ripened in a scientific manner using the climate-controlled ripening chambers.

G. Ajithan, one of the founders of the group, said that 300 kg of fruit is dried every day which is reduced to 25 per cent of its weight at the end of the day.

Each piece is rich with 150 calories, 430 mg of potassium, 0.31 mg of iron, 28 mg of phosphorus, 1 mg of sodium.

At an exhibition organised at Podhavur on Friday, the directors distributed the samples of the chocolates to a large number of visitors. “We take all efforts to popularise the chocolates and it yields desired results,” says Mr. Subramanian.

Those interested to get further information can call 099943-02877, 094437-14352.

MGNREGS workers to plant coffee seedlings in Wayanad

Authorities plan to plant coffee saplings in 10,000 hectares



Women workers under the MGNREGS planting seedlings on a coffee plantation at Nenmeni grama panchayat in Wayanad district.

After scripting a successful saga in channelising works under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) to productive sectors, the Wayanad district administration is gearing up to expand the project to more areas.

This time the authorities are planning to plant coffee plants over 10,000 hectares of land by utilising the services of MGNREGS workers.

When the project was launched last year as many as 8,51,600 seedlings of two coffee varieties—Robusta, a traditional coffee variety, and Congensis x Robusta, a hybrid variety— were planted on 2,129 hectares of small-scale farmers’ land ,who owned less than two hectares of land, in 12 grama panchayats free of cost.

Success story

“Inspired by the success we have raised 30 lakh plants of the same varieties this year in various farm nurseries in 23 grama panchayats and planting of the seedlings are under way, C.V. Joy, programme coordinator, MGNREGS Wayanad, told *The Hindu* .

As many as five grama panchayats have already planted the seedlings and others would complete the work by the middle of October, Mr. Joy said adding that more than 1.5 lakh days of employment could be generated under the project during the year.

As all the works such as preparing nurseries, raising plants in grow bags, transportation, digging pits and planting the seedling would be done by the MGNREGS workers, the farmers are happy, he added.

Major plans

Moreover, the manpower of the MGNREGS would be used to care for the plants for the next three years free of cost, he said. The authorities are planning to raise as much as 1 crore coffee seedlings to plant on 10,000 hectares next year and are expecting to provide nearly 5 lakh days of employment under the scheme.

The authorities are also planning to launch coconut rejuvenation and sericulture projects under the MGNREGS soon.

Wayanad is the only district in the State that has extended the MGNREGS works to horticulture, plantation and farm forestry sectors.

Cage culture of fish expected to boost employment

To be launched in Mahabubnagar, Karimnagar, Khammam and Nizamabad districts



Agriculture Minister Pocharam Srinivas Reddy releasing fish into Ashok Sagar in Nizamabad district on Saturday.— Photo: K.V. RAMANA

Minister for Agriculture and allied subjects Pocharam Srinivas Reddy said that the government has chalked out a plan to generate employment for about 40 lakh fishermen through cage culture of fish in the years to come.

Launching the cage culture of fish in Ashok Sagar here in Yedapally mandal on Saturday, the Minister said that the fishermen, with lack of encouragement from successive governments, earlier used to migrate to different places in search of work, and hence, the present administration had decided to create employment by introducing cage culture.

Some experienced fishermen who had gone to Jharkhand at the behest of the government to study cage culture found that the fishermen there were making good profits through this method and recommended that the same be implemented in the State. Therefore, the cage culture of fish will be introduced in Mahabubnagar, Karimnagar, Khammam and Nizamabad districts, he said.

The Minister said that an estimated 200 crore seedlings will be required to release them into 75 small, medium and big reservoirs and tanks in the State next year. Thus, at least 20 crore fish would come for harvest. Fish raised through traditional methods weigh 1 kg in two years whereas the fish raised in cage culture will gain that much weight within eight months, he said. In the old method, between 10 and 20 per cent would come to use while through modern methods, a majority of seedlings would be alive, he explained and said that the government wanted to provide Rs. 5 lakh life insurance to fishermen.

He went on to say that up to Rs.10 lakh would be sanctioned if fishermen came forward to set up fish outlets in villages and mandal headquarters. Mr. Srinivas Reddy later gave away cheques worth Rs. 1 lakh each to 17 bereaved families of fishermen and Rs.10,000 each to 36 fishermen to purchase nets.



Punjab used only 64% of funds under RKVY from 2012-15

The scheme aimed at incentivising states to increase public investment in agriculture with 100 per cent grant from the Centre.

Punjab has used only 64 per cent funds earmarked under the Rashtriya Krishi Vikas Yojana (RGKVY) during the years 2012 to 2015, much lower than many

other states. This is according to the RKVY release and expenditure report (till June 30, 2015).

The scheme aimed at incentivising states to increase public investment in agriculture with 100 per cent grant from the Centre. Earlier this year, the Centre had decided to change the funding pattern of the scheme on a 50-50 basis split between it and the state. The grant installments are released on the basis of utilisation certificates.

‘It used to be 100% grant in aid during UPA Government’s tenure which has now been changed to 50:50. This shows the concern of the [BJP](#) Government which is also alliance partner in Punjab,’ said Sunil Jakhar, CLP leader.

Chief Minister Parkash Singh Badal has appealed to the Centre to increase its share in the scheme back to 100 per cent.

‘Instead of increasing the share, the chief minister should focus on utilising the funds allocated under this scheme,’ Jakhar said. ‘From 2012, a total of Rs 729.98 crores were sanctioned for Punjab out of which only Rs 472.40 crores was used and the rest lapsed.’

Compared to this, Arunachal Pradesh has utilised 100 per cent of its grants, Andhra Pradesh has utilised 98 per cent of grants. Rajasthan has utilised 97.2 per cent while Bihar’s utilisation is 98.5 per cent. Assam is also ahead of Punjab with utilisation of 87.8 per cent funds under RKVY.

Jakhar said that government was not ready to call a Vidhan Sabha session as it had no answers for issues concerning farmers.



THE TIMES OF INDIA

Centre okays import of 1,000 tonnes of onion, will reach India by Sep 10

NEW DELHI: The government on Thursday approved bids for importing 1,000 tonnes of onion at Rs 45 per kg and the shipment will reach Indian ports by September 10. The government has also decided to import more to boost domestic supply.

This fresh supply is likely to improve availability and moderate the prices further. The imported onions would be supplied to state governments once they place their requirements. The states can then sell the onions through fair price shops or can take special initiatives to supply them to consumers.

Meanwhile, onion price have been in the decline for the past few days as its availability has increased.

Department of agriculture, in an official note, has said that though onion production has been slightly less in Maharashtra it has increased in Madhya Pradesh. The production this year is likely to be the same as last year.

Arrivals of onions in Lasalgaon and Pimpalgaon have been increasing and the wholesale prices of onions at Lasalgaon has come down to Rs 48 per kg. Fresh onion stocks are coming to Delhi from Karnataka and because of this wholesale price of onion in Delhi has come down to Rs 41 per kg.

Tur dal rate in Karnataka doubles in 8 months

BENGALURU: After onions, high tur dal prices are worrying consumers in Karnataka. The price of the pulse has doubled in just eight months, owing to insufficient rain, drought and the stranglehold of middlemen's lobby.

From Rs 75 in December last year, price of the dal has shot up to Rs 120 to 135 in kirana stores while the wholesale rate on Friday was Rs 130 per kg. It is also sold as high as Rs 188 in some malls.

Ramesh Chandra Lahoti, president of Wholesale Foodgrains and Pulses Merchants Association of Bengaluru, said: "India produces only 50% of tur dal. The rest has to be imported from MNCs in South Africa and Singapore to meet

demand. Some private companies have greater buying power than us and they buy all the tur dal from the MNCs. As a result, we have to get the dal from them at a much higher price. We don't get to buy our pulses directly from foreign suppliers, which would have been cheaper," he added.

Due to inadequate rainfall and prevalent drought in Karnataka, Gujarat and Maharashtra last year, tur dal production declined, said merchants in the city.

Imran Khan of Global Wholesale Traders in Yeshwanthpur, said: "We saw only 20% of tur dal production last December, owing to almost no rainfall in Karnataka, Gujarat and Maharashtra. Now, we are left with minimal supply and hence there is a huge increase in its price. In last two months, the retail price per kg has increased from Rs 150 to Rs 170."

Lahoti added, "There aren't enough stocks in Kalaburagi (major supplier for the state) due to less rainfall. Also, foreign companies have put up their own mills in Maharashtra, Gujarat and Andhra Pradesh. This will have an adverse effect on Indian mills that can supply the product at a much lower price."

He added that government bodies have not set up any norms to regulate these middlemen. "They do whatever they want and we, the poor merchants as well as public, have to suffer due to the steep price hike. The governing authority concerned should immediately put a check on these corporate companies and clear the way for us to get imported crops directly from international suppliers," he said.

Online grocers offer veggies at low prices, increase traffic

PUNE: Online grocers are proving a stiff competition to retailers by selling onions at cheaper rates, ranging from Rs 45 to Rs 68, per kilo, when the market price hovers around Rs 70 to Rs 80, per kilo. However some experts have raised doubts about the quality of onions on offer.

Rapidly mushrooming, online grocery firms say they are able to maintain a lower price point for onions by cutting down on profit margins, eliminating middlemen, and managing logistics better.

Co-founder of Localbanya Amit Naik, said that low pricing is a result of planned procurement and good marketing strategy. He remarked that the website has seen an increase in demand recently.

Seshu Kumar, head of national merchandising at BigBasket, said that the company sources its onions and other greens directly from farmers. "As of now,

we are working on cost-to-cost basis and although we do not stock onions, we are able to predict the demands of our customers," he said. Kumar also stated that the website does not allow any customer to purchase over 2 kg onion at a time to avoid bulk buys.

"We have priced onions in such a manner that we do not make any losses or profits. At the same time, we assure quality to our customers and stock only as much as required," explains Mukesh Singh, founder of ZopNow, a self-funded online grocery delivery firm that has recently crossed 3,500 orders in Pune.

Zip.in, another innovative online grocery firm, has introduced combo plans for frequently bought items to reduce the overall pricing. "Since prices of tomatoes have also increased to Rs 80/kg in various parts of the country, we are offering a kilo each of the three staples - onion, potato and tomato at Rs 104, if bought together," says Kishore Ganji, chief executive officer of Zip.in.

An online retailer remarked that onions, which are being sold at very low or near-wholesale prices, are not of the best quality and consumers will end up wasting or discarding most of their purchase. Another retailer pointed out that those selling onions at a low price would face losses eventually.

THE HINDU BusinessLine

MMTC floats tender for import of 10,000 tonnes of onion



State-owned MMTC has invited bids for import of 10,000 tonnes of onion from countries such as Pakistan, Egypt, China and Afghanistan to boost domestic supply and check prices.

This is the second tender MMTC has floated. It has finalised earlier bids for import of 1,000 tonnes at Rs 45 per kg and the shipments will arrive by September 10.

The government has started importing onions as retail prices have shot up to Rs 80 per kg across the country due to shortage of about five lakh tonnes of the key kitchen staple.

According to MMTC, bids have been invited from global suppliers for import of 10,000 tonnes of onion from Pakistan, Egypt, China, Afghanistan or any other origin.

Bids should be submitted before September 4 and will remain valid till September 10.

The shipments should reach by September 15.

Bids should be made for a minimum quantity of 1,000 tonnes. Quantity for import can be increased or decreased depending on the prices received in the tender.

MMTC has been asked to float tender after tender till the onion supply improves and prices come down.

The Government has taken several measures to curb the price rise in onions, including hiking the export price sharply to \$700 per tonne to restrict overseas sales and asking state governments, including Maharashtra, to take stringent action against hoarders and black marketeers.

To keep a lid on prices, the central agency SFAC, along with cooperative NAFED, has been boosting supply in price-sensitive Delhi markets at subsidised rates. Even the Delhi government has started selling onions at cheaper rate at Rs 30 per kg.

Providing affordable proteins is our goal, says Godrej Tyson chief

Godrej Tyson Foods Ltd (GTFL), joint venture between Godrej Agrovet and US-based Tyson Foods, that manufactures poultry and vegetarian products, is on a mission to address the country's nutritional security by making affordable protein products.

Arabind Das, Whole Time Director and Chief Operating Officer, GTFL says the per capita consumption of proteins in India is currently 63.2 gm against the

WHO recommendation of 84 gm per day. Of this, 72 per cent of the protein need is met from pulses and cereals, while the rest comes from dairy, meat, fish, poultry etc.



GTFL is attempting to take the lead in spreading nutritional security through innovative and affordable proteins. With this focus, the company has re-launched a range of cold cuts such as sausages, breakfast salami, pepper and herb salami chicken, cheese onion under its fastest growing brand, Yummiez, in October last year.

Ever since the launch, the cold cuts have garnered a compound annual growth rate of 34 per cent. The total processed food market in India is estimated to be worth \$69 billion of which the frozen part-fried and fully cooked market is estimated to be around \$300 million.

Yummiez is eyeing at least 10 per cent of this market in the next 2-3 years, Das told *BusinessLine*. Outlining his plans to serve consumers in a better way with convenient ready-to-cook products at affordable prices, Das said GTFL is expanding its operations to have a pan-India presence. Excerpts:

How far you have progressed in your mission in addressing India's protein deficiency?

Attaining food safety in India by 2025 is a big challenge considering the population growth and protein inflation. Of this, nutritional security is a major component which we are trying to address through innovative products developed on the basis of consumer insights, taste profiles and consumption habits.

We are putting efforts to bring out innovative, convenient, ready-to-cook products. The re-launch of the existing products and new product developments are done solely with this intent.

One of the key areas of focus for GTFL is to increase retail presence across the country through its well-established cold chain network.

Tyson Foods' expertise in vertical integration combined with GTFL's local innovations to rear hygienic and affordable poultry will help us in meeting the goal of offering affordable protein products even to consumers at the bottom of the pyramid.

Over the last three years, we have provided 2,500 plus chillers and freezers to mom-and-pop shops for stocking and selling our range of products and have invested around ₹8-10 crore. We are present in 72 cities and aiming to be in 100 in the next 2-3 years time.

Do you face any obstacles in achieving this mission?

There are several challenges. They include high import duties on equipment and power costs. VAT on ready-to-cook frozen products differs in various States between 5 and 17.5 per cent. A hygiene tax of 5 per cent levied in some States for raw poultry meat is also deterring growth prospects.

Tell us about the contract farming activities for poultry meat?

Our poultry operations are vertically integrated. This involves the supply of day-old chicks of the best breed (Cobb 400) to our contract farmers along with feeds from our own plants and support with veterinary services and training for rearing. Currently, over 650 contract farmers are based in Nasik and Karnataka and these two regions provide sufficient birds to meet our present requirements.

The per capita consumption of poultry meat is expected to go up from 3.2 kg to 4.8 kg in the next five years. Considering the growth in demand, we will continue to add and train more farmers in poultry rearing.

What is your take on the Kerala market?

Kerala is a dominant non-vegetarian market and products such as cold cuts or chicken nuggets give homemakers an opportunity to create a quick and healthy breakfast.

This has strengthened the brand and has given us overall growth of 36 per cent. Yummiez is available in 175 outlets and we plan to increase the dealer network to 250 plus in three years.

The market has the potential to grow further and GTFL has also started a stock point in Eramallur in Alappuzha district with the target of achieving 50 per cent growth in the State.

Cheaper imports hit rubber threads industry



Cheap and uninterrupted imports seem to have impacted many sectors of the Indian industry recently.

The rubber threads industry is no exception, forcing a majority of the companies to scale down their operations to avoid losses.

Higher imports

According to an industry source, more than 1,500 tonnes of rubber threads have come to the country in the past four months, which is about 50 per cent of the domestic consumption.

This has forced many of the Indian companies to reduce production, as they are not able to compete at low prices.

“Ours is a small industry and a few members have either closed or cut short production with one declaring sick under the BIFR,” a top executive of a leading rubber threads manufacturing company in Kerala told *BusinessLine*.

Rubber threads are used for various applications such as apparels, food packing, webbing, medical netting, bunkee jumping, etc.

Latex industry

“The heat resistant latex rubber thread (HRLRT) industry faces the brunt of the problem. It will be difficult for the industry to survive, unless the import duty on latex threads is revised,” he said.

The international price of centrifuged latex is ₹65/litre, while it is about ₹110 in India.

Import tariff

This has paved the way for international players to dump materials in the domestic market at cheaper prices.

According to the source, natural latex has an import duty tariff of 70 per cent, while rubber threads can be imported at a customs duty of just five per cent. The international latex prices have been ruling at lower levels compared to Indian latex prices, thereby giving a price advantage to the rubber thread manufacturers in South East Asia.

The source alleged that the Free Trade Agreements with ASEAN countries have benefitted only the counter countries rather than the domestic industry.

The customs duty on rubber thread is on the decline and will be reduced to zero per cent in the next few years. This would further worsen the situation, he added.

Business Standard

AgroStar: Agri inputs directly to farmers

Mobile commerce venture AgroStar supplies seeds and fertiliser to farmers. As the company expands, delivery will be a challenge

Navinbhai Karsanbhai Patel, a farmer from Navanagar in Gujarat, used to have a hard time securing quality inputs for his four-acre farm. That was before he got to know about AgroStar's offerings. His association with the company, now 18 months old, has resulted in 300 missed calls to the helpline number and 25 orders worth Rs 24,000. AgroStar has become so central to his life, that he recently invited the entire team for his daughter's wedding.



"Our head office in Pune frequently receives appreciation gifts from farmers," says co-founder and chief executive officer Shardul Sheth, an MBA from Rochester Institute of Technology, New York. After working for nearly 13 years in companies such as Best Buy and PricewaterhouseCoopers in the US, he came back to India to start something with his younger brother Sitanshu Sheth, an MBA from Mumbai-based SP Jain Institute of Management and Research.

After a not-so-successful attempt at manufacturing and distributing organic fertiliser, the brothers launched AgroStar, a mobile commerce firm that sells agricultural inputs directly to farmers, in 2013. Operational in Gujarat and Maharashtra, it is in the process of expanding to Rajasthan and Madhya Pradesh. It aims to have a pan-India presence in the next three years. The two-year company recently raised \$4 million (Rs 26 crore) from IDG Ventures India and existing investors.

AgroStar has so far raised Rs 35 crore in two rounds of funding. Aavishkaar happened to be one of the early investors. The company counts Snapdeal founders Kunal Bahl and Rohit Bansal among its mentors.

Business model

AgroStar sells nearly 1,000 products. These include seeds, fertiliser, pesticides and agri-implements, through its mobile-commerce platform. Farmers are

required to give a missed call and the company executives do the follow-up. The company claims to receive 1,500 to 2,000 calls every day. Since its launch two years ago, the start-up claims to have received 900,000 missed calls. "The average size of a transaction is Rs 1,500. What is encouraging is the fact that farmers keep ordering products from us," says Shardul Sheth.

With a staff strength of 100, AgroStar has two warehouses, in Ahmedabad and Pune, and most of the products are delivered using multiple channels including India Post's parcel service. Cash on delivery is the preferred mode of payment.

"Mobile is a non-threatening technology and adoption among farmers is therefore going to be faster," says T C Meenakshisundaram, founder and managing director of IDG Ventures India.

"I will be happy if the company is able to touch the lives of 50 per cent of the total farmers in the next five years," says Vineet Rai, founder and chief executive officer of Aavishkaar.

Challenges

Farming is a region-specific activity and it is going to be a big challenge for the company to cater to region-specific needs as it expands to new markets. Sourcing of quality products and keeping those in warehouses to be delivered in time is another challenge. Moreover, most of these products are procured by farmers on credit from local vendors. AgroStar will have a tough time making them switch over to cash payment.

However, the biggest challenge from similar ventures, as the model is replicable.

"Yes, the model can be replicated. But, you need to have insights into the issues faced by farmers. For that, you need to travel to rural areas frequently. It is not going to be easy for today's entrepreneurs to venture into rural areas and spend time with farmers," says Shardul.

According to Meenakshisundaram, AgroStar will continue to have the first-mover advantage. "Others will always be copy cats," he adds.

The way ahead

The company plans tie-ups with financial institutions, so that farmers are able to get high priced products such as agri-implements without going through the hassles of securing loans. Delivery is another area that is going to get the attention of top executives. The company currently ships products in three to six days. However, with expansion in areas far away from warehouses, it will have to look for new channel partners to deliver on time.

"The agri input sector, though highly fragmented, is a huge market. If AgroStar manages to capture a fraction of the business, it is going to be huge," says Rai.

EXPERT TAKE

AgroStar is addressing the challenges of demand and supply mismatch in a hugely fragmented agricultural supply chain market, which has not been disrupted for generations. Extensive utilisation of data analytics in this space for predicting demand and agri-input stock aggregation will help lower the procurement cost and increasing margins through economies of scale.

With the success of the company's transformational model, many competitors will evolve. So, rapid expansion into major agrarian states will be key to garner a large market share and create strong entry barriers for late entrants. The technology platform offered by such players will be the major differentiator, as technological disconnect has been the main reason for the alarmingly declining share of agriculture in the country's gross domestic product.

Growing smartphone penetration in virtually untapped rural regions is boosting the growth of m-commerce platforms, which might be the beginning in bringing in a prompt evolution in agricultural practices.