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PM urges farmers to download Kisan app

Reaching out to farmers, Prime Minister Narendra Modi said in his *Mann Ki Baat* radio address on Sunday that the government was constructing five-lakh farming pools in view of the depleting water table in many parts of the country. He called upon farmers to adopt water conservation methods so that they did not suffer heavy losses if the monsoon failed.

Mr. Modi urged farmers to download the government's Kisan Suvidha app on their mobile phones so as to be able to access expert advice and updates on weather that would help them in farming.

“If you download this app, you will get farming and weather-related information on your mobile phones. It will tell you about the state of markets, about pesticides. It will also connect you to agricultural scientists if you wish,” he said in his address.

Mr. Modi talked about how the government was developing all the five places associated with B.R. Ambedkar on the occasion of his 125th birth anniversary on April 14.

Greeting the nation on the occasion of Easter right at the beginning of his speech, Mr. Modi went on to urge students to develop some skills during their vacations. He called upon people to work towards defeating diabetes and eradicating TB from the country.

Mr. Modi spoke about India hosting the FIFA Under-17 World Cup football tournament next year, seeing this as a great opportunity for branding the country at the international level, for which immense awareness needed to be created within the country.

ICAR to deploy drones, sensors to study crop loss

The Indian Council of Agricultural Research (ICAR) is keen on deploying sensors and drones in farms, to start with, for assessing the quality of soil as well as crop losses after floods.

Highlighting the role drones could play in estimating the damage, Director General of ICAR T. Mohapatra said the devices would help speed up the analysis. At present, unless large areas get affected farmers do not get compensation, he added.

“We are developing drone-based technology, using new sensors to understand and assess crop losses,” he said, adding the Indian Agricultural Research Institute, a premier ICAR institution in Delhi, in association with a few other agencies, including ISRO and IIT-Delhi, is working in this area.

Dr. Mohapatra, who is Secretary to the Department of Agricultural Research and Education, said this in an interaction with presspersons during a visit to the Indian Institute of Millets Research here on Saturday.

New fuel-efficient fishing vessel to set sail



Sagar Haritha, an IRS class vessel, designed and developed by the Central Institute of Fisheries Technology, is all set to conquer new seas. The Central Institute of Fisheries Technology (CIFT), the lead partner in developing the fuel-efficient multi-fishing mode vessel, will take her to waters shortly. The vessel blends research as well as occupational fishing activities. The new model vessel was developed after detailed surveys across the fishing centres of the country and obtaining feedback from the stakeholders, said C.N. Ravishankar, the Director of the Institute. The vessel was built at Goa Shipyard at a cost of around Rs. 7 crore under the project "Green Fishing System for Tropical Seas" funded by National Agricultural Science Fund of the Indian Council for Agriculture Research. Garware Wall Ropes Private Limited, Pune and DSM India Limited, Mumbai are the other partners of the project. This was the first basic and strategic fisheries research project undertaken in PPP mode, explained Dr. Leela Edwin, the Principal Investigator of the project and Head Fishing Technology Division. This combination fishing vessel brings together deep sea fishing methods like long-lining, gill netting and trawling. F. V. Sagar Haritha is equipped with autopilot, echo sounder, High Frequency Radio, Fuel Monitoring System, Global Positioning System, Automatic Identification System, Very High Frequency Transceiver and NavTex-satellite based warning system. The Trawl Telemetry System would give inputs on how the trawl nets behave during fishing operations, said M.V. Baiju, the Naval Architect of the project. The vessel operating specialized energy efficient fishing gear made of new generation materials like Ultra High Molecular Weight Polyethylene will be taken for sea trials for the next one year. The commercial version of the same design is expected to cost around Rs. One crore, the scientists said. The stability, resistance, and sea-keeping characteristics of the hull model were optimized using Computational Fluid Dynamic simulation software and model testing. This modified hull can reduce wave resistance, thereby making the vessel fuel efficient, according to the scientists. The vessel has refrigerated sea water cooling system for high quality fish preservation. The wheel house made of FRP ensures low heat conductivity, light weight, increased stability and low maintenance. Solar power for navigational lighting, bulbous bow, nozzle propeller are its other features of the vessel, they said. P. Pravin, Saly N Thomas, M. P. Remesan and Madhu V. R, are the other scientists associated with the project.

Traditional seed varieties at risk: experts

Campaigners of traditional seed varieties and farmers here on Sunday cautioned the Narendra Modi government against flooding agricultural fields with polluting chemical fertilisers and hybrid seeds in the name of launching second green revolution in eastern India.

“Genetically-modified seeds promoted by multinational companies have threatened seed sovereignty of every country. India’s diversity in paddy and vegetables varieties will surely be under threat if such experiments are made in farm fields. We will surely lose our rich traditional varieties,” said Natabar Sarangi, renowned organic farmer and conservator of traditional rice seeds.

Mr. Sarangi was speaking on the sidelines of an exhibition of over 250 traditional rice varieties here at Lohia Bhawan. He , however, in possession of over 400 precious traditional rice varieties.

“Governments have been subsidising chemical fertilisers and MNCs promoted seeds for their use in agricultural field in the country. But these subsidies have not solved our problems. Why cannot there be subsidy for usage of organic manure and preservation of traditional varieties,” he asked.

Mr. Sarangi said traditional seed varieties have all the capabilities to ensure food security of the country and there should be greater awareness in all level to preserve seeds.

Speaking on the occasion, Prof Radhamohan, former Information Commissioner and an organic farmer, said: “We need to preserve every variety of rice, fruits and vegetables. We cannot put our seed sovereignty at risk by allowing our crop fields to be flooded with seeds promoted by MNCs.”

Rajdendra Desi Chasa Gabesana Kendra, a grassroots research organisation, announced to open its centre to farmers.

Solar dryer commissioned for value-addition to copra

This is the second dryer to be set up in Nagapattinam



A view of the solar dryer set up by the Tirumaraikadu Bio-Ffarmers Federation at Tirumaraikadu village in Nagapattinam district on Sunday.

Based on the success of the solar dryer set up at Vedaranyam, the Agriculture Engineering Department has set up second solar dryer at a village near Nagapattinam.

The dryer, set up at Semangalam village at an estimate of Rs. 3.86 lakh, aims at promoting value-addition in copra cultivation. The dryer has been set up with a subsidy of Rs. 1.84 lakh sanctioned by the state government.

“This is the second dryer to be set up in the district for the benefit of copra cultivators,” says an official source. In the first case, Tirumaraikadu Iyarkai Vivasayigal Sangam Kootamaippu comprising 21 farmers clubs’ involved in producing copra in a cluster of villages near Vedaranyam, has been set up.

Under the conventional method, it took about ten days for drying the coconuts. But, the solar dryer not only expedited it in two days but also ensured hygienic handling of the produce.

The dryer, with a plinth area of 400 square feet, can handle 1,500 coconuts a day which are broken before being arranged in trays at the dryer. “The dryer maintains

a temperature anywhere between 60 and 70 degree Celsius and it is monitored using a sensor,” the source told *The Hindu* on Sunday.

The source said that under the conventional method, the copra was damaged because of sudden downpour. But the dryer has relieved them of the additional efforts of protecting the crop from rain.

According to Agriculture Engineering Department sources, it has been planned to motivate farmers to utilise the dryer for value-addition in other crops particularly for ripening banana. Being a coastal area, Vedaranyam and surrounding villages were more prone to sharp showers and strong winds.

‘New technologies in agriculture should be affordable’

Siddeshwar Swami of Jnanayogashram, Vijayapura, has said that new technologies in agriculture must not only reach farmers but also should be affordable.

The swami was at the S. Nijalingappa Sugar Institute on Wednesday to inaugurate tissue-cultured sugarcane seedlings developed under natural environment conditions.

He said that innovations in science and technology should easily reach growers and sugar mills. Modern technologies should be farmer-friendly and help boost farm productivity.

Specific technologies for sugarcane sector should not only boost farm productivity but also improve financial conditions of growers, a press release issued by SNSI director R.B. Khandagave said on Saturday.

Dr. Khandagave said that experiments at the laboratory were aimed at creating healthy seeds of improved varieties of sugarcane; faster perpetuation of newly released sugarcane varieties in a short time; and improving sugarcane yield and sugar recovery.

He said that adoption of this technology would help maintain genetic and physiological purity of sugarcane varieties. The efforts would help sugarcane growers and sugar industry grow on sustainable basis.

The process of production of sugarcane tissue-cultured seedlings by using the variety Co 86032 was under process.

Dr. Khandagave said that varieties of sugarcane were being developed at the Zadshahapur centre of the institute on Belagavi-Khanapur Road in collaboration with the premier Sugarcane Breeding Institute, Coimbatore in Tamil Nadu.

The important varieties viz., Co 2012-238, Co 2012-88, Co 14010, Co 2012-91, Co SNK 07337 and Co 2012-147 were giving high yield and sugar recovery compared to ruling varieties.

‘Include more dairy farmers in govt. scheme’

TRS, Congress leaders raise several issues plaguing the dairy sector in the Assembly

The demand for inclusion of more farmers supplying milk to the dairies in Karimnagar and Nalgonda and the need for all dairy farmers to fetch a price of Rs. 4 a litre figured prominently in the Legislative Assembly during the question hour on Sunday.

The question was raised among others by Ramesh Chennamaneni and in response, Agriculture Minister Pocharam Srinivas Reddy said that the practice of giving Rs. 4 a litre to dairy farmers was introduced only after the TRS came to power.

“For 13 years, the previous governments did not do anything. Earlier, procurement by the Vijaya Dairy was only a lakh litres, but after we announced Rs. 4 a litre, procurement shot up to 6 lakh litres,” he pointed out.

The discussion saw members including Mr. Ramesh Chennamaneni and Anjaiah (TRS) and Vamsichand Reddy (Congress) speaking about several problems in the sector, including arrears from the government, non-supply of feed, mineral mixture and veterinary medicines. Mr. Ramesh wanted farmers who supplied milk to the dairies in Karimnagar and Nalgonda to be included in the scheme too.

Mr. Srinivas Reddy said that while about Rs. 16 crore was allocated thus far, it was said that the demand for payment of Rs. 4 a litre for farmers could work out to Rs. 59 crore.

The Chief Minister had given the nod for the amount too, he said. As for fodder seed, the demand was about 1,800 metric tonnes in the State, including 270 MT for just Mahabubnagar alone, he said, adding that the government was prepared to extend help to the sector to the hilt.

ICAR award for nutmeg farmer

Sachidanandan Velliyath, a 65-year-old farmer from North Aduvassery, Ernakulam, won the prestigious Innovative Farmer Award of the Indian Council of Agricultural Research (ICAR).

He received the award from Union Minister for Agriculture Radha Mohan Singh on March 21 at New Delhi during the National Agricultural Fair - Krishi Unnati (Pusa Krishi Vigyan Mela), said a press release here.

Development of a nutmeg decorticator, a devise to de-shell the nutmeg seeds, made him eligible for the award.

Since manual nutmeg de-shelling is laborious, it was not economical to produce kernel though it fetched double the price. The issue could be solved with the introduction of the new machine. The capacity of the nutmeg decorticator, powered by a 0.5 HP electric motor, is 150 kg per hour and costs Rs.28,000.

More than 140 farmers in Kerala and parts of Tamil Nadu and Karnataka have purchased this machine.

The Krishi Vigyan Kendra - Ernakulam of CMFRI had selected Mr. Velliyath as the Best Innovator and was recommended for the prestigious award, the press release added.

He got the award for developing a devise to de-shell the nutmeg seeds

Weaving farming into tourism

Maintaining ecological balance is key to tourism development and any move to change topography will bring adverse results, K.G. Padmakumar, agricultural

scientist and Director, International Research & Training Centre for Below Sea Level Farming, Alappuzha, has said.

Addressing a workshop on ‘heritage tourism,’ organised by Press Club here, he said agriculture should become a prime mover of tourism.

Today, tourism in Alappuzha primarily revolves around cruises on houseboats, leaving little place for inviting tourists’ attention to the innovative ways adopted by local farmers.

A close watch on the rich flora and fauna in Kuttanad and other parts do not form part of the tour packages now, he said. Farming should be promoted not only for the harvest part, but as a tool for ensuring a green environment that promotes biodiversity.

“Land is being misused. Mining has become a profitable business in the State. There are scores of quarries in the State, many of which have no licences. Small hills are being demolished.”

Topography

“The undulating topography is the main factor behind the rich biodiversity of Kerala. If the present trend continues, there could be a time when hills become plainlands and it could even create a situation in which people could reach hilltop temples on bicycles.”

Development should not be at the cost of destruction of means of livelihood of local populace.

Fishing, dairying, and agriculture could go hand in hand and a congenial ecosystem could be a fertile land for tourism. The Kuttanadan ‘Karimeen’ (pearl spot) and ‘Konchu’ (prawn) have their own stories to tell which could generate much interest among domestic as well as foreign tourists.

Below sea level farming

Methods adopted by the local farmers for ‘below sea level farming’ have been recognised by international farm scientists. Pokkali farming offers another area of interest for visitors.

Farm tourism has to go a long way to capitalise on the strengths of Kerala on farm front.

Homestays and farmstays have to be developed. Farm produce could be made available to tourists, thus opening up a new avenue for the local farmers for sustenance. People's own tourism should be developed in God's Own Country, said K. Roopesh Kumar, State-level coordinator of Responsible Tourism.

Fish from Thailand

Local resorts buying fish from Thailand for dishes can't be encouraged, he said. The local farming and culture should be woven into tour packages, he said.

S. Ajayakumar, Assistant Professor, SD College, Alappuzha, spoke on cultural connection to various tourism spots.

Coffee plantation being tried at Pachamalai

600 fingerlings from Thanjavur being reared in ponds near Top Sengattupatti



As part of livelihood support initiative for tribal men and women of Pachamalai, a series of innovative income-generating activities have been taken up under the Integrated Tribal Development Programme being implemented by the National Bank for Agricultural and Rural Development through Hand-in-Hand, a non-governmental organisation.

Coffee plantation has been taken up on an area of 100 acres of land and the plants have been registering an appreciable growth in the last six months.

“Being a shade-loving plantation crop, coffee plants should be raised on areas with adequate shade,” said Kannan, coordinator of the Hand-in-Hand.

He said that the coffee plants of ‘Selection’ variety had been brought from Kolli Hills and had been given to tribal farmers after an initial exposure visit to the plantations there.

Based on the success of growth of coffee plants in Pachamalai, the Coffee Board had come forward to extend its support.

“In fact, the Board had gathered the details of tribal farmers cultivating coffee in the villages on the hills,” he added.

Maximum advantage of shady areas at Pachamalai had been taken.

Fish ponds

For the first time, two fish ponds had been set up to benefit the tribal farmers. A total of 600 fingerlings of katla, rohu, and mirgal varieties had been brought from Thanjavur and is reared at a couple of ponds set up at Puthur village near Top Sengattupatti.

The fishes which were let out in the pond two months ago, now weighed 200 grams. “The weight will increase up to one kg in four months or so, indicating an attractive revenue for the tribal farmers,” he said.

Desi bird rearing has been another innovative vocation in which six women had been imparted special training.

“With the desi birds being reared in the open at the backyard, as against the use of cages, the birds will fetch attractive returns,” Mr. Kannan said.

The women have been rearing ‘Asil 1’ and ‘Asil 2’ variety of birds which will fetch a monthly revenue ranging between Rs.1,000 and Rs.1,500.

All these vocations have been introduced to diversify the economic activities of tribal farmers who have been largely depending on the cultivation of tapioca and castor.

ICAR head calls for more investment in public research

Secretary to the Department of Agricultural Research and Education (DARE), T. Mohapatra, on Saturday said the ongoing row over Bt cotton seed pricing is a pointer to the significance of making more investments in public research on technologies.

“[It] emphasises that the public system should invest more to have its own technologies in place so that we are not over-dependent on one particular agency,” he replied to a query on the veiled threat of agri biotech major Monsanto to withdraw from India over the pricing.

Expressing hope that the issue could be resolved through “negotiations and discussions”, Dr. Mohapatra, who is the Director General of Indian Council of Agricultural Research (ICAR) as well, said apart from protecting the interest of farmers, the enhanced investments would ensure against monopolisation of the market.

In the city on a two-day visit from Friday to all the ICAR institutes, he interacted with presspersons at the Indian Institute of Millets Research.

For Monsanto, he explained, withdrawing should be very tough as India is a “very big market for them”. Moreover, the company has been in the country for 15 years now.

Without discounting the trouble that may crop up if Monsanto -- which licences the Bt technology through Mahyco Monsanto Biotech (India) -- leaves, the official said the government was preparing alternative technologies for Bt cotton.

The Central Institute for Cotton Research (CICR) is on the job and made “some progress. There is a need to do more,” he said, adding that greater efforts and more investments are called for in the sector.

Online market campaign begins

Rahim Khan, MLA, flagged off a bus, to create awareness among farmers about the facility to sell their produce online, in Bidar on Saturday. He said that the bus would go around villages informing people about the facility available at the Bidar Agriculture Produce Marketing Committee.

Save our seeds, says Bengaluru's seed guardian



Sangita Sharma at Annadana's five-acre farm in Vidyaranyapura in Bengaluru.—
Photo: Sudhakara Jain

“Everything comes from the seed,” says Sangita Sharma, looking at the expanse of green before her. The sheer diversity on the five-acre farm is mindboggling: carrots, *shorgum*, broccoli, cabbage, sunflower, pomegranate, wood apples, paddy and millets. Apart from rock salt, we outsource nothing, she adds with pride.

A former airhostess and corporate affairs specialist, Sangita started Annadana Soil and Seed Savers in 2001. It is a self-sustaining organic farm in Vidyaranyapura and, probably, the only one within the city, which preserves traditional or '*naati*' seeds. Called '*Bheej Behen*' for her efforts to preserve traditional

varieties of crops, she has spearheaded a movement to empower farmers. Today, 20 farmers and five experts grow 95 varieties of crops and, thanks to proper planning, reap the harvests of three seasons each year. The seed bank has over 200 varieties of traditional vegetable seeds, from black tomatoes to multi-coloured corn, preserved at a cooler temperature.

“Traditional seeds are those that stand the test of time,” says Sangita. Initially, seeds were brought in from all over the world to start the seed bank. Every season, the seeds are tested for performance and yield. The good ones are saved for the next cycle, ensuring that only robust varieties survive. “Each year, we donate 35,000 packets of seeds to farmers in distress across the country,” she adds.

Growing traditional seeds empowers farmers because they need not be dependent on seed companies.

Raji, a farmer and a budding photographer, takes pictures of us with an old DSLR camera while we taste the farm-fresh produce. Everything on the plate has a fantastic flavour and tastes fresh. "You won't find such delicious tomatoes in any store," says Sangita.

She talks about the ‘Kalam gopis’ referred to in the Rig Vedas, whom she calls the original ‘seed guardians’. They took charge of the land and saved seeds for the next sowing cycle, she says. Perhaps, this explains why most of the farmers in her land are women. The farmers plan and conduct every operation, from collecting the seeds to packing and labelling them. The group also conducts farm trails and internship programmes to add to their revenue. In a time when farmers are facing an agricultural crisis, the self-sustaining environment at Annadana is something policy makers and officials can learn a lesson or two from.

How they work

- ***Pheromone trap: a chemical resembling sex pheromone is kept inside a trap. It traps and kills males, thus reducing breeding***
- ***Sticky trap: A sheet with oil smeared on both sides is hung close to the crops. Flying pests get stuck***

· *Trap cropping: Crops like Saafla attract many pests. They are grown alongside vegetables to distract pests*

Haryana to buy 75 lakh tonnes of wheat

Haryana government on Sunday said it has made all arrangements for the procurement of 75 lakh metric tonne of wheat for Rabi marketing season 2016-17, starting from April.

“All arrangements for smooth procurement of wheat and other grains during the Rabi season-2016 have been made,” a spokesman of Haryana Food and Supplies Department said here. The procurement agencies have also made necessary arrangements for packing material for procurement of 75 lakh MT of wheat, he said.

The state government was committed to making payments to the farmers within 48-72 hours of their grains being procured, he said. This year, about 75 lakh metric tonnes of wheat is expected to arrive in the mandis. The Minimum Support Price for wheat has been fixed at Rs 1,525 per quintal. As many as 379 mandis or purchase centres have been set up across the State.

Now, growers plan to increase export of mangoes to the US



Mango growers in the country are planning to increase the volume of export of their produce to the United States this year. Last year, India exported 271 metric tonnes of mangoes to the US. Officials hope the figure will go up to 400 tonnes this year.

Succulent Indian mangoes take a circuitous route through the country's onion belt to head for the US. A sprawling irradiation facility set up in Lasalgaon, located 240 km north of Mumbai and approved by the United States agriculture department, treats these mangoes before they are exported.

Till a decade ago, Indian mangoes had been banned from the US market for a period of 17 years over fears that pests would be imported through these mangoes. It was only in March 2006 that the then US President George W Bush during his India visit signed an agreement allowing the import of Indian mangoes to that country.

India cultivates mangoes on nearly 2.2 lakh hectares and has production in the range of 19.51 million tonnes. It accounts for nearly 40 per cent of the total mango production in the world. Nearly 30 varieties of mangoes are grown in India, with Uttar Pradesh, Andhra Pradesh and Karnataka having the highest production. Despite this, India exports only 43,000 MT mangoes, which accounts for 0.2 per cent of the total production.

The major five importing countries of Indian mangoes are UAE, Bangladesh, UK, Saudi Arabia, and Nepal.

Interestingly, in spite of the high returns that the US market gives, exports to that country did not look up once the ban on Indian markets was lifted. Officials at Krushi Utpadan Sanrakshan Kendra (KRUSHAK), the irradiation centre, however, said they hoped to export 400 tonnes to the US this year.

“The US market would fetch an exporter four times the price than to any other country. Last year, the price fetched per tonne of exports was Rs 70,360. In the US, it was Rs 2.55 lakh. It is the fear of maintaining standards that is keeping Indians away from this market. This year, we hope we will reach the 400-tonne mark to the US,” said a Maharashtra State Agriculture Management Board official.

The irradiation plant set up at a cost of Rs 8 crore in 2002 was initially meant to treat onions. The members of the Animal and Plant Health Inspection Service of the United States agriculture department had subsequently visited the plant and have a go-ahead for the facility’s compliance for mangoes too.

Before 2007, Indian mangoes had for 17 years faced non-trade barriers, such as sanitary and phyto-sanitary (plant health) measures, from the US, which feared pests like fruit flies and weevils could be imported through mangoes.

However, this mango quarantine through irradiation has allayed the fears. During irradiation, foods are exposed briefly to a radiant energy source such as gamma rays or electron beams. This not only helps in killing harmful bacteria but also increases the shelf life of the fruit.

The facility built by the Bhabha Atomic Research Centre has a processing capacity of 1 tonne every hour and BARC charges Rs 500 to irradiate every tonne of mango.

“Varieties like Alphonso are too sweet for the palate of Americans. It is Kesar that sells in those markets. A single Kesar fetches close to a dollar. However the packing, quality maintenance and paper work involved puts off most traders from approaching the US market,” said Shirish Jain, a Gujarat-based exporter of Indian mangoes.

From Plate to Plough: Raising farmers’ income by 2022



Before one assesses the seriousness of this dream-promise, one must be clear about the PM’s commitment.

For the last two months, the [Narendra Modi](#) government seems to have gone into an overdrive to appease farmers. Several farmer rallies have been organised and the common theme has been the PM’s “dream” to double the incomes of farmers by 2022.

According to the PM, agriculture has to stand on three pillars — paramparagat kheti (traditional agriculture), diversification into agro-forestry by planting trees on the boundaries of farmers’ fields, and encouraging livestock and bee-keeping, duly supported by food processing. These pillars will reduce the risks in farming, and augment farmers’ incomes. He weaves his strategy with programmes such as soil health cards and neem-coated urea to take care of “mother earth’s” health; giving more resources for irrigation and using the MGNREGA for recharging ground water through check dams and farm ponds, thus, getting more crop from every drop of water.

The picture is completed by the Pradhan Mantri Fasal Bima Yojana (crop insurance) and e-market platform that he is going to launch on April 14. All these nodes are right for any meaningful agri-strategy. But haven't these been in existence in some form or the other? What is the novel idea in this strategy that will double farmer incomes in six years?

Before one assesses the seriousness of this dream-promise, one must be clear about the PM's commitment. What the nation would really like to know is whether he is talking of doubling nominal incomes or real incomes. Whenever one talks of doubling, say, national income or sectoral incomes, one means it in real terms. Doubling of real incomes in six years would be a miracle of miracles, as it would imply a compound growth rate of 12 per cent per annum. But as they say, "nothing is impossible". Madhya Pradesh has registered 14.2 per cent growth in real agri-GDP over the last five years, and states like Jharkhand, Chhattisgarh, Gujarat, Himachal Pradesh, Rajasthan, and even Bihar have witnessed agri-growth in excess of 7 per cent.

Internationally, China's farm incomes grew at 14 per cent per annum, and the agri-GDP at 7.1 per cent, during the first few years of economic reforms (1978-86). This helped in halving its poverty in just six years. It generated a huge demand for industrial products in rural areas, which were met by scaling up town and village enterprises (TVEs).

This also gave political legitimacy to carry on economic reforms more aggressively. How did China achieve this? Very briefly, they incentivised the peasantry by dismantling the commune system in land, and freeing up agri-prices. Lately, China has been heavily supporting farm prices. For instance, their MSP for wheat in 2014-15 was \$385/tonne compared to India's \$226/tonne.

Does PM Modi plan to raise the MSPs of agri-products substantially? The MSPs announced in the first four crop seasons under his regime do not indicate any such move. On the contrary, their rise has been largely suppressed. Moreover, in much of eastern India, including in his own constituency of Varanasi, the market prices of paddy prevailing in the last kharif season were 15-20 per cent below the MSP. The absence of any robust procurement machinery in the eastern belt is one major stumbling block that is holding back the second green revolution there.

So, the other paths to doubling farmer incomes would be raising productivity and diversification into high-value agriculture as well as diversification of farm employment into non-farm activities. Raising productivity requires massive investments in R&D, irrigation and fertilisers. Compared to China, India is way

behind in all these factors and, not surprisingly, our productivity levels, in almost all crops, range between 50 to 75 per cent of Chinese levels.

Diversification into high-value agriculture requires a value-chain approach, and we are lagging behind in that, too. India may be producing 145 million tonnes of milk and more than 270 million tonnes of horticulture products but our processing levels (in the organised sector) are way below — less than 20 per cent in milk, and less than 5 per cent in fruits and vegetables — international levels. Encouraging processing and building value-chains would help create non-farm jobs in rural areas. Until all these factors come together, Modi's dream of doubling real farm incomes by 2022 will remain far-fetched.

That brings us to the possibility of doubling farmers' incomes in nominal terms, by letting price increases raise incomes. But this has been done during the UPA regime too. Between 2008-09 and 2013-14, India's agri-GDP at current prices grew at 14.8 per cent annually on average, with wholesale food article inflation averaging 11.7 per cent, and real agri-GDP growing at only 3.1 per cent per annum. Farm wages also grew at an average rate of 18.8 per cent in nominal terms and 7.5 per cent in real terms in these six years. So, what is new that Modi is promising?

If Modi can keep food price inflation below 5-6 per cent, and raise farmers' nominal incomes by 12 per cent per annum, it will still be commendable. Otherwise, there is nothing novel about what Modi is selling: It is just old wine in a new bottle. Therefore, unless this slogan is backed by action, that too in mission-mode, it will remain just a dream and the PM will be branded nothing more than an affable "sapno ka saudagar".

PM to farmers: conserve water to boost farm productivity



Prime Minister Narendra Modi on Sunday called for conserving water to increase agricultural productivity in the country, even as he listed out various pro-farmer initiatives of his government.

He urged farmers to clean ponds in their vicinity for improving availability of water. “The government is planning to make five lakh new ponds through MGNREGA. These will be our assets to conserve rain water which will help the farmers irrigate their land in view of deficit monsoon,” Modi said in the 18th edition of his monthly radio address ‘Man Ki Baat’.

Modi called upon farmers to use technology in the field of agriculture. Supporting the Kisan Suvidha mobile application, he said the app helps farmers keep track of the weather and the prices of agriculture produce in the market.

He also urged farmers to use less fertilisers as “their overdose will ruin the soil and cause health hazards to people”.

Referring to the World Health Day (on April 7), Modi called for eradicating diabetes from the country and asked people to do Yoga and physical exercise to fight the disease.

Warning the citizens about unhealthy life style, he expressed concern over the rising number of diabetic patients in the country.

Call to students

Skipping controversial issues such as unrest in universities, the Prime Minister asked students to utilise the vacation fruitfully by learning something new. He urged students to develop their personality and skill during the vacation.

Business Standard

PM promises 500,000 ponds for agriculture



Given the prospects of drought in several parts of the country and the looming water scarcity because of depleting water table, Prime Minister Narendra Modi said on Sunday that the government would help construct 500,000 khet talab (farming ponds) as part of the Mahatma Gandhi National Employment Guarantee Scheme (MNREGS) to augment water for irrigation.

In the past month, the PM has focused his public speeches on farmers' issues and youth of the country as well as remembering B R Ambedkar. His monthly radio broadcast 'Mann ki Baat' on Sunday was no different.

The PM stressed the need to popularise sports as youngsters constitute 65 per cent of India's population. He said India hosting the FIFA youth world cup in 2017 was a great opportunity to take football to all corners of the country. Incidentally,

football is quite popular among the youth in some of the states going to the polls in April - Assam, Kerala and West Bengal.

During the 30-minute broadcast on Sunday, the PM's intent to connect with the country's youth was apparent as he spoke of the Indian cricket team's wins against Pakistan and Bangladesh in the ongoing T20 cricket world cup.

Modi also appealed to students to pick up at least one skill during their holidays.

Referring to the agriculture sector, he said water table was falling in parts of the country. He said small reservoirs should be made to conserve rainwater.

In western Maharashtra, the crisis has deepened even triggering a law and order problem. According to the Groundwater Surveys and Development Agency (GSDA), the water table level has dropped to one metre in about 540 villages across 13 talukas in Pune district.

The PM also asked farmers to make use of the Kisan Suvidha app to get information on farming, weather conditions and prices in wholesale markets. He also advised farmers to reduce the use of fertilisers, saying "It will also reduce costs and increase output."

Modi noted that he would be in Mhow (Madhya Pradesh), the birthplace of Ambedkar, on the occasion of his 125th birth anniversary on April 14. The PM, whose government has come under attack for being anti-Dalit after the suicide of Hyderabad University student Rohith Vemula, highlighted the government's efforts to develop five places associated with Ambedkar's life

MP to join National Agri Market platform



As [Madhya Pradesh](#) gears up to join the recently-announced [National Agriculture Market](#) (NAM) platform, Prime Minister [Narendra Modi](#) is likely to launch it from the state. The PM is expected to visit Mhow (near Indore) on April 14 to mark B R Ambedkar’s birth anniversary.

The state government through its [Mandi Board](#) had recently sent a proposal to launch the platform from Karond mandi (10 km away from Bhopal).

Modi had announced the platform during his recent visit to nearby Sherpur village of Sehore district, where he addressed a mega rally of farmers.

“We are fully geared up to join the initiative announced by Prime Minister Narendra Modi recently. We’ll start operation soon after the launch of this platform on April 14,” said Rajesh Rajora, principal secretary of state farmers’ welfare and agriculture development department.

Initially, the state government would include only one commodity — chana (gram) — for e-auction through the NAM platform.

According to well-placed officials in the Mandi Board, the central government has agreed to release Rs 15 crore for all 50 mandis to equip them with online support system, software, hardware, and grading of farm yield.

The Mandi Board will also chip in with further funds if required to upgrade mandis to enable them to sync with the NAM platform. The state might also demand additional fund for recurring expenses.

Since mandi traders who participate in regular auction of commodities carry localised mandi licence, the trading would take place only in Karond mandi. At a later stage, the state will have to make rules so that traders can obtain a single licence for the entire state and country.

“Since single licence fee is very high (Rs 1 crore), it would require a simpler procedure and less fee to attract more traders to participate in the e-auction of commodities through the NAM platform. They may opt for nation-wide licence once necessary rules and framework is ready,” said Vinay Nigam, upper commissioner of Madhya Pradesh Mandi Board.

The NAM platform requires a regulator, a warehousing agency, a grading agency, aggregators and third-party payment system to complete the process of e-auction. “A complete system will be in place at a later stage,” Nigam added.

Trading would gradually include more commodities to be auctioned through the NAM platform.

For logistics management, states will rope in transporters for traded commodities

across India. Once the commodity is delivered, the trader will make online payment through public finance management system to the mandi.

At present, farmers sell their farm yield only at nearby mandis by transporting their farm yield.

A fair quantity is lost either in transportation, distress or need-based sale and fetch low returns to their farm yield.

Besides Karond, 50 out of a total of 257 mandis in the state will also have similar facility for farmers in the near future.



Column: Doubling farmers' income by 2022



If PM Modi can keep food price inflation, say, below 5-6 %, and raise farmers' nominal incomes by 12% per annum. (Reuters)

For the last two months, the [Narendra Modi](#)-led government seems to be in an overdrive to appease farmers. Several farmer rallies have been organised in Madhya Pradesh, Karnataka, Odisha, Uttar Pradesh, and recently at New Delhi's Krishi Unnati Mela. Budget FY17 also echoed the 'focus' on farmers and rural poor. All the vociferously-shared strategies and visions have one thing in common: the PM's 'dream' to double farmers' incomes by 2022, when India celebrates its 75th year of Independence.

Without doubt, the dream is to rekindle hope among the peasantry, currently reeling under acute distress caused by back-to-back droughts, falling agri-prices and dwindling incomes. The prime minister is hard-selling his dream with a detailed strategy to realise it. According to him, agriculture has to stand on three pillars—paramparagat kheti (traditional crop), diversification to agro-forestry by planting trees on the boundaries of farmers' fields, and encouraging livestock and bee-keeping, duly supported by food-processing. These pillars will not only reduce risk in farming but augment farmers' incomes.

He weaves his strategy with programmes such as distribution of soil health cards and neem-coated urea for the health of 'Mother Earth', more resources for irrigation and use of MGNREGS for recharging ground water through check dams and farm ponds construction. The picture is rounded out with the Pradhan Mantri Fasal Bima Yojana (crop insurance) and e-market platform that he is going to launch on April 14. All these nodes are the right ones for any meaningful agri-strategy. But haven't these been in existence for some time now, in some form or the other? What novel idea is the new strategy spelling-out, one that will enable the country to double farm income in six years?

Before one assesses the seriousness of this dream/promise, one must be clear about what the PM is actually committing to. What the nation would really like to know is whether he is talking in terms of doubling nominal or real incomes of farmers. Whenever one talks of doubling of national income or sectoral incomes, one means it in real terms.

Doubling of farmer incomes in six years, if it is in real terms, would be the miracle of miracles, as it would imply a compounded annual growth rate of 12%. But as they say, nothing is impossible. Madhya Pradesh has registered 14.2% real agri-GDP growth rate in the last five years, and states like Jharkhand, Chhattisgarh,

Gujarat, Himachal Pradesh, Rajasthan, and even Bihar, have also witnessed above 7% agri-growth.

Internationally, China's farm incomes grew at 14% per annum, and agri-GDP at 7.1%, during the first six years of economic reforms (1978-86), which helped in cutting poverty by half. It generated huge demand for industrial products in rural areas, which was met by scaling up Town and Village Enterprises (TVEs). This also gave political legitimacy to carry on economic reforms more aggressively. How did China achieve this? Very briefly, by incentivising peasantry by dismantling the commune system in land, and freeing up agri-prices. Lately, China has been heavily supporting farm prices. Their MSP for wheat in 2014-15, e.g., was \$385/tonne compared to India's \$226/tonne. Similarly, rice MSP was \$440/tonne for Indica rice and \$500/tonne for Japonica rice vis-a-vis only \$330/tonne in India.

Does the PM plan to raise MSPs of agri-products substantially? The MSPs announced in the first four crop seasons under his regime do not indicate any such move. On the contrary, their rise has been largely suppressed. Moreover, in much of eastern India, including his own constituency of Varanasi, market prices of paddy were 15-20% below MSP in the last kharif season. Absence of a robust procurement machinery in the eastern belt is a major stumbling block holding back a second Green Revolution.

So, the other path to doubling farmer incomes would be to raise productivity, diversify production towards high-value agriculture and shift a major portion of farm employment to non-farm activities. Raising productivity requires massive investments in agri-R&D, irrigation and fertilisers. Compared to China, India is far behind, and our productivity is half to three-fourths of China's. Diversification to high-value agriculture requires a value-chain approach, and we are lagging behind in that, too. India may be producing 145 million tonnes of milk and more than 270 million tonnes of horticulture products, but their processing levels (through the organised sector) is much less than international levels. Encouraging processing and building value-chains would help create non-farm jobs in rural areas. Unless all these forces combine and create synergy, Modi's dream of doubling real farm incomes by 2022 will remain far-fetched.

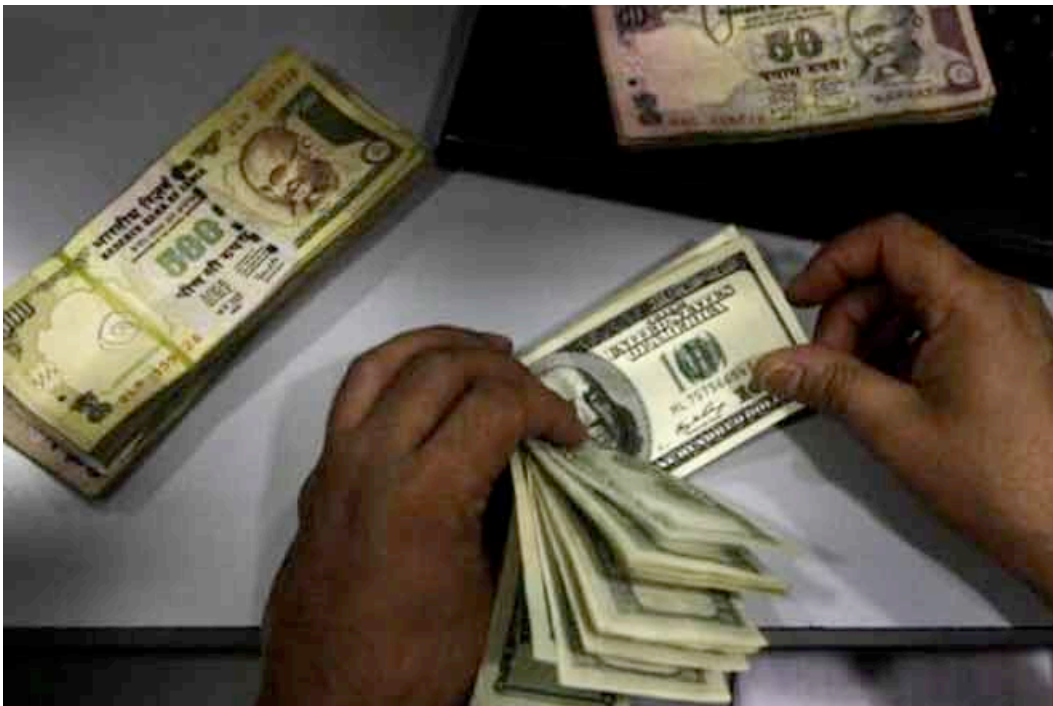
That brings us to the possibility of doubling farmers' incomes in nominal terms, by letting price increases raise incomes. But this has been done in the UPA

regime, too. During 2008-09 to 2013-14, India's agri-GDP at current prices grew at 14.8% annually on average, with wholesale food articles' inflation averaging 11.7%, and real agri-GDP only at 3.1% per annum. Farm wages also grew at an average rate of 18.8% in nominal and 7.5% in real terms in the 6 years! So, what is new that PM Modi is promising?

If PM Modi can keep food price inflation, say, below 5-6 %, and raise farmers' nominal incomes by 12% per annum, it will still be commendable. Otherwise, there is nothing novel about what PM Modi is selling. It is old wine in a new bottle. Therefore, unless slogans marry mission-mode-action, we are afraid, the dream will only remain so, branding the man as nothing more than an affable sapno ka saudagar!

Gulati is [Infosys](#) Chair professor, and Saini is a consultant at ICRIER

100 pct local sourcing likely in new FDI regime in food marketing



In the Budget 2016-17, the government permitted 100% FDI in the marketing of food products through the FIPB. (AP)

The food processing ministry wants at least 15% of the proposed 100% foreign direct investment (FDI) in the marketing of food products to be used to create back-end infrastructure. In recent meetings with stakeholders, the ministry has also suggested that food products, to be marketed by a foreign retailer under the new regime, should be not just manufactured in India but also made entirely of local inputs, a senior government official told FE.

The department of industrial policy and promotion (DIPP), the nodal agency for FDI policy, is currently in discussion with the ministries of food processing, agriculture and finance to finalise the guidelines.

Investments in back-end infrastructure, the official added, would mean “capital expenditure on all activities, excluding spending on front-end units”, which will include distribution, logistics, storage, warehousing, agriculture market produce infrastructure, quality control, design improvement and packaging.

Under the extant norms governing multi-brand retailing, the FDI is allowed up to 51% and at least 30% of the inputs have to be sourced locally from small and medium enterprises. In the Budget 2016-17, the government permitted 100% FDI in the marketing of food products through the FIPB (Foreign Investment Promotion Board) route. “This will benefit farmers, give impetus to food processing industry and create vast employment opportunities,” finance minister [Arun Jaitley](#) had said in his Budget speech.

Another official said creating the back-end infrastructure for retailers will be easier than ever as the Budget has announced a slew of incentives for this purpose. The basic customs duty on imports of certain items to create cold chains has been proposed to be reduced to 5% from 10%, while that on refrigerated container will also be cut by a half to 5%. The excise duty on refrigerated containers has been reduced to 6% from the current 12.5%.

The food processing sector has received FDI worth \$6.7 billion between April 2000 and December 2015, accounting for 2.4% of the total FDI inflows during the period, according to the DIPP data. It is ranked 13th among the sectors that have attracted the highest FDI since April 2000. Services, construction development, computer software and hardware, telecoms and automobiles have attracted the highest FDI over the years.

Earlier this month, food processing minister Harsimrat Kaur Badal said the government's move to help double the level of processing of food items to 20% over the next few years. This will also drastically reduce wastage of food and farm items, estimated at R92,000 crore annually due to low levels of processing and inadequate infrastructure for scientific storage, she added.

THE ECONOMIC TIMES

Alphonso mangoes: King of good times is back



For Anil Karale, the owner of a fruit shop in Mumbai's Crawford Market, finding customers for Alphonso mangoes - even at prices of as much as Rs 4,000 a dozen - is not tough. In fact, he has customers all over the country waiting.

"Our mangoes go as gifts to celebrities from all walks of life - Bollywood, cricketers, politicians, corporates," said Karale, whose more than 60-year-old firm, Rajaram Laxman & Co., is the preferred choice of the country's who's who for best quality mangoes. It's not just the celebrities who are buying mangoes at over Rs 300 apiece. "There are noncelebrity buyers who start buying mangoes as soon as we inform them of its arrival," said Karale. Last year's highest price was Rs 3,500 dozen. The king of fruits is poised for a good season. The Alphonso mango season and the area under cultivation have expanded, more trees have been planted to boost yield and steps have been taken to meet strict export standards. However, as the shadow of climate change looms over the sector, some producer states have been hit by drought.

Although it's said that Portuguese general Afonso de Albuquerque, who conquered Goa in 1510, introduced the Alphonso mango in the Konkan coast, scientists at the Balasaheb Sawant Konkan Krishi Vidyapeeth in Maharashtra believe the fruit is a local variety that the Portuguese introduced to the world.

The north Indian varieties are not as lucky because the winter cold hampers flowering. Only the Dashehari variety from Lucknow has been grown successfully in areas around Hyderabad and yields fruit from April.

In the mango-loving country that has fruitbearing orchards planted by various royal families that are more than 150 years old, farmers are now taking up high-density plantation to increase yield.

Exporters, too, are aggressively investing to meet the phytosanitary requirements of remunerative overseas markets, including Europe and the US, and widening the customer base in Australia, Mauritius and South Korea. "We have installed new machines for hot-water treatment. Overall crop condition is also good, which will help in achieving a jump in exports of about 10% to 15% over the previous year," said Kaushal Khakar, chairman of Kay Bee Exports, a Mumbai-based fruit and vegetable seller.

Between 2004-05 and 2014-15, the value of mango exports, including pulp, increased almost threefold to Rs 1,144 crore. This was despite a US ban on Indian mangoes from 1989 to 2007 and entry into Australia from 2009. Today, fresh mango exports stand at Rs 302 crore, more than a 10th of the total fresh fruit

shipments from India at Rs 2,771 crore. To comply with EU standards, the Agricultural and Processed Food Products Export Development Authority (Apeda) and the Maharashtra state government started Mangonet, an online system to trace the origin of each fruit to its field. About 3,500 farmers - mostly from Maharashtra - registered for the scheme last year and the number has increased to 7,220 this year, with the addition of 2,600 farms from Karnataka and a few from Gujarat and Andhra Pradesh.

Export of mangoes to the US may increase this season as a new irradiation facility at Vashi near Mumbai - a key requirement - has cleared a safety audit. "The Vashi facility has the capacity of treating 4.5 tonnes of mangoes per day as against less than 1 tonne per day capacity of the Lasalgaon plant, which was inconvenient for both growers and exporters due to its location in Nashik district," said DM Sable, additional general manager of the Maharashtra State Agricultural Marketing Board, which set up the Vashi plant. Authorities are in talks with the Australian government to allow the import of additional varieties of Indian mangoes, which are currently restricted to some north Indian varieties after vapour heat treatment.

Exports to Mauritius, which opened up its market at the end of the previous season, are expected to go up this year, while South Korea will be added to the list of export destinations. Amid all the positive signs, climate change is turning out to be the biggest imponderable for mango cultivators. Along with the limitation of alternate year fruit bearing, climatic aberrations pose a challenge for India's mango crop. Warmer temperatures could affect productivity and growers have little to fall back on if there's a crop failure.

"The temperatures that used to be there in March are now witnessed in February. Although the crop may look good, a sudden increase in temperatures can lead to a fruit drop," said a veteran scientist who specialises in Alphonso mangoes. "There was no clear winter in December, which delayed flowering by one month. The summer temperatures are higher by 1.5 degrees Celsius to 2 degrees Celsius, while sudden increase in temperatures are not good for proper fruit development," said A Bhagwan, a senior scientist at the Fruit Research Station in Telangana.

Water is a challenge for the mango crop in Telangana as farmers are reporting fruit drop due to water stress, he said. "We are advising them on water management

using micro irrigation," Bhagwan said. Trade officials estimate production could decline by over 50% if nothing is done about this.

The stakes are high even for the mango processing industry, which is as crucial as the fresh fruit market. Indian mango pulp is recognised as a brand in the world market.

India exported pulp worth Rs 841 crore in 2014-15. Mango pulp exports have grown more than 37% during the past decade, according to Apeda. In the domestic market, too, mango dominates the fruit juice segment. According to government estimates, turnover of the Chittoor Agricultural Economic Zone, known for its mango pulp units, is about Rs 500 crore. According to industry estimates, about 20,000 tonnes of mangoes, or 0.1% of total production are used annually for pickling and the big and small players together account for a turnover of over Rs 3,000 crore.

While mango production in north India is expected to be good, there are concerns over output in drought-affected states such as Andhra Pradesh, Telangana and Gujarat where production may decline.

The condition of the crop in Uttar Pradesh is good, with 95% of plants having flowered. "Mango production in UP will be very good this year," said Insram Ali. Traders expect production in Andhra Pradesh and Telangana to decline considerably due to water stress, including Banganpalle in Kurnool district, which is famous for its mangoes.