

## Tomar launches 2 new portals for agri sector



PTI ■ NEW DELHI

**Agriculture Minister**  
 Narendra Singh Tomar on

Monday launched two new portals, including one for registration of pesticides.

Another portal is for documentation related to imports and exports of agri-products and plants. The minister launched the two portals -- CROP (Comprehensive Registration of Pesticides) and PQMS (Plant Quarantine Management System) -- in an event held at the Pusa complex, with an aim to improve ease of doing business. Addressing the event, Tomar said the two new

portals have been launched to make the process of pesticides registration and documentation process for export-import simple and transparent.

The government is committed to make improvements in systems, if required, he added. Highlighting the importance of agriculture sector in Indian economy, Tomar stressed on the need to strengthen the farm sector. The country is not only self-sufficient in the foodgrains production but also has sur-

plus stocks which is attributed to the efforts of farmers community, research done by farm scientists and the farmer-friendly policies of the government, he added.

The minister said the country's foodgrains production and the government's procurement operation remained unaffected despite the COVID-19 pandemic. He further emphasised on the need to strengthen the agriculture sector through government policies, research activities, focus

on quality, transparency and ease of doing business to make India even more stronger.

The Centre and the State governments have taken various steps to bring reforms, attract investments in agriculture sector and improve farmers income through better agri-marketing system, he added. The two new portals have been developed to bring ease of doing business and make systems simple, fair and transparent, Agriculture Secretary Manoj Ahuja said.

## Tomar: Niti to prepare road map to scale up natural farming

PRESS TRUST OF INDIA  
 New Delhi, April 25

**AGRICULTURE MINISTER NARENDRA** Singh Tomar on Monday said about 4 lakh hectare has been brought under natural farming so far as part of a sub-scheme of the Paramparagat Krishi Vikas Yojana and think-tank Niti Aayog will prepare a roadmap to scale this up. Tomar, while addressing a national workshop on innovative agriculture here, said the need of the hour is to do farming that works in harmony with nature, reduces the cost of production, ensures



### Natural farming need of the hour, says Kant

**NATURAL FARMING IS** the need of the hour, as the cost of foodgrain production has increased due to the use of chemicals and fertilisers, Niti Aayog CEO Amitabh Kant said on Monday. At the 'National Workshop on Innovative Agriculture' organised by Niti Aayog, Kant fur-

ther said, India is now an exporter of wheat and rice. "Natural farming is the need of the hour and it is important that we identify scientific ways through which we can ensure farmers can directly benefit from it, thereby increasing their income," he said. — PTI

good-quality produce and profits to farmers.

Andhra Pradesh, Himachal Pradesh, parts of Haryana and Gujarat are gradually adapting to natural farming. More farm-

ers will join after seeing the success stories, he said.

Tomar said Niti Aayog will prepare a roadmap on natural farming after deliberation with farmers, scientists and agri-var-

sities' vice chancellors in today's workshop and the ministry will move forward accordingly. He said some may have "apprehension that production might decline by shifting to natural

farming. Such people after seeing the success stories of natural farming will be able to adapt easily." Natural farming should be promoted in areas first where less or no chemicals are used in farming, he added.

According to the minister, about 38 lakh hectares have been brought under organic farming at present. About 4 lakh hectares of area is under natural farming so far as part of a sub-scheme of the Paramparagat Krishi Vikas Yojana.

A central programme is underway to certify farm fields where no chemicals are in use in areas of Nicobar and Ladakh.

The centre is pursuing with states to identify such farm fields for certification, he said.

The government is working on a mission mode to promote natural farming and even include this as part of syllabus in agri universities, he added.

Citing reasons for the need to shift to natural farming, the minister said although chemical farming — introduced during Green Revolution in the 1950s — has definitely helped in turning a food deficit nation to a surplus but this method of farming has affected soil fertiliser, water and global warming.

## Tomar's 'heavy pesticide use' remark flayed



**BATHINDA, APRIL 27**

The Samvidhan Bachao Manch has condemned the statement of Union Agriculture Minister Narendra Tomar that farmers do not grow their produce organically rather they use heavy pesticides for better production so that they can sell it in mandis.

Manch leader Balkaran

Singh Balli said, "In the garb of organic farming, the BJP-led Centre wants to give reins of control in the hands of corporate houses. Tomar's statement is unfortunate wherein he said farmers grow agricultural produce with excessive use of pesticides. He claimed farmers do not consume it themselves

but sell it in grain markets. Such a statement defames the image of farmers and is disrespectful to us."

"Farmers use the same crop for their own consumption and selling in mandis. The minister must take back his statement and tender an apology to farmers of the country," he added. — TNS

# NITI skeptical on doubling farmers' income

Says repealing 3 farm laws a major setback for doubling farmers' income, suggests fresh consultations with the States for resuming agriculture reform process

BJAY KUMAR SINGH  
NEW DELHI

STRESSING that reforms are necessary for the agriculture sector, NITI Aayog member Ramesh Chand on Sunday said the repeal of three farm laws has come as a 'setback' to higher price realisation by cultivators and could be a factor in achieving the goal of doubling farmers' income by 2022. He also suggested starting fresh consultations with the States for resuming the agriculture reform process, adding some people have already approached NITI Aayog with a call for effecting the reforms.

"You see, reforms are important for

the agriculture sector. Some farmers were opposing it (three farm laws). I think immediately what needs to be done is restarting fresh consultations with the states," NITI Aayog member, who oversees farm policies at the government think tank, told PTI in an interview. "Already people are approaching us that reforms are needed. But in what way, in what form, in what shape, that I think we need to wait for some time," he added.

Chand was replying to a question on whether the stalled reforms for India's farm economy will get another push after BJP's victory in four states -- Uttar Pradesh, Uttarakhand, Goa and Ma-

nipur -- in the recently held assembly elections.

Asked if it was possible to double farmers' income by 2022 without implementation of the three agriculture laws, he said reforms were needed to enable cultivators to get better prices, so if reforms are not happening, certainly that is a setback for higher price realisation by the farmers.

"So upto that extent there will be a setback to that goal (doubling farmers' income by 2022)," he opined.

The Narendra Modi-led NDA government has set a target of doubling farmers' income by 2022. The Centre on December 1, 2021, notified a legisla-



**When price of fertilizer is increasing, price of diesel is increasing, that means the price of transport will also be increasing, cost of production will also be increasing, said NITI Aayog member Ramesh Chand**

tion to repeal the three agriculture laws against which thousands of farmers had protested for over a year.

(Continued on P2)

## JM FINANCIAL PI Industries (Buy)

Target: ₹3,420

CMP: ₹2,920.8

We believe PI Industries' CSM molecules pipeline is likely to offer a big market opportunity, on top of its existing portfolio. We understand that PI has recently been granted registration by CIBRC to manufacture several patented molecules.

One of these molecules has been jointly developed by IsAgro and FMC. This molecule provides PI long-term revenue growth visibility with peak estimated annual sales of \$200-250 million (for PI) and patent validity beyond CY28-30.

One of the other fungicides that PI is likely to manufacture has estimated peak sales of USD 12mn (for PI) and patent validity till CY24. Moreover, PI is yet to ramp up supplies in its recent CSM molecules. Hence, in our view, with a runway for growth in its existing molecules and a strong upcoming product pipeline, PI's CSM revenue is likely to demonstrate 20 per cent CAGR over FY22E-25.

This also provides a response to major investor concerns around competition coming in several of its key molecules that have already gone off-patent or are likely to go off-patent. Although we agree that pharma acquisition continues to be a key overhang, we maintain Buy with a revised TP of ₹3,460 (from ₹3,620 earlier) as its base agrochemicals business outlook remains robust.



• Lindsay Jaacks of Global Academy of Agriculture and Food Security says they have not expected use of pesticides to drop to zero within just a couple years of the programme as the change from input-heavy convention farming to organic does not happen overnight

• The key findings of the study, published in Lancet Planetary Health, shows that farmers involved in APCNF are substantially less likely to use synthetic chemicals and pesticides compared to other farmers  
• It is observed that frequent and continuous state-led training of farmers in organic farming can significantly cut the use of harmful chemicals

## Natural farming cut pesticide use by half in AP: Study

NEW DELHI

REORIENTING the farmers to natural farming methods has halved the use of synthetic and harmful chemicals in farming, thereby generating health, environmental and economic benefits, a study about farmers in Andhra Pradesh published on Thursday said.

The study — a scientific evaluation published in the Lancet Planetary Health — is the first to evaluate the impact of a large-scale government organic agriculture programme on pesticide use and availability.

The key findings of the study show that the Andhra Pradesh Community-managed Natural Farming (APCNF), after a median of two years, was substantially less likely to report using synthetic chemicals and pesticides compared to conventional farmers.

A support programme which enabled farmers who used natural methods who had frequent interactions with agricultural extension workers, either government community resource persons (CRPs/iCRPs) or NGOs more frequently were less likely to use pes-

ticides and adopt natural farming methods.

Frequent and sustained state-led training of farmers in organic farming practices can substantially reduce the use of harmful chemicals, which is detrimental to the environment and human health, it found out.

Collaborators from the Public Health Foundation of India, the Centre for Chronic Disease Control, India, the Harvard TH Chan School of Public Health, US, and the University of Edinburgh, UK supported by the Scottish Funding Council and UK Research and Innovation conducted the study in Andhra Pradesh with the APCNF.

"Our findings suggest that APCNF farmers still used pesticides on some part of their lands. Hence, a multifaceted approach combining farmer and retailer education, increased support to natural farming and limiting the availability of harmful chemicals will help the state of Andhra Pradesh to achieve its goal of 100 per cent natural farming by 2030," senior research scientist at Public Health Foundation of India,

Nikhil Srinivasapura Venkatesh-murthy, said.

Incidentally, interviews with more than 850 farmers and almost 40 retailers showed that despite the major government drive towards organic agriculture, about half of organic farmers still used pesticides and there had been no impact on pesticide sales at local retailers.

Lindsay Jaacks, Global Academy of Agriculture and Food Security, said: "We did not expect pesticides to drop to zero within just a couple years of the programme - a transition from input-heavy convention farming to organic does not happen overnight. APCNF farmers are less likely to use pesticides after about two years. The primary reason reported by APCNF farmers for decreasing their pesticide use over the past four years was personal health."

The researchers sought to assess the impact of the APCNF programme, which aims to transition eight million hectare of farmland, belonging to six million farmers, to organic by the end of the decade....

# Lessons from Sri Lanka on organic farming

The changeover to organic farming must be phased and implemented over a longer period of time to ease the pressure on food security

Across the world organic farming is considered as the gold standard in preventing up to 500 million pounds of chemicals and pesticides from entering the environment thereby enriching biodiversity and preserving delicate ecologies. The absence of chemical fertilisers in crop production is not only good for nature and soil but for human health also as many types of auto-immune diseases and cancers have been attributed to indigestion of pesticides and chemicals used in food production. But in spite of its undeniable benefits for the environment, organic farming is also a severely debated concept due to its inherent drawbacks which if ignored have the capacity to bring a nation's economy and food security to its knees. Sri Lanka has been the unfortunate



nation to experience the painful ill-effects of adopting organic farming in a hurry. The trouble in the tropical paradise has been brewing for a while now. The delicate balancing act by Sri Lanka in its ties with India and China for economic benefits eventually did not pan out as a successful strategy. According to the Sri Lankan Central Bank, the economy has contracted by 1.5 per cent in July-September 2021, these adverse conditions are mainly due to heavy borrowings which require the island state to pay nearly \$12.5 billion on international sovereign bonds. This cash crunch has meant that Sri Lanka has severe inflationary conditions and ongoing energy and food crisis leading to violent unrest in the population requiring authorities to



announce a curfew in order to rein in the protests. This sudden clamp down by the government has raised human rights issues with the United Nations stepping in and advising the Sri Lankan government to observe the sanctity of human rights of its people. Food would have not been in the list of shortage items for Sri Lanka had the President Gotabaya Rajapaksa not announced a rapid transition to

organic farming by abruptly stopping import of chemical fertilisers and agrochemicals in April 2021. In just one year, the state of agriculture productivity totally devoid of any fertiliser and pesticide fell into ruins as farmers were unprepared for the sudden shift to organic farming. The government realising the folly revoked the fertiliser ban in November 2021, but by then the damage had already been done as food security of the nation

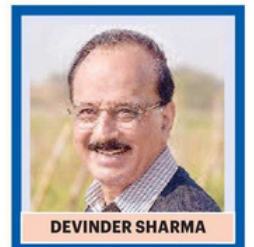
had totally broken down due to a third of Sri Lanka's agricultural land remaining unused due to lack of timely availability of fertilisers. This led to a rice production falling by a whopping 20 per cent. The sudden shift to organic farming sent shock waves through the food sector of Sri Lanka, but this could have been avoided. The key to a successful transition from conventional agriculture to organic farming is recognising the fact that organic farming is synonymous with low yield. On an average organic farming yields are 20 per cent lower than conventional farming, these conditions are made worse by the shortage of organic fertilisers. According to estimates, Sri Lanka's paddy, tea and rubber production are dependent on chemical inputs in a

range of 90-94 per cent. In comparison, the country can only produce only 2-3 million tonnes of bio-fertilisers whereas the requirement is at least thrice more. So, the changeover from conventional to organic farming must be phased and implemented over a longer period of time to ease the pressure on food security and ensure a healthy crop yield that is environmentally friendly as well. In India too, the fad of organic farming has rapidly gained popularity, but thanks to a cross spectrum of environmental experts offering a balanced view on the subject has ensured a much-needed sceptical view of the concept. This is essential in maintaining rationality while pursuing the implementation of the same. This rationality helps differentiate

between hype and reality. For instance, Sikkim which earned the tag of 100 per cent Organic State, also happens to be heavily dependent on neighbouring West Bengal for a majority of its food security. This reality check has helped Kerala state, which was itself planning to go '100 per cent organic', slow down and take a more measured and slow approach to adoption of organic farming. Organic farming can do more harm than good if implemented in a hurry without preparing the infrastructure and the farmer mindset and most importantly ensuring that food security is not adversely compromised due to its adoption. The Sri Lankan crisis is a painful lesson in this regard, which no nation should undergo ever.

# FUEL RATE HIKE LEADS TO RISE IN RETAIL PRICES OF AGRI PRODUCE

**AgriStack platform unable to come up with a new MSP for farmers by incorporating additional costs the farmers spend on**



PETROL and diesel prices were on Wednesday hiked by 80 paise a litre each, taking the total increase to Rs 10 per litre since March 22. This is the 14th hike in fuel prices in 16 days, reported CNBC TV 18 on April 6. "Petrol in Delhi will now cost Rs 105.41 per litre as against Rs 104.61 previously, while diesel rates have gone up from Rs 95.07 per litre to Rs 96.67," the TV Channel said. Pending the State Assembly elections in 5 States in Feb-Mar 2022, petrol and diesel prices had remained frozen since Nov 4, 2021. But soon after the results were announced, prices began to rise by an average of 80 paise per litre per day. Instead of increasing the fuel prices in a jolt, this gradual increase per day was more or less to ensure 'jor ka jhatkaa dhire se' as they say. Retail prices of almost all agricultural commodities have been on the rise. As the temperature soars, so does the food prices. It seems they are both operating in tandem. Even for the lowly nimbu the prices have touched the roof. So much so that nimbu is priced more than apples today, something that couldn't have ever been thought of. The turnaround in the prices of nimbu primarily

is because of the steady hike in fuel prices, that's what the trade says. A few days ago, I read a tweet by Ramandeep Mann, a farm activist. In his tweet, he said: "On April 1, IFPCO raised the price of DAP fertilizer by Rs 50 per bag. Now farmers will have to pay Rs 1,350 per bag of 50 kg." While fertilizer prices are on an upswing and there is already a growing assumption that the government will have to increase the fertiliser subsidy from the existing Rs 1.25-lakh crore to about Rs 2-lakh crore to meet the challenges of importing fertilizers at a higher price. The increase in the prices of ammonia and natural gas and also the resulting hike in fertilizer prices, after the US imposed economic sanctions against Russia following its invasion of Ukraine, will surely jack up the production cost for farmers. With the rise in fuel prices, the operational cost of farm machines too will increase. Whether it is for tractors or harvester combines, the costs have gone up. All this adds to the cost of production and marketing that a farmer undertakes. We still don't know how much further increase in fuel prices will happen by the time the wheat marketing season ends in June. Ask a farmer and the stock reply you get is: "My cost of production is doubling whereas the price I get for my crop hasn't increased." It is not doubling of farm income, but it seems doubling of the cost of production has instead taken place. In fact, ever since the Baltic Sea region conflict broke out, prices of edible oils



**GROUND REALITY**

**With the rise in fuel prices, the operational cost of farm machines too will increase. Whether it is for tractors or harvester combines, the costs have gone up. All this adds to the cost of production and marketing that a farmer undertakes**

on the supermarket shelves have gone up and that too despite the edible oil trade committing to the Commerce Minister Piyush Goyal that it has enough stocks to keep a check on edible oil prices for the next six months. The Food and Agriculture Organisation of the UN estimates that wheat prices have soared from the already existing higher prices in 2021. Even before the war, food prices had touched a high, breaking all previous records. So is the case with maize, barley and sunflower oils. Considering that Russia and Ukraine together provide 25 per cent of the global wheat supplies, 28 per cent of barley and 18 per cent of maize, the tremendous gap in supplies becomes an opportunity for Indian grain traders to fill the void left behind.

We will revert to this question later, but first look at the price rise and its impact on Indian farmer. The minimum support price (MSP) for the rabi marketing season this year was announced as early as on Sept 8, 2021. Generally rabi prices have been announced in the first week of October, but last year the dates were advanced so as to enable the farmer to make the right decision for sowing the crop he wants to cultivate. The point was well taken. Accordingly, the price of wheat was raised to Rs 2,015 per quintal, a hike of Rs 40 per quintal over the previous year's price. Similarly, the price for mustard was increased by Rs 400 per quintal. The price determination process that the Commission for Agricultural Costs and Prices (CACP) undertakes is quite laborious, and is therefore based on a data that it collects (along with separate estimates coming from States) almost a year back. Using these statistics, and also looking at the estimates prepared by the States, it comes up with its own set of recommendations to the government. Now the question is that a lot of escalation in production costs has taken place in the period, before the actual marketing operations begin on April 1 next year, when the wheat crop starts arriving in the mandis, the MSP that has already been recommended stays the same. In other words, the MSP for wheat that the farmers are selling their harvest for is bereft of the increased cost of production. It does not incorporate

the additional costs that farmers had to incur while cultivating the crop. The MSP that farmers receive therefore is not a true reflection of the actual cost. There has to be some mechanism to ensure that the MSP is amended time to time, as the need arises, and the price calculation becomes as close to reality as possible. After all, if the government employees can get periodic hike in Dearness Allowance to cover up inflation costs, why shouldn't farmers at least get the right price for his produce? Why should the farmer suffer the consequences of keeping the MSP deliberately low, that doesn't even cover the escalation in production costs? In a digital age, when there is an app for every problem, I don't see why the CACP cannot develop a suitable app that can amend the prices time and again, incorporating the additional costs. The app should contain the relevant background data, and it shouldn't be difficult to add on the additional costs that farmers undertake. If agriculture-related data of 55 million farmers has already been digitalised, where AgriStack becomes the new push in agriculture to get digital access to scientific know-how, I see no reason why the digital platform cannot be expanded to incorporate additional costs the farmers have to spend on, and come up with a new MSP for farmers. After all, a Digital India cannot leave its farming population behind. If the farm data can be digitalised, the prices too can be digitalised. *(The author is a noted food policy analyst and an expert on issues related to the agriculture sector. He writes on food, agriculture and hunger)*

# Yogi govt to promote natural farming in a big way

**HANS NEWS SERVICE NEW DELHI**

STATING that the Uttar Pradesh government will implement natural farming in 135 state-owned farms from the upcoming kharif season, Chief Minister Yogi Adityanath on Monday demanded that the Centre should raise the incentive for natural farming to Rs 31,000 per hectare besides making a budget allocation for carrying out branding and marketing of the produce. Currently, as many as 542 progressive farmers are successfully practising natural farming in the

state on around 527 hectares of land. Their services will be utilised as key resource persons to promote natural farming in various districts, he said. Addressing virtually a national workshop on innovative agriculture organised by Niti Aayog in Delhi, Adityanath said, "Implementation of cow-based natural farming in the state will help in the protection and promotion of cow breeds as well." Use of cow dung and urine will improve soil health and reduce use of imported chemical fertilisers. Use of crop residue in natural farming and its use in mulching will also help curb

stubble burning, he said. The chief minister emphasised on the need to protect mother earth and said natural farming will help achieve multiple goals including conservation of natural resources, environment, enhance farmers income and people's health. As the government prepares a roadmap on natural farming, Adityanath demanded that "incentive to farmers for natural farming should be enhanced and brought at par with the Paramparagat Krishi Vikas Yojana (PKVY) incentive of Rs 31,000 per hectare." Under the PKVY, Rs 50,000 per hectare is provided for organic



farming which includes farmer incentive amount of Rs 31,000 per hectare for a period of three years. Under its sub-scheme Bharatiya Prakritik Krishi Paddati (BPKP), Rs 21,000 per hectare is provided, out of which farmers incentive is only Rs 2,000 per hectare, he said. Highlighting the marketing challenges faced by farmers doing organic or natural farming, the chief minister said value addition of products and their marketing is one of the biggest challenges as he suggested the Centre includes in the scheme guidelines a budget for activities related to branding and marketing.

Since assessment of soil health and presence of organic carbon before sowing and after harvesting is necessary, the CM said an appropriate budget needs to be provided for conducting the soil tests. Highlighting steps taken to promote natural farming in UP, Adityanath said the state has been promoting this method of farming for the last two years. Demonstration plots have been organised in the fields of five agricultural universities, Krishi Vigyan Kendras, 10 regional agricultural testing and demonstration centres and state agricultural management institute, Rehamankheda, Lucknow.

# Portals launched to make agri sec transparent

## OUR CORRESPONDENT

**NEW DELHI:** In a move aimed at bringing transparency to the agriculture sector, Union Agriculture Minister Narendra Singh Tomar on Monday launched web portals for the registration of pesticides and for documentation related to imports and exports of agri-products and plants.

The portals launched by the minister have been christened as CROP (Comprehensive Registration of Pesticides) and PQMS (Plant Quarantine Management System) and the purpose of the portals' launch is to improve the ease of doing business in the agriculture sector.

The PQMS portal will provide a transparent system with no physical touch points for the applicants and ensure convenience to the users, through the online system, including e-payments and uploading of documents, online accreditation and renewal of treatment agencies/facilities, and downloading of certificates.

Similarly, the re-developed CROP portal will immensely help in ease of doing business and provide greater and timely crop protection solutions to farmers of the country.

While addressing the event, Tomar said that the two new portals have been launched to make the process of pesticides registration

and documentation process for export-import simple and more transparent.

Highlighting the importance of the agriculture sector in the Indian economy, Tomar said that the government is committed to make improvements in systems if required. The minister also stressed the need to strengthen the agriculture sector.

"The country is not only self-sufficient in the foodgrains production but also has surplus stocks, which is attributed to the efforts of farmers community, research done by farm scientists and the farmer-friendly policies of the government," he added.

The minister fur-

ther said that the country's foodgrains production and the government's procurement operation remained unaffected despite the Covid-19 pandemic.

Tomar further emphasised the need to strengthen the agriculture sector through government policies, research activities, focus on quality, transparency, and ease of doing business to make India even more stronger.

The Centre and the state governments have taken various steps to bring reforms, attract investments in the agriculture sector and improve farmers' income through a better agri-marketing system, he added.

# Work on varieties with multiple resistance to pests, diseases: ICAR DG

## OUR BUREAU

Hyderabad, April 27

Trilochan Mohapatra, Director-General of ICAR, has asked rice scientists to work on varieties with multiple resistances to a range of pests and diseases.

Addressing the inaugural function of the 57th Annual Rice Research Group meeting virtually on Monday, he said it was time the country focussed on precision farming.

### 'Excellent performance'

Mohapatra, who is also the Secretary of Department of Agricultural Research and Education (DARE), said agriculture in general and rice sector in particular had performed exceedingly well despite the Covid-19 pandemic in the last two years.

He felt that there was a need to evaluate technologies to reduce the cost of cultivation and



Trilochan Mohapatra, Director General, ICAR

ensure environmental sustainability. "Potential microbial cultures can be validated through multi-location trials to reduce the fertiliser use and, in turn, cost of cultivation in rice. Rice scientists should know how to think and go beyond the current research aspects," he pointed out.

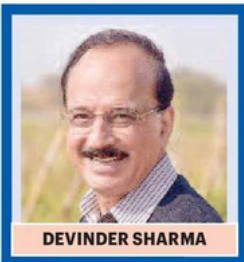
R Meenakshi Sundaram, Director of Indian Institute of Rice Research Institute (IIRR), said as many as 27 high-yielding

varieties and three hybrids were released through central varietal release committee last year.

T R Sharma, Deputy Director-General (Crop Sciences) of ICAR, has recalled how the mapping of rice genome helped in developing high-yielding varieties and hybrids in rice sector. "Genes are incorporated to enhance yield and manage biotic and abiotic stresses," he said.

He also emphasised the need for national and international partnership to address the problems faced by the farmers due to climate change and other natural calamities. About 400 delegates from India and abroad are taking part in the three-day event. Besides evaluating the work done last year, the meeting would lay a roadmap for the 2022-23 rice seasons.

# How agriculture could resolve India's *unemployment* crisis



DEVINDER SHARMA

TWO years after millions of daily wage workers trudged home, walking hundreds of kilometres on foot, after a lockdown was suddenly imposed, the Centre for Monitoring of Indian Economy (CMIE) has come out with a study on India's labour force participation rate which says that 900 million people are not even interested in getting a job. "They even stopped looking for employment, possibly too disappointed with their failure to get a job under the belief that there were no jobs available," the report said.

In a country where job creation tops the country's political agenda, you will agree that 900 million not clamouring for any job is not a small number. It is almost equal to the combined population of Russia and the United States. That such a large proportion of India's population is disenchanted with any possibility of finding a decent job, and instead has decided to drop off the employment register, is a pointer to a historical blunder in economic thinking and approach. The bigger tragedy however is that we still fail to acknowledge where we have gone wrong.

When the lockdown happened, an estimated 100 million people had walked back inter-state and intrastate, many with their children in lap and baggage to drag. The reverse migration that the country witnessed on their TV Channels

Instead of hoping that someday mfg sector will provide additional non-farm jobs, the right challenge that policy makers need to take up now is to shift the focus to rebuilding agriculture

was perhaps no less distressing than the migration that shook the country at the time of the partition. Some migrant workers had returned back to the cities when the pandemic had eased, but a majority had preferred to stay back. Despite such a large influx, a distressed agriculture was still able to absorb the additional migrant workforce.

The CMIE now says that in March alone industrial jobs fell by 16.7 million. Agriculture made up for the job losses, adding another 15.3 million to the already existing workforce. But still I find that the dominant economic thinking relies on the revival of non-farm activities, and not agriculture, to create ample employment opportunities. This is what Economic 101 had programmed us to believe – to achieve higher economic growth; the number of people dependent on agriculture has to be brought down. This outdated economic thinking continues to dominate our public policy. Even now when the world is witnessing a job-loss growth, with automation and artificial intelligence taking over industrial production, our economic thinking – howsoever irrelevant it may be in the times we are living in – hasn't changed.

While a big drop in employment opportunities by the big industry is being pointed to, some media publications even prefer to quote a 2020 study by McKinsey Global Institute, which says India needs to create another 90 million jobs by 2030. In my opinion, this is an outdated economic thought, a narrative built during the era neoliberal economics began to dominate. It still continues to



prevail. I find even some of the best brains, and that includes economists, academicians and writers, are unable to look beyond what they had studied in their graduation courses. Times have changed, and so have the employment dynamics but our economic thought process hasn't.

Let's first try to see what we are missing out. In both the cases – first the lockdown period and now the slump in labour force participation rate in March 2022 – the underlying message is that agriculture, despite the neglect and apathy over the decades, alone has the potential to absorb large sections of the population. Instead of pushing small farmers to migrate to the cities in search of menial jobs, revitalising agriculture can easily turn the tables, providing for gainful employment. Give farmers a guaranteed price, along with enhanced public sector investments, and agriculture can easily turn into a powerhouse of economic growth. And let me reiterate, agriculture alone has the potential to reboot the economy.

After all, the 900 million people who have lost interest in seeking employment are not sitting idle. Whether we like it or not, a majority of them have a foot in farming, and with their household food security

taken care of, they may be engaged in other part time activities. Instead of still hoping that someday the manufacturing sector will be back on track, and the higher economic growth projections that we continue to make – 9 per cent and above – will provide for additional non-farm jobs, the right challenge that policy makers need to take up now is to shift the focus to rebuilding agriculture.

Although many economists feel elated when some reports appearing at different times indicate an increased rate of out-migration from villages, this economic thought is borne out of a mindset that refuses to see the changes on the horizon. With roughly 50 per cent of India's population, a little more than 600 million, dependent on agriculture, the challenge should be on how to make farming a viable enterprise. Instead of pushing people out of the villages, the better option would be to make villages prosperous. Just because the US and European Union have relentlessly pushed farming population to move to the cities doesn't mean that we too have to blindly follow that prescription.

Let us not forget that a farmer is also an entrepreneur. Despite having small landholdings, 86 per cent owning less than 5 acres, they still continue to pro-

duce a record harvest year after year. With a continuous decline in public sector investments in agriculture, which the RBI had in a study calculated it to be around 0.4 per cent of the GDP between 2011-12 and 2017-18, we can't expect the small farmers to perform a miracle. But still they continue to provide a strong economic base for the country to rely on. If only we had given farmers their right due, and provide them with the right kind of public infrastructure, I am sure they would be able to convert farming into a favoured economic enterprise for the future.

But first and foremost, our policy makers must acknowledge the historical blunder to treat agriculture as an economic burden, to treat agriculture as a laggard. For long, I have maintained that the policy of sacrificing agriculture for the sake of industrial growth is only helping in building a strong army of agricultural refugees, who are being deliberately driven out of agriculture to swarm into the cities in need of cheap labour. The over-emphasis on industrial sector had turned focus away from the agrarian community. That was a mistake.

If only, we had stood firm and instead focused on resurrecting agriculture, it would have been the most appropriate way to achieve Sabka Saath Sabka Vikas. Instead of worrying about the lack of non-farm employment, let's shift the attention to making farming a viable entity.

*(The author is a noted food policy analyst and an expert on issues related to the agriculture sector. He writes on food, agriculture and hunger)*

## Why India is unlikely to double farmers' income by FY23-end

SANJEEB MUKHERJEE  
New Delhi, 24 April

Earlier this month, the Central government said in a reply in Parliament it had taken measures to double farmers' income by the end of FY23 and the progress made so far indicated it was "on the right track". However, a close look at the data and at the assumptions made shows that as of now, it appears the country is unlikely to achieve the goal in real terms.

### The Dalwai Committee

The Ashok Dalwai Committee on Doubling Farmers' Income, set up by the Central government, had said in one of its 14 volumes (report) for the cultivator's income, from both farm and non-farm sources, to double by 2022-23 (the terminal year), the person's earnings would have to grow by 10.4 per cent a year, starting 2015-16. Moreover, this growth

would have to be in real or inflation-adjusted terms, not in nominal terms.

"It is the real income of farmers that is to be doubled and not their nominal income," the Committee had said. It had estimated the average annual income of an agricultural household in 2015-16 at ₹96,703. This was projected to grow to ₹172,694 by 2022-23, that is, by the end of the current financial year.

At current prices, the growth would have to be stepped up to a rate of as much as 15.9 per cent. However, the latest situational assessment survey by the National Sample Survey Organisation, released last year, showed the real income of an agricultural household from all sources grew about 21 per cent between 2012-13 and 2018-19. This translates into an average annual growth rate of just 3.5 per cent or thereabouts in real terms. In nominal terms, the



### WHAT THE DALWAI COMMITTEE SAID

▶ **Average real income of a farmer household in India could rise to ₹219,724 by 2022-23 from the 2015-16 base year of ₹96,703**

▶ **This can be done if extra public and private investment of about ₹6.4 trillion at 2011-12 prices is mopped up**

income grew by 60 per cent between 2012-13 and 2018-19, or an annual average of 10 per cent. Expecting the same income to grow by a staggering 10.4 per cent in real terms between 2015-16 and 2022-23, when growth rates have been less than half the tar-

▶ **For a 10.41% annual increase in farmers' income, an additional private investment of ₹1.31 trillion is required at 2011-12 prices.**

▶ **At the same time, public investment of ₹5.08 trillion is required**

geted, appears unrealistic. Experts said it should be prudent to expect farmers' income to double in three-four years beyond 2022-23.

### What went wrong?

The target, to begin with, was unrealistic, said S Mahendra

Dev, director of the Indira Gandhi Institute of Development Research. He said the situational assessment survey of the NSSO showed how the target of achieving 10.4 per cent annual real income growth was highly improbable, when average annual growth in real income had been a mere 3.5 per cent during the preceding period.

"If the nominal rate of growth in income is considered, there could have been some (chance of) meeting of the target, but the key metric here is inflation-adjusted real income," Dev said.

He said the policies had not been articulated, and the Centre needed to lay down a road map to wean farmers away from rice and wheat to more lucrative, high-value crops. "If the incomes are even doubled within the next three-four years, considering an annual average growth rate of 3.5 per cent, it remains to be seen to what

extent this will benefit small and marginal farmers, who form the bulk of India's farming community," Dev added.

Shweta Saini, an independent economist, said not only were the targets "unrealistic", but the drought of 2015 and the impact of demonetisation after that on farming made them all the more difficult to achieve.

Saini, along with agriculture economist Ashok Gulati, said in a chapter of a book published in 2018-19 that Centre's dream of doubling farmers' income by 2022-23 was unlikely to be realised, mainly on two counts. The first of these is that four of the seven years have gone with an average farm GDP growth rate of 3.7 per cent, which is lower than the required rate of 10.4 per cent. The second factor is profitability has been declining in recent years due to plummeting agricultural prices and rising cultivation costs.

## No proposal to revise Centre-state subsidy sharing pattern, says Tomar

PRESS TRUST OF INDIA  
New Delhi, April 1

**THE GOVERNMENT ON** Friday said there is no proposal under consideration to revise the subsidy sharing pattern between the Centre and states under the Pradhan Mantri Fasal Bima Yojana. PMFBY (Pradhan Mantri Fasal Bima Yojana), launched in February 2016, aims at providing financial support to farmers facing crop loss/damage due to natural calamities. The scheme was revamped with effect from kharif season (June-October) of 2020.

Agriculture minister Narendra Singh Tomar, in a written reply to the Rajya Sabha, said the revamped PMFBY revised the subsidy sharing pattern for north-eastern states from 50:50 to 90:10 between central and state governments. The premium sharing pattern for the remaining states and Union Territories is 50:50 subject to certain conditions.

"At present, no proposal to revise the subsidy sharing pattern between



**The agriculture minister said the revamped PMFBY revised the subsidy sharing pattern for north-eastern states from 50:50 to 90:10 between the Centre and states. The premium sharing pattern for the remaining states and UTs is 50:50, subject to conditions**

Centre and states is under consideration of the government," the agriculture minister added.

PMFBY provides for comprehensive risk insurance against crop damage due to non-preventable natural

risks from pre-sowing to post-harvest for the crops/areas notified by the state governments concerned. However, at the request of state governments, states have been allowed to notify the losses caused by wild animals on individual assessment as add on cover, keeping in view the requirement of the state at their own cost, the minister said.

Asked if hydrophilic crops are covered under PMFBY, Tomar said hydrophilic crops where the water stagnation is generally beneficial for crops like paddy, jute, mesta are not covered under localised risk of inundation only. But these hydrophilic crops are eligible for claims against the aforesaid remaining risks/provisions, including damage of crop reported in the yield estimation via crop cutting experiments under the scheme, he added.

Replying to a separate query, the minister said 382 lakh hectare of gross cropped area has been insured under PMFBY during 2021-22, as per per data available till March 9.

# Desperately needing subsidy reforms

**INDIA'S SUBSIDIES SYSTEM** is possibly the largest globally in terms of volume and number of beneficiaries. It has helped sustain the bottom strata of Indian society and continues to provide much-needed relief to millions. On the other hand, the system has become unwieldy with many intermediary layers leading to significant loss and wastage.

The Direct Beneficiary Transfer (DBT) framework, developed over the India Stack, has helped address some of this, with an estimated ₹2.2 trillion in savings over DBT's lifetime.

The question is: Can the taxpayer-funded subsidy system be made more efficient and straightforward? Especially with the technology platforms that are available today?

First, let us analyse the quantum of subsidies in each budget from FY 19 to FY 22, as shown in the accompanying graphic. Total subsidies include those delivered by the union, state and UTs, as well as cross-subsidies.

The total quantum has steadily increased from ₹5.6 trillion in FY 19 and ₹6.2 trillion in FY 20 to a peak of ₹11.5 trillion in FY 21—due to the pandemic and lockdown-related spending and a one-time spike in food subsidies due to the takeover of National Small Savings Fund borrowings by the Food Corporation of India. In FY 22, total subsidies are estimated at ₹8.8 trillion, including increased subsidies during the lockdown in Q1. However, these amounts do not include DBT and MGNREGA, even though many DBT payments and MGNREGA can be classified as subsidies. India clearly channels a significant part of taxes towards subsidies.

As a percentage of GDP, the total subsidies have increased from 3% in FY 19 and 3.1% in FY 20 to 5.8% in FY 21 and 3.8% in FY 22. Interestingly,

## TV MOHANDAS PAI & NISHA HOLLA

Respectively, chairman, Aarin Capital Partners and technology fellow, C-CAMP



GDP has grown by 7% CAGR from ₹190 trillion in FY 19 to ₹232 trillion in FY 22. Per-capita GDP has increased by 6% CAGR during this period. On the other hand, per-capita subsidies have grown at a whopping 15.3% CAGR in the same period!

The per-capita subsidies, estimated for the 70% of the population that receive subsidies (as seen from Pradhan Mantri Garib Kalyan Yojana and other schemes), have increased from ₹6,033 in FY 19 and ₹6,661 in FY 20 to ₹8,456 in FY 21 and ₹6,473 in FY 22. Consider that these subsidies do not include DBT, whose quantum has also increased. It implies that many people are receiving subsidies via multiple avenues, perhaps without needing the same.

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Both the central and state governments have to undertake a massive exercise and identify the deserving beneficiaries, remove people receiving multiple subsidies under different names, and move a majority of the subsidy payments, including for food, to DBT to reduce inefficiencies. The Aadhaar is already available as a key identifier to match all beneficiaries against and ensure only the deserving candidates continue receiving them.

The new subsidies monitoring system also needs a mechanism that automatically eliminates current beneficiaries who obtain jobs in the government, parastatals, or the private sector providing ESI or EPF benefits. It stands to reason that with India's economic growth and 70+ years of subsidies, it cannot be that 70% of the population will always require subsidies. These are only temporary measures to help those in need until they can stand on their own feet.

Reducing the quantum of subsidies by ensuring only the deserving receive them will free up large pools of capital to invest in the health and education sectors.

The pandemic has thrown into sharp relief that there is inadequate health infrastructure, particularly in the rural areas. Each district requires a multidisciplinary hospital, and every taluk and tehsil needs a primary healthcare centre to ensure coverage of India's nearly 1.4 billion citizens. Quality education, too, must reach all of the nation's young population, particularly those children whose parents currently depend on subsidies, so that they can break free from the reality their parents were born into. Reducing the overspending on subsidies gives the government the cushion to focus on building India's future and ensuring every Indian can participate in the best health.

### Subsidies at various levels of government (₹ trillion)

Subsidies	2018-19	2019-20	2020-21*	2021-22**	3-yr CAGR
<b>Union government</b>					
Food	1.01	1.09	5.41 <sup>A</sup>	2.87	
Fertiliser	0.7	0.81	1.28	1.4	
Petroleum	0.25	0.39	0.39	0.06	
Interest subsidies	0.2	0.24	0.3	0.37	
<b>Other subsidies</b>	0.06	0.1	0.2	0.18	
<b>Union govt total</b>	2.22	2.63	7.58	4.88	
<b>States and UTs</b>					
Cross-subsidies#	1.9	2.12	2.38	2.48	
<b>Grand total subsidies</b>	<b>5.62</b>	<b>6.25</b>	<b>11.46</b>	<b>8.86</b>	<b>16.5%</b>
GDP (₹ trillion)	188.9	203.5	197.5	232.2	7.1%
Subsidies as % of GDP	3.0	3.1	5.8	3.8	
Per-capita GDP (₹)	142,328	151,760	145,680	169,625	6.0%
Per-capita at 70% of population (₹)	6,033	6,661	12,080	9,247	15.3%
Per-family of 4 (₹)	24,132	26,645	48,321	36,989	—

Source: Union budget documents, RBI report on State Finances, MOSPI \*RE \*\*Union subsidies in FY 22 are RE while state and UT subsidies are BE. <sup>A</sup> Food subsidies in FY 21 include a one-time takeover of the NSSF borrowings by the FCI. # Cross-subsidies are estimated at ₹1.5 trillion annually (₹0.5 trillion on power borne by other consumers and ₹1 trillion estimated on water for agriculture usage). These estimates do not include DBT and MGNREGA.

# GatiShakti, PLI will offset global headwinds, spur growth: FinMin

'Impact of geopolitical tensions on food, fertilizer, oil prices clouding prospects'

PRESS TRUST OF INDIA  
NEW DELHI

GatiShakti and the production-linked incentive (PLI) schemes will offset global headwinds and drive investment, resulting in high post-recovery growth for the Indian economy, the Finance Ministry said in a report.

Geopolitical conflicts and their consequent impact on food, fertilizer and crude oil prices cast a cloud on the growth outlook globally, the Ministry observed in its monthly Economic Review.

India may feel its impact although the magnitude will, of course, depend on how long the dislocations in energy and food markets persist in the financial year and how



**Pump priming:** GatiShakti, PLI schemes will drive investment thus helping deliver high growth, says FinMin. •SUDHAKARA JAIN

resilient India's economy is to mitigate the impact, the Ministry pointed out, adding that transient shocks may not have a big effect on real growth and inflation.

"Offsetting these potential headwinds, GatiShakti and

Production Linked Incentive Schemes will drive investment, which will combine with supply chains strengthened by structural reforms... years to deliver high post-recovery growth for the Indian economy," it said.

With growing evidence of improving labour force participation and declining unemployment rate, and the 'government's commitment to provide support' to the economically poor, the growth path ahead would likely be a more inclusive one, the Ministry said.

PMI Services had also stayed in the expansionary zone for eight months on the back of e-toll collection, e-waybills, railway freight and air cargo, among others, complementing the robust manufacturing sector, the Ministry noted.

Private consumption may be beginning to perk up, it said, adding UPI transaction values had doubled in FY22.

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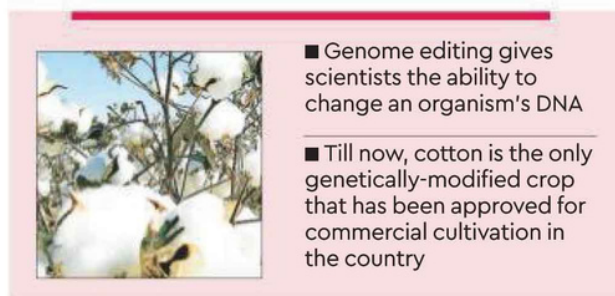
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# Easing of genome-edited crop regulations expected to accelerate genetic improvement

FE BUREAU  
New Delhi, March 31

**THE GOVERNMENT'S DECISION** to exempt certain types of genome-edited crops from the stringent biosafety regulations applicable to genetically-modified (GM) crops is expected to lead to wider use of this technology and accelerate genetic improvement of crops in the country.

The ministry of environment and forest, in a notification on Wednesday, exempted site directed nuclease (SDN) 1 and 2 genomes from Rules 7-11 of the Environment Protection Act, thus allowing it to avoid a long process for approval of GM crops through the Genetic Engi-



■ Genome editing gives scientists the ability to change an organism's DNA

■ Till now, cotton is the only genetically-modified crop that has been approved for commercial cultivation in the country

neering Appraisal Committee (GEAC).

The notification would now allow the Department of Biotechnology to approve and notify the guidelines on genome-edited plants, which had been pending since 2020.

According to KC Bansal, for-

mer director, National Bureau of Plant Genetics Resources, the conventional breeding technique takes 8-10 years for development of new agricultural crop varieties, while through genome-editing, the new varieties could be developed in two to three years.

Scientists say that genome-edited plants are different from genetically-modified organisms (GMO) technology. Genome editing is a group of technologies that gives scientists the ability to change an organism's DNA.

Last year, a group of eminent agriculture scientists wrote to Prime Minister Narendra Modi asking for ease of release of genome-editing technology for the sector.

In the case of GM technology, applicants have to apply to the GEAC, which follows time-consuming testing methods along with states. Till now, cotton is the only GM crop that has been approved for commercial cultivation in the country.



# Crop Diversity ~ I

Despite years of neglect, India continues to be the largest producer of millet in the world. Compared to water-guzzling cereals like rice and wheat, its yield is low, but it has higher nutritional value. Under the Guli Ragi method of cultivation, the yield of finger millet can be enhanced to 5.5 tonnes per ha, which is what the chemical-intensive modern rice gives



As one of the world's 17 mega-diverse countries, vis-à-vis its flora and fauna, sustaining crop diversity is of critical importance in India. For a country to be considered "mega-diverse", it needs to have at least 5,000 species of endemic plants and marine border ecosystems. How is India managing this bounty of nature that also assures its food security? With affection and passion? With meticulous cropping programmes for various agro-climatic zones? Or with callousness? Sustaining this mega-diversity is a factor of diligent crop management with specific cropping programmes with regard to regional crops, mixed crops, nutritional aspects, availability of water and soil types. India seems to be falling short on all these counts.

Prior to the chemical-intensive Green Revolution, Indian farmers depended mostly on rain-fed farming under which numerous region-specific traditional *aus* rice, wheat and millet varieties were grown. There was no question of crop failure due to lack of irrigation. In India, the rain-fed area spreads across 177 districts and out of the total net sown area of 136.8 million ha, nearly 50 per cent of the land falls in this category. Rainfed farming produces 48 per cent of food crops and 68 per cent of non-food crops. Even so, 61 per cent of Indian farmers rely on rain-fed farming. Around 55 per cent of the gross cropped area is under rainfed farming that produces 40 per cent of the rice, 69 per cent of the cotton, 83 per cent of the pulses and 89 per cent of the millet. Moreover, 70 per cent of livestock farming is dependent on rain.

Millet is one of the oldest cereals suitable for cultivation in rain-fed areas under marginal conditions of soil fertility and moisture. Being a water prudent crop, it can cope with issues like climate change, drought, low moisture, poverty and malnutrition. Its efficient root system can manage with 28 per cent of the rainfall that is needed for paddy. In other words, water needed for an acre of summer paddy can be used to grow millet for 30 years consecutively on the same land!

The commonly grown Indian millets are ragi (finger millet), jowar (sorghum or great millet), bajra (pearl millet), jhangora (barnyard millet), barri (proso or common millet), kangni (foxtail/Italian millet), kodra (kodo millet), kutki (little millet) and such others. Millet is rich in dietary fibre, minerals like iron, calcium,

beta carotene and folic acid with low glycemic index and no gluten, an amino acid that causes allergy. Obviously, it can be used for iron and calcium-deficient people, diabetics or people suffering from celiac and cardiovascular diseases. Processed forms of millet, like biscuits, noodles, bread, cake, laddoo, barfi, pasta, idli, bada, soup and such others find a ready market due to their taste and nutritive qualities. Millet beer is also popular. Post processing, millet can be taken in various ways like khichdi, upma, dosa, pulao, roti, pitha and such others. However, those not used to millet need time for their stomachs to get used to it. Those keen to consider millet as the main staple need to take small amounts every day along with their normal staple and gradually get adjusted to consuming millet. Despite the importance of millet in India's

food basket, over the years there has been a decline in the cultivated area under millet by as much as about 80 per cent for small millets (kutki), 46 per cent for finger millet, 59 per cent for sorghum and 23 per cent for pearl millet, leading to a decline in millet production. This was driven by a change in consumption patterns, lack of support from the public distribution system, conversion of irrigated areas for wheat and rice cultivation, low yields, and unavailability of technology to enhance yield, new dietary habits, and reduced demand. During 2016-17 the area under the cultivation of millet declined by 60 per cent to 14.72 million hectares. With rice and wheat being supplied in tribal-dominated areas through the PDS, both the area under millet and its consumption have fallen.

Tribals now consume rice and wheat amidst growing complaints over health issues. An important social aspect was also overlooked in the process of weaning the tribal away from millet. Lives and rituals of the tribal communities in India have been interwoven with millet. Not just were traditions getting lost, also ignored was the looming climate change that poses a major threat for most modern crop varieties that cannot cope with the anthropocentric rise of temperature, sudden floods, erratic rainfall and such phenomenon.

On the one hand, no genetically-modified crop variety can

tolerate the ongoing global warming and, on the other, Indian millet grows over vast agro-climatic regions and is naturally quite resilient. Chhattisgarh, Gujarat, Rajasthan, Himachal, Uttarakhand, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka, Orissa, Tamil Nadu, Telangana, Haryana and Uttar Pradesh are amongst the millet-growing states. Sporadic millet areas are found in West Bengal and some forms of millet have been cultivated in the red lateritic belts of West Bengal and Darjeeling district, where some millet still survives. Despite years of neglect, India continues to be the largest producer of millet in the world. Compared to water-guzzling cereals like rice and wheat, its yield is low, but it has higher nutritional value. Under the Guli Ragi method of cultivation, the yield of finger millet can be enhanced to 5.5 tonnes per ha, which is what the chemical-intensive modern rice gives. Also, there are some short-duration millets that can be harvested in just about 65 days and serve as important nutri-cereals without any artificial food fortification. This is especially valuable for India because it also yields fodder for

cattle. The storability of millet is another feature in its favour because millets can be stored as a buffer stock for two years and more. There is a growing consciousness about millet after the incalculable harm done to this produce. India's Millet Mission under the National Food Security Mission (NFSM), launched in October 2007 saw the government of India declare 2018 as the year of millets and termed it as a nutri-cereal. The UN too supported 70 nations and declared 2023 as the International Year of Millets with a view to raising awareness about the nutri-cereal and millet's suitability for cultivation under changing climatic conditions.

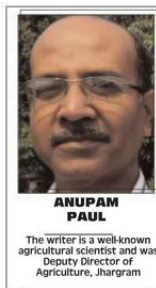
India's Prime Minister, Narendra Modi, endorsed it by saying that "India was honoured to be at the forefront of popularizing millets as a food grain". The Indian Institute of Millets Research, Hyderabad, under the ICAR, started working on millets through All India Coordinated Research Projects in 14 centres in 14 states but the programme has to counter years of mismanage-

ment. In 1961, the Economic Research Services of USDA only considered rice and wheat to calculate calorie deficits in Asia and this data was used to argue that there was a food crisis by the U.S. government and the Rockefeller Foundation. Accordingly, chemical-intensive cultivation of cereals like modern rice varieties and dwarf wheat varieties with irrigation were promoted. They progressively expunged not only all the region-specific varieties of rice and wheat but also squeezed the area of pulse, oilseed, and millet. The Green Revolution sought to augment the yield of rice and wheat through chemical-intensive farming. Admittedly, during the initial phase of the US-led Green Revolution, the yield of the cereal crops increased. India currently produces nearly 305 million tons of food.

Even so, in 2021 India ranked 103 in the World Hunger Index among 116 countries, making it important to review the consequences of the Green Revolution especially in terms of soil erosion, heavy metal toxicity in soil, depletion and contamination of groundwater! Widespread usage of weedicides in crop fields and railway tracks poses a threat to human and animal health, as well as the microbial and earth worm population in the soil. Nearby ponds and canals are severely contaminated. Decline in the soil organic matter, soil microbes, trace elements, decreasing population of pollinating insects and an increase in human disease are the major concerns today as the last 50 years have seen the disappearance of numerous crop varieties which no scientist can bring back. The regret is that there has yet to be a proper assessment of the traditional varieties, while the media has been used to propagate incorrect information against the traditional varieties as being low yielders. This oversimplification is not scientifically tenable and tantamounts to describing all Indians as dark-skinned or naked fakirs.

The National Bureau of Plant Genetic Resources, New Delhi preserves a lot of seeds in a special container, maintaining appropriate temperature and humidity. It is not certain how many of those varieties are alive. Different climatic disasters like the Aila of May 2009 serve as pointers to how the traditional salt-tolerant rice varieties coped with the disaster unlike the modern salt-tolerant rice varieties like Lunisri. These modern salt-tolerant varieties do give larger yields but cannot tolerate high salinity in the soil.

(To be Concluded)



**ANUPAM PAUL**  
The writer is a well-known agricultural scientist and was Deputy Director of Agriculture, Jhargram

# Centre firm on academic qualification for pesticide dealers

However, in a bid to help the licencees, AgriMin further facilitated dealers with a short-term certificate course of 12 weeks on Plant Protection & Pesticide Management

**RAVI SHANKER KAPOOR**  
NEW DELHI

THE central government has refused to exempt the retailers and dealers of pesticides and insecticides from the mandatory educational norms. The Ministry of Agriculture and Farmers Welfare has made it clear that crop and environment safety rather than employment generation is the primary purpose of the sale of pesticides, said official sources.

The Insecticides Rules, 1971, which emanate from the Insecticides Act, 1968, prescribe pesticide dealers and retailers, or the persons employed by them, must have a graduation degree in agricultural sciences, biochemistry, biotechnology, life sciences, science with chemistry, botany, or zoology. Or they must have a one-year diploma in agriculture, horticulture or related subjects with course contents on plant protection and pesticide management.

The 2017 Insecticides Rules also brought in an exemption—for those pesticide dealers over 45 years of age with a cumulative period of experience of more than 10 years as on February 1, 2017, and with an annual turnover below Rs5 lakh.

There was, however, a demand was made that the prescribed educational qualification for the dealers be lowered to Class-X or Class XII. The Ministry of Agriculture, how-



## WHAT LAW SAYS?

- ▶ The Insecticides Rules, 1971, prescribes that pesticide dealers and retailers, or the persons employed by them, must have a graduation degree in agriculture, biochemistry, biotech, life sciences, science with chemistry, botany, or zoology
- ▶ At least, one-year diploma in relevant subjects
- ▶ Govt rejected demand for allowing dealers with Class-X or Class XII qualification

ever, rejected that demand on the grounds insecticides and pesticides are not dealt as a subject these levels of education, sources said.

Retailers and dealers, being the first contact of most farmers, must be competent enough to offer basic, first-hand advice on the appropriate use of pesticide, sources said, adding that such knowledge and understanding are not possible at the higher secondary and senior secondary levels. Only a graduate in B.Sc. Agriculture or a Science graduate can offer such advice.

Besides, there are the issues regarding soil health and environment. Against this backdrop, officials pointed out that pesti-

cide selling should not be regarded as an activity that could generate jobs.

Insecticides and pesticides are inherently toxic and hazardous substances, which require careful handling and strict adherence to instructions on labels and leaflets, officials said.

In a bid to help the licencees who could not disrupt their businesses by undergoing the rigors of graduation, a one-year diploma, or employ a person with such qualifications, the Ministry of Agriculture further facilitated them by offering to undergo a short-term certificate course of 12 weeks on Plant Protection & Pesticide Management.

# Govt mulls 'Organic Aadhaar' for farmers to weed out bogus data

Growers' Personal Aadhaar, land ID numbers to be linked

**PRABHUDATTA MISHRA**

New Delhi, April 29

After taking action against errant certification agencies, agri export promotion body APEDA is now considering rolling out "Organic Aadhaar" for the farmers engaged in organic farming under the National Programme for Organic Production (NPOP) to rule out any possibility of bogus enrollment.

"It is under active consideration as we want to take all necessary measures to ensure India's organic products remain one of the most preferred in the global market," said M Angamuthu, Chairman of Agricultural and Processed Food Products Export



M Angamuthu, Chairman, APEDA

Development Authority (APEDA). The NPOP standards for production and accreditation for unprocessed plant products have been recognised by the European Commission and Switzerland as equivalent to their country standards. Indian organic products certified by accredited certification bodies of India are accepted by the importing countries in Europe.

## ULPIN scheme

Negotiations are on with South Korea, Taiwan, Canada and Japan

to get similar recognition from these countries.

The government has been implementing a 14-digit identification number to every plot of land in the country. The Unique Land Parcel Identification Number (ULPIN) scheme was launched in 10 States last year and will soon be rolled out across the country. This could also become a powerful tool to identify the organic land, official sources said.

The idea is to create an identity for the farmer, based on Personal Aadhaar and ULPIN, for the organic certification process. The data element of Organic Aadhaar shall become the deep foundation to the integrity of India's organic agriculture, the sources said. "The organic Aadhaar combined with Tracenet will create a robust system to effectively plan and monitor policy measures," Angamuthu said.

## Decision on pesticide ban likely this week

**PRABHUDATTA MISHRA**

New Delhi, April 4

The Union Agriculture Ministry is likely to consider this week the expert panel's recommendations on the proposed ban on 27 pesticides. However, industry experts doubt if there will be any immediate decision, following change of officials in the Ministry.

Sources said that the Agriculture Ministry may hold an inter-ministerial discussion on the proposed ban with regard to the Rajendran Committee report.

The government had published a draft notification in May 2020 inviting feedback from stakeholders on banning 27 pesticides

## Expert committee

However, on the request of stakeholders and intervention by Agriculture Minister Narendra Singh Tomar, the timeline of receiving objections and suggestions was increased to 90 days from 45 days. Later in January 2021, the Ministry set up an expert committee under TP Rajendran, a former assistant director

general of Indian Council of Agricultural Research (ICAR), to consider the objections and suggestions taking into consideration all aspects related to safety, toxicity, efficacy, updated status of submission of required study and data, technical and scientific requirements, availability of safer substitutes, farmers interests and ban status in other countries.

Though the committee was asked to submit its report in three months, it is learnt that the Ministry received the report in November 2021.

Industry sources said that the current production value of these 27 pesticides is about ₹10,300 crore, of which ₹6,000 crore (or 58 per cent) worth items get exported. "If domestic sales (export may be exempted) of these pesticides are banned, the farmers may have to pay additional ₹2,000 crore to get imported alternatives," an industry official said. As the new agriculture secretary has assumed charge last week, he may take time to study the issue, an industry source said.

## India begins shipment of rice to crisis-hit Sri Lanka

**SANDIP DAS**

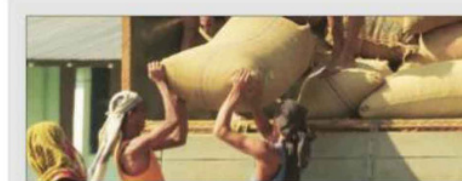
New Delhi, April 5

**INDIA HAS COMMENCED** shipment of around 40,000 tonne of rice to Sri Lanka to help ease shortage of essential food commodities in the country facing an acute fiscal challenge and economic turmoil. According to BV Krishna Rao, president, Rice Exporters Association, India will provide 0.3 million tonne (mt) of rice to Sri Lanka over the next six months. "All the rice shipments to Sri Lanka will be carried out through ports such as Kakinada, Tuticorin, Chennai and other ports in the southern region," Rao told *FE*.

The rice is being offered under a credit line of \$1 billion to Sri Lanka announced by India recently towards the purchase of food, medicine and other essential commodities. Of this credit line, \$150 million is earmarked for rice supplies to Sri Lanka.

"As of now, supply of around 40,000 tonne of rice to Sri Lanka has been finalised under the credit line. The first consignment of rice under this framework is expected to arrive in Sri Lanka in the coming days," according to a statement by the High Commission of India, Colombo.

Trade sources said India can ship rice to Sri Lanka within days



■ India can ship rice to Sri Lanka within days while for other countries it would at least take a few weeks to export rice

■ This rice shipment is expected to bring down the price of grain in the island nation ahead of Sinhalese New Year on April 14

while for other countries it would at least take a few weeks to export rice. This rice shipment from India is expected to bring down the price of grain in the island nation ahead of Sinhalese New Year, which will be celebrated on April 14.

India is also expected to supply other agricultural commodities such as sugar and wheat to Sri Lanka in the coming months.

According to a senior official, this assistance in terms of rice shipment is seen as 'humanitarian measure to help the Sri Lankan people during a difficult time'. Sri Lanka has become a net importer of rice as its production sharply fell after it banned all chemical fertilisers

in May 2021 for making the island nation's agriculture sector to 100% organic cultivation. Following reports of a drop in production of various agricultural commodities because of the banning of fertiliser use, the Sri Lankan government partially lifted a ban on imports of fertiliser and allowed the private sector to import it.

India has been the world's largest rice exporter in the last decade — export earnings stood at a record \$8.7 billion in 2020-21 and crossed \$9.6 billion in 2021-22. India exported agricultural commodities such as onion, wheat, pulses, basmati rice and processed fruit products worth of \$150 million to Sri Lanka in 2020-21.

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