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Agriculture & allied sectors grew 3.9% in 2021-22

OUR BUREAU
Mumbai

Agriculture continues to be a silver lining during the pandemic affected economy. Agriculture and the allied sector registered a growth of 3.6 per cent in 2020-21 and improved to 3.9 per cent in 2021-22, driving the overall Indian economy's real GDP expansion of 9.2 per cent in 2021-22.

Further, the Survey said that greater participation of the corporate sector can boost investments and growth in



agriculture.

The government has implemented Minimum Support Price policy to promote crop diversification. Net receipts from crop production rose by 22.6% in

the latest Situation Assessment Survey compared to the SAS report of 2014.

Allied sectors including animal husbandry, dairy and fisheries are steadily emerging to be high growth sectors and major drivers of overall growth in the agriculture sector.

According to the Survey, the Live-stock sector grew at a CAGR of 8.15% over the last five years ending 2019-20. It has been a stable source of income across groups of agricultural households accounting for about 15% of their average monthly income.

Add AI, Drones, Marketing Tools to Improve Yield and Modernise, Modi Urges Farmers

In his webinar on provisions in the budget, PM asks those involved in farm sector to sell natural, organic items and processed food

Our Political Bureau

New Delhi: Harness scientific innovations like artificial intelligence to improve yield, aggressively sell domestic natural and organic products and processed food, and promote Indian millets in the global arena, Prime Minister Narendra Modi has urged farmers.

Continuing with his webinar on provisions in the budget, Modi on Thursday asked farmers and those involved in agriculture sector to leverage increasing awareness for environment friendly lifestyle and resulting market for natural and organic products. He exhorted the Kisan Vikas Kendras to create awareness for natural farming by adopting a village each for promotion of natural farming.

Modi underlined that artificial intelligence would soon change the trend related to agriculture and farming. Increasing use of drones in farming is part of



the change. "Drone technology will be available on a scale only when we promote agri-startups. In the last 3-4 years, more than 700 agri startups have been created in the country," he said.

The government has been trying to increase the scope of processed food and ensuring international standards of quality, Modi said. "In this regard, along with the Kisan Sampada Yojana, the performance-linked incentive scheme is important. The value chain also plays

Drone technology will be available on a scale only when we promote agri-startups. In the last 3-4 years, more than 700 agri startups have been created in the country

a big role. Therefore, a special agriculture infrastructure fund of ₹1 lakh crore has been created," Modi said.

Next year has been declared Interna-

CREATING INDIAN BRAND

Modi calls upon the corporate world to brand and promote Indian millets, saying next year is Int'l Year of Millets

tional Year of Millets, Modi said and called upon the corporate world to brand and promote Indian millets. He asked major Indian missions to organise seminars and other promotional activities to popularise the quality and benefits of Indian millets.

Modi said the budget had seven proposals to modernise the agriculture sector. He listed natural farming on mission mode within 5 km on both banks of the Ganges, providing technology to farmers,

Mission Oil Palm to reduce edible oil import and PM Gati-Shakti for transportation of agricultural products as the measures. Better organisation of agri-waste management and increasing farmer income through waste to energy solutions, regular banking through over 1.5 lakh post offices and change in agriculture research and education syllabus to meet demands of modern times for skill development and human resource development were the other measures in the budget, he said.

For management of agri-residue, "some new measures have been taken in this budget, due to which carbon emission will be reduced and farmers will also get income," he said. He suggested that ways to use agri-waste for packaging should be found. He touched on the potential of ethanol blending in fuels. Blending was 8%, compared to 1-2% in 2014, he said. India's cooperative sector is very vibrant, and farmers should aim at turning cooperatives into successful business enterprises, he said.

Agriculture sector needs pvt funds, crop diversification

TIMES NEWS NETWORK

New Delhi: The farm sector has experienced buoyant growth in the past two years, showing resilience in the face of the Covid-19 shock, the Economic Survey said on Monday while strongly pitching for private corporate investments in the sector and recommending the government to give priority to crop diversification towards oilseeds, pulses and horticulture by addressing the core issues of irrigation, investment, credit and markets.

Underlining how “investment is critical to the growth of a sector”, the Survey, tabled in Parliament by FM



FOR SOME GREEN SHOOTS

Nirmala Sitharaman, said, “Higher access to concessional institutional credit to farmers and greater participation of private corporate sector, whose investment rates are currently as low as 2 to 3% in agriculture, may

help in improving private investment in agriculture.”

“Private corporate investments need to be crowded in by offering an appropriate policy framework and increase in public investment along the entire agricultural value system,” said the Survey while noting how the more or less static investment is a major roadblock to growth of the sector.

“The Survey concluded that future of agriculture rests on investment and diversification. However, both public and private investment became static despite the tall claims made by the government,” said Sudhir Panwar, agriculture expert.

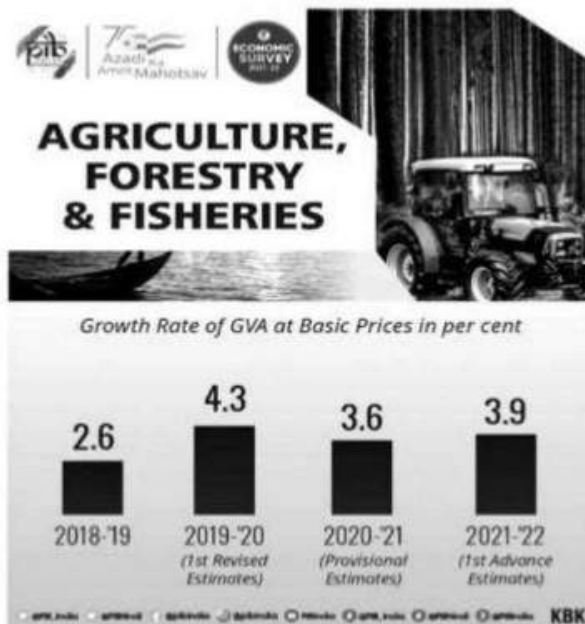
Agriculture sees buoyant growth

STATESMAN NEWS SERVICE
NEW DELHI, 31 JANUARY

Despite Covid-19 pandemic, the agriculture sector in India has experienced buoyant growth in the past two years registering 3.5 per cent and 3.9 per cent expansion during the fiscal years 2020-2021 and 2021-2022, respectively, revealed the Economic Survey released here today.

The Survey attributes this to “good monsoon, various government measures to enhance credit availability, improve investments, create market facility, promote infrastructure development and increased provision of quality inputs to the sector”. It also observes that livestock and fisheries have experienced buoyant growth and have helped the sector perform well.

The share of the agriculture and allied sector in total gross value addition (GVA) of



the economy has settled at around 18 per cent in the long term. “In the year 2021-22 it is 18.8 per cent and in the year

2020-21 it was 20.2 per cent,” the Survey stated.

Interestingly the allied sectors have performed bet-

ter than the crop sector during this period, which indicates that the future growth in the agriculture sector would come from the allied sectors, which include livestock, forestry, fishing and aquaculture.

The Survey notes that there is a direct correlation between capital investments in agriculture and its growth rate. The gross capital formation in the agricultural sector relative to the GVA in the sector is showing a fluctuating trend in sync with the variation in private sector investments, whereas the public sector investments have remained stable at 2-3 per cent over the years.

The Survey further suggested that the higher access to institutional credit by farmers and greater participation of the private corporate sector might improve private sector investment in agriculture.

Commodity prices to impact fertiliser subsidy targets in FY

ARUP ROYCHOUDHURY & SANJEEB MUKHERJEE
New Delhi, 27 February

As Russia's invasion of Ukraine keeps global commodity markets on tenterhooks, at least one allocation in the FY23 Budget is likely to be exceeded, the government has assessed, even before 2022-23 has begun.

The FY23 fertiliser subsidy allocation of ₹1.05 trillion is looking insufficient owing to a continuing spike in urea rates and the expectation that other key raw materials like phosphate and ammonia might further come under pressure due rising crude oil and gas prices.

“Our fertiliser subsidy will go up,” a top government official said.

The Budget Estimate for the FY23 fertiliser subsidy is almost 25 per cent less than the Revised Estimate for 2021-22.

“At the present pooled gas rate of \$16/mmbtu, the subsidy requirement is projected to be close to ₹1.50 trillion and if the rates are revised further up, there could be a greater requirement,” a second official said.

While preparing the Budget, the thinking among government officials was that there could be some moderation in rates for urea, whose prices in the global markets have softened since November 2021 by almost 40 per cent while DAP (di-ammonium



phosphate) is selling at around \$900 per tonne in the global markets.

Several market players said ₹900 per tonne in the global markets and could last not more

THE FALLOUT

₹1.05 tm fertiliser subsidy BE for FY23

₹1.5 tm requirement, at least at current prices, say officials

₹4,000-5,000 crore subsidy requirement increase for every \$1 hike in pooled gas rates

Officials say petroleum being kept out of Russia sanctions will be helpful

Some increase in inflation is expected

pooled gas rates because gas is a major raw material for urea, could jeopardise all the maths.

Trade sources said Indian pooled gas rates could go up to \$18/mmbtu. Rough estimates show for every \$1 increase in pooled gas rates, the subsidy requirement for urea increases by ₹4,000-5,000 crore.

That apart, there was some talk that India was looking to meet fertiliser manufacturers from Russia for a three-year-long term contract for DAP and NPK (complex fertilisers). Those negotiations could be put on hold as long as the crisis continues.

Ukraine also supplies around 10 per cent of India's urea requirements. That could be affected if

PI Industries launches new product

BENGALURU, DHNS: Leading Agro chemicals company PI Industries launched its new product to prevent pests in rice crop on Thursday.

Known as “DISTRUPTOR” with latest innovative technology prevent brown planthopper (BPH) in rice crop, which are known for their resistance to commonly used insecticides.

Ukraine crisis: Agri commodities prices plunge globally as supply fears recede

Indian farmers gain as local wheat, maize, soyabean and mustard prices rise

SURRAMANIRAMANCOMBI
Chennai, February 27

Prices of agricultural commodities, particularly wheat, maize, soyabean and palm oil, dropped significantly in the global market during the weekend, after having surged on February 24 when Russia ordered its troops into Ukraine.

The rates of most of these commodities dropped by over five per cent as members of the North Atlantic Treaty Organization (NATO), led by the US, and other nations critical of Moscow's action have not come up with any decision that will affect the movement of foodgrains such as maize, wheat and sunflower. In a way, fears over the supply of these commodities have receded, said traders.

Crude oil impact

The easing of crude oil prices, particularly benchmark Brent, below \$100 a barrel has also helped the prices to ease. On February 24, when Russia announced that it was ordering its troops into

Ukraine, prices of wheat and maize soared by over nine per cent, while rates of palm oil in spot trading skyrocketed above 7,000 Malaysian ringgit a tonne.

On Friday, benchmark soyabean futures closed nearly four per cent lower at \$5.96 a bushel (\$44,025 a tonne) on the Chicago Board of Trade (CBOT).

Wheat benchmark futures pared 8.26 per cent of their gains from the previous day to end at \$8.495 a bushel (\$320 a tonne) on the CBOT. However, prices continue to hover at a nine-year high. Maize futures shed 5.22 per cent of their gains from February 24 on the CBOT to close at \$6.587 a bushel (\$19,450 a tonne). At one point of time, soon after Russian President Vladimir Putin's announcement, the commodity had hit an eight-month high of \$7.16 before slipping below \$7 a bushel.

Bio-diesel demand

Palm oil spot prices which had topped 7,000 MYR on February 24 slipped lower during the week-



Prices of wheat in India topped ₹2,000 a quintal with Madhya Pradesh accounting for the highest arrival of 63,713 tonnes

end to 6,732 MYR a tonne. Importantly, the benchmark May futures dropped below 6,000 MYR to over 40 per cent of supply in the global market. In the case of sunflower oil, Ukraine (6.86 mt) and Russia (3.2) almost make up the entire global supply of 11.24 mt. Again Moscow (37.26 mt) and Ryn (8.05 mt) contribute over 25 per cent of exports in the world wheat market. As regards maize, both these nations Russia 2.28 mt and Ukraine 27.95 mt have been shipping out nearly 10 per cent of the 395.54 mt global exports.

Palm oil and canola prices soared for two reasons. One, fears gripped the market that supplies of sunflower oil from Ukraine, the primary supplier, might be affected. Two, both these oils are diverted for the production of bio-diesel whenever crude oil prices surge to around \$100 a barrel.

Wheat and maize prices also skyrocketed on fears that their supply from Russia and Ukraine, both major exporters in the global market, could be affected.

Even prices of barley jumped as Russia (4.96 million tonnes or mt) and Ukraine (5.04 mt) make up over 40 per cent of supply in the global market. In the case of sunflower oil, Ukraine (6.86 mt) and Russia (3.2) almost make up the entire global supply of 11.24 mt. Again Moscow (37.26 mt) and Ryn (8.05 mt) contribute over 25 per cent of exports in the world wheat market. As regards maize, both these nations Russia 2.28 mt and Ukraine 27.95 mt have been shipping out nearly 10 per cent of the 395.54 mt global exports.

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India, an export source
The rise in the prices of these commodities has benefited Indian farmers to some extent. This is because India is seen as a source that

can meet short-term needs and can supply in small quantities for such immediate requirements. In particular, it can meet the needs of nations in South Asia, South-East Asia and West Asia besides Africa.

Other advantages that New Delhi enjoys are price competitiveness and ample stocks in the country boosted by record production of these grains.

Other advantages that New Delhi enjoys are price competitiveness and ample stocks in the country boosted by record production of these grains.

Oilseeds prices too move up
On the other hand, oilseeds prices have also gained since imports of oil such as palm, soyabean and sunflower could now be a costly proposition. The impact of the Ukraine crisis on the global market reflected in the domestic agricultural markets too. Prices of wheat topped ₹2,000 a quintal with Madhya Pradesh accounting for the highest arrival of 63,713 tonnes last week. Maize prices are ruling near ₹1,900 a quintal with Madhya Pradesh again accounting for most of the arrivals (9,043). Soyabean prices are ruling firmly above ₹6,000 a quintal across various agricultural markets, while mustard rates are also firm around these levels.

पौध पोषण विधेयक का हो सकता है कृषि विधेयक जैसा हाल!

संजीव मुखर्जी
नई दिल्ली, 25 फरवरी

उर्वरक उद्योग का मानना है कि कुछ हफ्ते पहले आए एकिकृत पौध पोषण प्रबंधन विधेयक, 2022 के मसौदे का भी हाल वापस लिए गए कृषि कानूनों जैसा हो सकता है। उनका मानना है कि सरकार को इस कानून को लाने में जल्दबाजी करने की बजाय पहले किसानों और राज्य सरकारों सहित सभी साझेदारों से उपयुक्त चर्चा कर लेनी चाहिए।

सार्वजनिक परामर्श के लिए रखे गए मसौदे में देश में उर्वरक के संतुलित इस्तेमाल को सुनिश्चित करने के लिए इसकी कोमत, आवाजाही, वितरण, आयात और भंडारण के नियमन की बात कही गई है। इस मसौदे में उर्वरक निर्यात आदेश (एफसीओ) और उर्वरक आवाजाही आदेश (एफएमओ) के विभिन्न मौजूदा प्रावधानों को एक कानून के अंदर रखे जाने की बात कही गई है जिसको लेकर उर्वरक उद्योग के भीतर कई प्रश्न खड़े हो गए हैं।

फिलहाल आदेश को विभिन्न मंत्रालय लागू कर रहे हैं।

जताई आशंका

- उर्वरक उद्योग का मानना है कि सरकार को पौध पोषण प्रबंधन विधेयक, 2022 पर करनी चाहिए सभी हिस्सेदारों से बात
- उद्योग के मुताबिक कानून के कुछ हिस्सों को लेकर भ्रम की स्थिति बनी हुई है



एक ओर जहां एफसीओ को कृषि विभाग द्वारा लागू किया जाता है वहीं एफएमओ उर्वरक विभाग के दायरे में आता है। एफएमओ के जरिये राज्यों के आकलन किए गए जरूरत के मुताबिक उन्हें संयंत्रों और बंदरगाहों से विभिन्न रासायनिक उर्वरकों की आवाजाही, वितरण और आवंटन का नियमन किया जाता है।

उद्योग के एक वरिष्ठ अधिकारी ने कहा, 'एफसीओ और एफएमओ को

रद्द करने का प्रस्ताव देते हुए भी इनके कुछ हिस्सों को नए कानून में रखने से बहुत बड़ी भ्रम की स्थिति उत्पन्न हो जाएगी और इससे नवाचार को धक्का लागेगा तथा इस क्षेत्र में दोबारा से लड़ाई तथा इंफेक्टर राज की वापसी हो सकती है।' उन्होंने कहा कि एफसीओ और एफएमओ दोनों ही प्रशासनिक आदेश हैं और एक अलग कानून में इनके कुछ प्रावधानों को शामिल करने तथा उनमें दंडात्मक प्रावधानों को रखने से उद्योग

में अकारण ही विनियमन की स्थिति उत्पन्न हो जाएगी। सुझों ने कहा कि उर्वरक उद्योग मसौदा विधेयक पर अपनी आपत्तियों को सत्ता के सबसे उच्च स्तर पर उठाएगा।

अधिकारी ने कहा कि मसौदे में पौध के पोषकों के प्रबंधन के मकसद से उर्वरक उद्योग के विनियमन की बात कही गई है। लेकिन क्या इस विधेयक को मानव पोषण, पशु पोषण या वीज के लिए ही मौजूदा कानूनी वातावरण से अधिक कठोर बनाने का कोई कारण है। उर्वरक उद्योग की लगता है कि उर्वरक मसौदा देने के लिए नीतियों और मारुदंडों का पौध पोषण, प्रबंधन और मिट्टी के स्वास्थ्य पर सीधा असर पड़ता है।

पौषकों और उत्पादों पर अस्तुलित सख्तिदियों को मौजूदा नीति एनपीके अनुपात में अस्तुलन को मुख्य वजह है जिसमें मिट्टी के स्वास्थ्य पर असर पड़ रहा है। अधिकारी ने कहा, 'पौषण के संतुलित उपयोग को बढ़ावा देने के लिए नए कानून लाने की बजाय उद्योग की जरूरत के हिसाब से उर्वरक सख्तिदियों के राने के निर्धारण पर पुनर्विचार करना चाहिए।'

रुपये में भुगतान कर ईरान से यूरिया खरीदने की योजना

रॉयटर्स
नई दिल्ली, 25 फरवरी

वैश्विक आपूर्ति में व्यवधानों, उच्च कीमतों और विदेशी मुद्रा की अस्थिरता को देखते हुए भारत ने ईरान के साथ अपने पहले दीर्घकालिक यूरिया आयात सौदे का भुगतान रुपये में करने की योजना बनाई है। इस मामले से बड़े सुझों ने यह जानकारी दी। यूक्रेन पर रूस के हमले के बाद स्थिति अब और जटिल हो गई है।

भारत ने अमेरिका द्वारा तेहरान पर कड़े प्रतिबंध लगाने के बाद 2019 में दबाव के कारण ईरान से यूरिया आयात रोक दिया था। सरकार के आंकड़ों से पता चलता है कि यूरिया की तीसरी बड़ी अर्थव्यवस्था भारत को अपनी फसलों के पोषण संबंधी जरूरतों

को पूरी करने के लिए चीन, यूक्रेन और रूस का सहारा लेना पड़ा।

एक सूत्र ने कहा कि न्यूदा वैश्विक दाम के बाद चीन द्वारा निर्यात संबंधी प्रतिबंध लगाए जाने के कारण पिछले साल भारत के कुछ राज्यों में यूरिया की कमी का सामना करना पड़ा था। सूत्र ने कहा, 'अब रूस-यूक्रेन मसले की वजह से आपूर्ति व कीमतों को लेकर अनिश्चितता बढ़ गई है। ऐसे में हमला लक्ष्य उचित दर पर आपूर्ति सुनिश्चित करना है।'

भारत यूरिया व मिट्टी के अन्य पोषकों का बड़ा आयातक है, जिसकी जरूरत उसके व्यापक कृषि क्षेत्र में पड़ती है। भारत में कृषि क्षेत्र में करीब 60 प्रतिशत कार्यबल लगा हुआ है और 2.7 लाख करोड़ रुपये की अर्थव्यवस्था में कृषि क्षेत्र की हिस्सेदारी 15 प्रतिशत है।

India seeks urea trade with Iran in rupees

Global supply disruptions spur move

REUTERS
NEW DELHI

India plans to pay in rupees for its first long-term urea import deal with Iran to hedge itself from global supply disruptions, higher prices and forex volatilities, sources familiar with the matter said, complicated by Russia's invasion of Ukraine.

India halted urea imports from Iran in 2019 under pressure from tough U.S. sanctions on Tehran and government data show that Asia's third-largest economy turned to countries such as China, Ukraine and Russia to meet its demand for the crop nutrient.

Last year, some Indian States faced shortages of urea after "abrupt" export restrictions by China amid

'Abrupt' export curbs by China had caused a shortage of urea last year

high global prices, one of the sources said.

Iran was India's third-biggest source of urea in FY19, supplying about 17% of New Delhi's close to 7.5 million tonnes of urea imports.

India is looking at expediting a deal with Iran after indications that negotiations between Iran and the U.S. could culminate in a new pact to lift sanctions.

The plan was to pay in rupees with the involvement of local banks to import annually 1.5 million tonnes of urea from Iran, said another source. The pricing had yet to be decided, sources said.

Govt agencies to procure record 44.4 MT of wheat in upcoming rabi

SANDIP DAS
New Delhi, February 25

THE GOVERNMENT ON Friday set a record wheat procurement target of 44.4 million tonne (MT) for the 2022-23 rabi marketing season starting on April 1.

The wheat will be procured by the Food Corporation of India (FCI) in collaboration with state government agencies from farmers in the key producing states, including Punjab, Haryana, Madhya Pradesh, Rajasthan and Uttar Pradesh, between April and June.

The second advance estimates of foodgrain production by the ministry of agriculture have pegged wheat production at 111.32 MT, which implies that the government agencies will be purchasing close to 40% of the total production.

In the 2021-22 marketing season, the government had purchased 43.34 MT of wheat from farmers by paying the minimum support price (MSP). This year, the government will pay an MSP of ₹2,015 per quintal. The state-wise procurement targets are 13.2 MT for Punjab, 12.9 MT for Madhya Pradesh, 8.5 MT for Haryana, 6 MT for Uttar Pradesh and 1 MT for Bihar.

Sudhanshu Pandey, secretary, department of food and public distribution, recently chaired a meeting of food secretaries and FCI officials to discuss arrangements for wheat and rabi paddy procurement.

The government has



decided to procure 4.29 MT of rice (rabi) from seven producing states. Rice is mostly grown in the kharif season. Promotion of coarse grains, implementation of minimum threshold parameters for online procurement operations, supply of jute bags and packaging material, storage space, improving efficiency and transparency in procurement operations, and online settlement of food subsidy claims were also discussed in the meeting, according to a statement.

FCI is the central agency that manages procurement, storage and transportation of rice and wheat to states for distribution, mainly for the NFSA and other welfare schemes. More than 800 million people get 5 kg of highly subsidised foodgrain per head, per month under the 2.5 crore Antyodaya Anna Yojana

households, which constitute the poorest of the poor. They are entitled to 35 kg per household per month at subsidised prices.

The economic cost of foodgrain procurement by FCI, which include expenses such as MSP payment to farmers, procurement, acquisition and distribution costs for rice and wheat, was ₹3,597.17 and ₹2,499.69 per quintal, respectively, in 2021-22. The government distributes rice and wheat to beneficiaries under NFSA at ₹3 and ₹2 per kg, respectively.

The Union Budget for FY23 has provided ₹2.06 lakh crore for food subsidy allocation, 28% lower than the revised estimate of ₹2.86 lakh crore in 2021-22. The lower provision is because of additional expenses incurred in implementing the Pradhan Mantri Garib Kalyan Anna Yojana till March 31, 2022.

Govt eyes merging online agri trade platforms

Move will lead to better price discovery for farmers while selling their produce

PRABHUDEVA MISHRA
New Delhi, February 25

The Centre will soon integrate six online portals with the electronic National Agriculture Market (eNAM), a move seen not only as boosting trading volume but also providing better price discovery for farmers in selling their produce. This follows the success of eNAM nationally.

Also, this may help remove one of the major bottlenecks in online trading - the quality guarantee of the produce - after roping in assaying and certification agencies.

Total transactions over eNAM were ₹42,163 crore during April-January this fiscal against ₹31,366 crore for the entire 2020-21 fiscal. This fiscal's transactions are a record high since its launch in 2016.

'Never wanted monopoly'

"We never wanted a monopoly for eNAM. Our aim is better price discovery for farmers and by leveraging the expertise of others, it will be a win-win for both buyer and seller in the integrated platform," said

Neelkamal Darbari, managing director of Small Farmers' Agri-Business Consortium (SFAC).

The new initiative will also be offering services of transportation, warehousing, quality assaying, storage, fintech and agri-advisory for which over 15 firms have expressed their willingness to join, Darbari said. "This will enable farmers, farmer producer organisations (FPOs), traders, and other stakeholders to access a larger market ecosystem through a single window," she said.

The number of platforms will continuously increase when the expression of interest (EOI) will be made open, sources said.

More choices

The new initiative will enable the integration of other public and private trading and service providing platforms of the entire agriculture ecosystem through APIs. Post this integration, farmers and FPOs of eNAM and other platforms will be able to upload their produce to more buyers across the portals for selling the crops.



Currently, eNAM connects 1,000 mandis across the country whereas the online platforms developed in the private sector are mostly limited to specific geography or commodities

This will provide more choices to farmers and help better price negotiation for their produce, she said.

SFAC, a society under the Union Agriculture Ministry, tasked to work for increasing the incomes of small and marginal farmers through aggregation and development of agri-business. Besides eNAM, it is also the main implementing agency for creation of 10,000 additional FPOs.

Currently, eNAM has connected 1,000 mandis across the country whereas the online platforms developed in the

private sector are mostly limited to specific geography or commodities. Besides, eNAM platforms are also operational at FPOs premises in certain States which allow them. Even if transactions are done through eNAM, mandi fees are payable as per local rules in each State. While some States such as Rajasthan follow uniform fees across all mandis, though charges vary from commodity to commodity - some others like Gujarat have allowed APMC to decide the market fees.

"Depending on the success

of the new initiative, the next step will be to convince States to exempt the mandi fees for the transaction done through the electronic platform," a source said. The government, either Centre or State, may also think of bearing the operational costs if farmers get the benefit, the source said.

Private expertise

Until now, about 1.72 crore farmers, 2 lakh traders and 1 lakh commission agents have been registered on the eNAM platform. Though the base of the private entities which will join the new initiative is very low compared to eNAM, Darbari said, they (private sector) may have some other expertise which eNAM farmers will get the benefits after the integration.

"As technology infusion in agriculture grows with adoption of artificial intelligence (AI) and other tools, there would be definitely changes coming in the conventional way of trading. However, a major task that is yet to be accomplished is to bring reforms at State levels so that inter-mandi and inter-state transactions go up," said Darbari.

Growing 'seawater' rice

Chinese scientists have developed salt-tolerant strains of rice in a bid to ensure food security as sea levels rise from climate change

JINGHAI DISTRICT IN northern China is hardly a rice-growing paradise. Located along the coast of the Bohai Sea, over half of the region's land is made of salty, alkaline soil where crops can't survive. Yet, last autumn, Jinghai produced 100 hectares of rice. The secret to the bountiful harvest is new salt-tolerant rice strains developed by Chinese scientists in the hope of ensuring food security that's been threatened by rising sea levels, increasing grain demand and supply chain disruptions.

Known as "seawater rice" because it's grown in salty soil near the sea, the strains were created by over-expressing a gene from selected wild rice that's more resistant to saline and alkali. Test fields in Tianjin—the municipality that encompasses Jinghai—recorded a yield of 4.6 metric tons per acre last year, higher than the national average for production of standard rice varieties.

The breakthrough comes as China searches for ways to secure domestic food and energy supplies as global warming and geopolitical tensions make imports less reliable. The nation has one-fifth of the world's population, and that many mouths to feed, with less than 10% of the Earth's arable land. Meanwhile, grain consumption is rising quickly as the country grows more wealthy.

"Seeds are the 'chips' of agriculture," said Wan Jili, a manager at Qingdao Saline-Alkali Tolerant Rice Research and Development Center, drawing a parallel between the crucial role semiconductors play in the development of new technologies and their role in the ongoing trade war between the US and China. Seawater rice could help improve China's grain production in the face of an "extremely complicated situation regarding climate change and global food security," she said.

China has been studying salt-tolerant rice since at least the 1950s. But the term



"seawater rice" only started to gain mainstream attention in recent years after the late Yuan Longping, once the nation's top agricultural scientist, began researching the idea in 2012.

Yuan, known as the "father of hybrid rice," is considered a national hero for boosting grain harvests and saving millions from hunger thanks to his work on high-yielding hybrid rice varieties in the 1970s. In 2016, he selected six locations across the country with different soil conditions that were turned into testing fields for salt-tolerant rice. The following year, China established the research centre in Qingdao where Wan works. The institute's goal is to harvest 30 million tons of rice using 6.7 million hectares of barren land.

"We could feed 80 million more people" with salt-tolerant rice, Yuan said in a documentary broadcast in 2020. "Agricultural researchers like us should shoulder the responsibility to safeguard food security," he told a local

newspaper in 2018.

Climate change has made the task more urgent. China's coastal waters have risen faster than the global average over the last 40 years, a worrying trend given the country's deep reliance on its long and low eastern coast for grain production. Successfully growing salt-tolerant rice on a large scale would allow the country to utilise more of the increasingly salty land in the area.

According to the Intergovernmental Panel on Climate Change, sea levels around the world could rise as much as 59 centimetres by the end of the century if the planet warms by 2 degrees Celsius. Oceans surrounding the US will swell faster within the next three decades than they did in the past century, according to a report this week led by the National Oceanic and Atmospheric Administration.

President Xi Jinping has stressed in several recent meetings with top gov-

ernment officials that ensuring the supply of primary goods is a "major strategic issue" given climate and geopolitical pressures. "The food of the Chinese people must be made by and remain in the hands of the Chinese," he said at a gathering of the Politburo Standing Committee meeting in December.

Chinese scientists are betting that land once dismissed as barren can be turned into productive grain-producing plots. About 100 million hectares of land in the country, about the size of Egypt, is high in saline and alkaline. Meanwhile arable land has decreased 6% from 2009 to 2019 because of urbanization, pollution and overuse of fertilisers.

To make use of salty soil, farmers traditionally dilute their fields with large amounts of fresh water. The approach is still commonly used in some coastal regions. But the method requires vast amounts of water and often doesn't improve yields enough to make sense economically.

"China is looking at another method now, to develop grain varieties that can withstand the soil's saltiness," said Zhang Zhaoxin, a researcher with China's agricultural ministry. While seawater rice has mostly been planted on trial fields so far, Zhang said he believes commercial cultivation will soon take off with the government's support.

The research team in Qingdao said last October that it can meet the goal of growing 6.7 million hectares of seawater rice within ten years. In 2021, the group was put in charge of 400,000 hectares of land to expand production of seawater rice.

"If China can be more self-sufficient in staple foods, it would be a contribution to the world's food security too," said Zhang. "The less China imports, the more other countries will have."

—Bloomberg

Crystal Crop introduces herbicide for sugarcane; aims 15% share of market

Agro chemicals firm Crystal Crop Protection Ltd on Wednesday said it has introduced a new herbicide to check weeds in sugarcane crops and expects up to 8% increase in revenue from this product in the next few years. Crystal Crop had posted a turnover of around Rs 2,100 crore during the last fiscal year and is expecting a single digit growth in the 2021-22 financial year. The company in a statement said that it has launched post-emergent herbicide 'HOLA' to protect sugarcane crops.

Agri products exports zoom in December

Value of shipments highest this fiscal; Ukraine-Russia stand-off may boost numbers

PRABHUDUTTA MISHRA

New Delhi, February 22

December was the brightest period for the Agricultural and Processed Food Products Export Development Authority (APEDA) as exports of the products promoted by it were the highest in a month this fiscal. The value of shipments increased to a seven-month high of 37 per cent (\$2.44 billion). With the escalation of tension in Ukraine, if the global commodities prices flare up, it may help APEDA to achieve its target of \$23.7 billion for the current fiscal.

Exports of APEDA-promoted major agriculture and processed products, broadly divided into 27 categories, touched \$17.47 billion (₹1,29,782 crore), up by

23.83 per cent over the \$14.11 billion registered in the year-ago period, according to the latest export data.

However, to achieve the target, the current volume of shipments needs to be maintained during January-March quarter as previous quarter level, experts said.

74% export target achieved

"Already 74 per cent of the target has been achieved in first three quarters and growth momentum is likely to be same in last quarter (January-March) as well," said M Angamuthu, Chairman of APEDA. There was a slight slowdown during July-September, otherwise target could have been met before end of this fiscal, he said. APEDA has developed product metrics for about

Surging growth (\$ million)

	2021	2020	% change
April	1,982.27	1,094.34	81.1
May	1,864.69	1,296.82	43.8
June	1,849.06	1,430.59	29.3
July	1,738.99	1,742.34	-0.2
August	1,765.38	1,578.79	11.8
September	1,928.36	1,722.00	12.0
October	2,029.87	1,672.60	21.4
November	2,001.52	1,604.36	24.8
December	2,439.04*	1,777.50	37.2

Source: APEDA, *Provisional



75 products in the top 50 countries and will actively encourage sustainable growth in their shipments, Angamuthu said. "Our endeavour is to make India a reliable food and nutritional security provider, globally," he said.

Opportunity for barley

According to official data, exports of non-Basmati rice

grew 46 per cent to \$4.49 billion (₹33,350 crore), buffalo meat by 6 per cent to \$2.5 billion (₹18,674 crore) and wheat 417 per cent to \$1.44 billion (₹10,694 crore), while Basmati rice dropped 19 per cent to \$2.38 billion (₹17,689 crore) during April-December of current fiscal. These four commodities make up 62 per cent of the total exports of the APEDA-

promoted products this year.

"The Ukrainian crisis will boost wheat, maize and honey exports from India. It opens up an opportunity in barley exports, too. All these export opportunities could be realised if there is no supply chain impediments," said S Chandrasekaran, a foreign trade policy expert. As global prices of commodities may flare up amid the geopolitical tension, it may help the country to get higher realisation in global markets in agri commodities, he added.

APEDA-promoted products have nearly 50 per cent share in the country's overall agricultural export of \$41.25 billion (in 2020-21), whereas marine products are the second most contributor with 14 per cent share, followed by spices with 10 per cent share.

Pakistan clocks better growth than India this fiscal

New Delhi unable to meet EU pesticide norms; Iran payment woes too a damper

SUBRAMANI RA MANCOMBU

Chennai, February 24

While India's basmati exports have dropped by nearly 19 per cent during the April-December period of the current fiscal, Pakistan's shipments have increased by over 28.5 per cent between June and December 2021.

However, All India Rice Exporters Association (AIREA) executive director Vinod Kaul says the pace of the fall in fragrant rice exports dropped in December 2021. Exports of the long-grained rice will be buoyant in the current quarter.

Pak's better growth

According to Agricultural and Processed Food Products Export Development Authority (APEDA)

data, basmati exports during April-December 2021 declined to 27.45 lakh tonnes (lt) valued at \$2,382 million against 33.81 lt valued at \$2,947 million in the year-ago period.

Pakistan exported 4.14 lt of basmati during June-December period of the 2021-22 fiscal (Islamabad's financial year is from June to May), up 28.58 per cent compared with 2.93 lt. But trade analysts and experts point to the growth that Pakistan has achieved compared with the drop registered by India.

Also, Pakistan's share in the EU rice market increased to over 25 per cent last year compared with India's 16 per cent. Recent data are pointers to Islamabad strengthening its hold.

"Pakistan sells a lower

volume of basmati compared to India. Therefore, it is nowhere compared to India," said Vijay Kumar Setia, former AIREA president and chairman, Chaman Lal Setia exports. Pakistan exports 5-7 lt of basmati annually.

"Our basmati exports will be close to last fiscal's level of 46.30 lt. Last fiscal, despite Covid, we exported higher than the 44.54 lt achieved during 2019-20," Kaul said.

However, the value of exports dropped last fiscal to \$4.01 billion against \$4.37 billion the previous year. Kaul and analysts point to two reasons for the drop in basmati exports, particularly to the EU. One is that Pakistan is gaining in the European Union as it enjoys

an advantage. This is because the EU extends the general system of preference in trade to it.

Humidity concerns

"The other reason is India is now facing the problem of pesticide residues in basmati in the EU and West Asia," an industry expert, who did not wish to be identified, said.

Kaul said Pakistan farmers seem to be using lesser pesticide given the climatic differences.

"Farmers there also face water shortage," he said.

The expert said India had lost market substantially in the European Union mainly due to tricyclazole residue. In view of groundwater levels dropping alarmingly

in Punjab and Haryana, farmers in those States are not allowed to sow paddy before June 1.

As a result, the plant grows during humid weather, making the crop susceptible to fungal attack. This forces farmers to use the chemical to control the fungus.

Shipments to West Asia have also been affected as countries in that region have begun to adopt the EU pesticide residue norms.

The other issue that has affected basmati exports is lower imports by Iran. "Iran is facing a huge problem of inflation. Its citizens find basmati rice is costly. As a result, it has suffered," said the expert.

AIREA's Kaul said Iran had to cut the purchase of Indian basmati since the swap under the oil-for-food programme was no more available.



'India said to eye rupee trade to offset sanctions on Russia'

'Disruption in fertilizer supplies from Russia could threaten India's farm sector'

REUTERS
MUMBAI

India is exploring ways to set up a rupee payment mechanism for trade with Russia to soften the blow on New Delhi of Western sanctions imposed on Russia after its invasion of Ukraine, government and banking sources said. Indian officials are concerned that vital supplies of fertilizer from Russia could be disrupted as sanctions intensify, threatening India's vast farm sector.

India has called for an end to violence in Ukraine but refrained from outright condemnation of Russia, with which it has long-standing political and security ties.



Bypass route: India had engaged in rupee trade with Iran after the latter came under Western sanctions. ■VELANKANNI RAJ B

Russia invaded Ukraine by land, air and sea on Thursday. Russian forces pressed their advance on Friday and Ukrainian President Volodymyr Zelenskiy pleaded with the international communi-

ty to do more, saying sanctions announced so far were not enough.

India's plan is to get Russian banks and companies to open accounts with a few state-run banks in India for

trade settlement, a banking source involved in the discussions said.

If the conflict escalates and sanctions intensify, India would not be able to settle transactions in dollars and "so an arrangement has been proposed to set up a rupee account, which is being considered," the source said.

Funds in such accounts act as a guarantee of payment for trade. Such mechanisms are often used by countries to shield themselves from the blow of sanctions. India had also used it with Iran after it came under Western sanctions for its nuclear weapons programme, the source added.

Wheat exporters poised for gain

PRESS TRUST OF INDIA
New Delhi, February 24

THE RUSSIA-UKRAINE CRISIS might give India an opportunity to export more wheat in the global markets and domestic exporters should tap this opportunity, sources said on Thursday.

India's central pool stood at 24.2 million tonne, twice more than the buffer and strategic needs, they said.

More than a quarter of the world's wheat export comes from Russia and Ukraine.

Russia is the world's largest exporter of wheat, accounting for more than 18% of international exports.

In 2019, Russia and Ukraine together exported more than a quarter (25.4%) of the world's wheat.

Egypt, Turkey and Bangladesh bought more than half of Russia's wheat, they said.



Egypt is the world's biggest importer of wheat. It spends more than \$4 billion annually to feed its population of over 100 million. Russia and Ukraine cover more than 70% of Egypt's imported wheat demand.

Turkey is also a big spender on Russian and Ukrainian wheat with 74% of its

imports worth \$1.6 billion coming from those two countries in 2019.

"The crisis in Ukraine may give India an opportunity to export more wheat, provided we ship out more, as our central pool stood at 24.2 million tonne, twice more than the buffer and strategic needs," the sources added.

India's biggest item of import from Ukraine is animal and vegetable fats and oils.

"But, the the current situation will not adversely impact India's trade position as the share of this commodity out of India's total imports of this item from across the world stands at only 10%," one of the sources said.

Top-five countries that exported the highest dollar value worth of wheat include Russia (\$7.9 billion), US (\$6.32 billion), Canada (\$6.3 billion), France (\$4.5 billion) and Ukraine (\$3.6 billion).

Skymet predicts 'normal' monsoon this year

SANJEEB MUKHERJEE
New Delhi, 21 February

The south-west monsoon could be 'normal' this year according to the preliminary signs, Skymet said on Monday. The monsoon could finish around the mid-way mark of the normal range of 96-104 per cent of the long-period average (LPA), the private weather forecasting agency said.

LPA for the four-month south-west monsoon season that starts from June is 881 millimetres. Monsoon has large inter-

annual fluctuations in its arrival, intensity, duration, and withdrawal. It is rather early to decode all these aspects at this stage. But there are precursors to get an early glimpse and gauge its health during the four-month-long season, Skymet said in a statement.

A more comprehensive analysis of the prospects of the 2022 south-west monsoon will be released in April.

The negative sea surface temperature anomalies in the equatorial Pacific Ocean are weakening. And this warming inclination of the Pacific



A normal monsoon will help to boost crop output in the country where about 60% of the population is dependent on agriculture

Ocean, albeit within neutral limits, may not lead to an above-normal or excess rainfall but chances of a 'corrupt' monsoon are also ruled out, the agency said.

"After observing back-to-back La Nina during 2020 and 2021, the chances of yet another episode is ruled out, statistically. The sea surface temperatures in the equatorial Pacific are likely to rise soon and the probability of continued La Nina will fall," said GP Sharma, President - Meteorology and Climate Change at Skymet Weather.

"However, ENSO predictability decreases during the upcoming 'spring barrier' and at times leads to an unstable ENSO regime. Early indications suggest it to be 'neutral' but

leaning close to the negative threshold," he added.

El Nino has had an over-bearing impact on rains in the country and 80 per cent of El Nino years have seen below-normal rains in the country, while 60 per cent have been outright drought years.

The south-west monsoon that starts from June and ends in September is a lifeline for Indian agriculture and is also a key determinant for the broader economy as it provides over 70 per cent of the annual precipitation that the country gets.

Plant nutrition Bill, if hurried, could go the farm Act way, fears fertiliser industry

SANJEEB MUKHERJEE
New Delhi, 23 February

The fertiliser industry is of the view that the draft Integrated Plant Nutrition Management Bill, 2022, floated a few weeks ago, could meet the same fate as the repealed farm Acts if the government hurries with the legislation without proper debate by all stakeholders, including farmers and state governments.

The draft, which has been put up for public consultation, seeks to regulate the pricing, movement, distribution, import, and storage of fertilisers in the country to ensure their balanced use in the country. The draft, which seeks to incorporate several existing provisions of the Fertiliser Control Order (FCO) and the Fertiliser Movement Order into one piece of legislation, has raised several questions within the fertiliser industry.

Currently, the orders are administered by different ministries.

While the FCO is administered by the Department of Agriculture, the FMO, which



regulates the movement, distribution, and allocation of various chemical fertilisers from plants and ports to the states in accordance with the requirement assessed by them, falls within the purview of the Department of Fertilisers.

"Keeping parts of the FCO and FMO under the new Act even while proposing to repeal the FCO and FMO would lead to greater confusion and stifle

innovation and could bring back the licence and inspector raj to the sector," a senior industry official said.

He said while both the FCO and FMO were administrative orders, incorporating some of their provisions into a separate Act and introducing penal provisions into them could create undue regulation in the industry. Sources said the fertiliser industry would place its objec-

THE PROBLEM

- The draft seeks to regulate pricing, movement, distribution, import, and storage of fertilisers
- Industry expected to object the draft as there's a feeling some definitions need a rethink
- There's discomfort with the fact that draft seeks to regulate traditionally used fertilisers too
- Parameters for granting fertiliser subsidies have a direct impact on plant nutrition, management, and soil health

and parameters for granting fertiliser subsidies have a direct impact on plant nutrition, management, and soil health.

And the current policy of imbalanced subsidies on nutrients and products is the main reason for the imbalance in the NPK ratio, thereby affecting soil health. "Instead of a new law to promote balanced use of nutrition, the policy of routing fertiliser subsidies through the industry needs a rethink," the official said.

Among the several provisions of the Act several fertiliser industry players have found uncomfortable is that it seeks to regulate all fertilisers, including traditionally used fertilisers such as "amritpani" and farming practices like "pachgavya krishi". This, the industry feels, could create a backlash in traditional farming communities.

Sources said the industry also felt some definitions in the draft Act needed a rethink while any move to stifle the e-commerce channel for marketing fertilisers should be resisted.

NIMAR FARMER BREAKING NEW GROUNDS IN GROWING MEDICINAL PLANTS

FREEPRESS EXCLUSIVE

FP NEWS SERVICE
Kharagone/Indore

Here's a little-known success story of farming in Nimar. Led by strong and rapidly growing demand from industry, Mohan Patil, a farmer from Jhatawadi, a small village in Maheshwar constituency in Kharagone district started cultivating medicinal crops instead of traditional crops. Patil holds a bachelor's degree in Arts and owns 20 acres of land. Narrating his journey, he said that before 1999 he used to cultivate

traditional crops like soybean, cotton and chilli, but innovation and experimentation are needed in every profession and he understood its importance after attending a workshop organised by CEDMAP in Bhopal.

In the workshop, experts delivered training and informed Mohan and other farmers about innovation in farming. After this, Mohan decided to cultivate 'White Musli' in his field. For this, he took a loan of Rs 1 lakh from the bank and started a new experiment in farming by getting seeds from Maharashtra.

Since then till today, he has been continuously cultivating White Musli. Over the years he witnessed



CULTIVATING ARAB ORIGIN AKARKARA

Mohan is cultivating 'Akarkara' (or Anacyclus pyrethrum originated from Arab countries) as a Robi crop on one-acre land. Its cultivation takes 6 to 8 months and the crop is grown in a temperate climate. He said that Akarkara is cultivated in UP, MP, Gujarat, Haryana and Maharashtra since the climate here is suitable for the crop. Akarkara needs more sunlight. Plants need a temperature of 20 to 25 degrees for germination and at least 15 and a maximum of 30 degrees for growth. The temperature of 35 degrees Celsius is more suitable for the time of ripening. It is mainly used in many types of medicine of the medical world and its price is up to Rs 400 per kg in the market.

HONoured IN MALAYSIA

Honoured in Malaysia for sustainable organic farming of White Musli, Mohan Patil is one of those farmers from the Nimar region who is also working to save the lost seeds by cultivating White Musli for 20 consecutive years. He was honoured with a citation in 2018 by the Commonwealth Vocational University of Malaysia for preserving and promoting this crop.

CULTIVATING QUINOA AS WELL

Mohan is also cultivating the Quinoa crop, a plant of South America species. It is extensively cultivated in South American countries. Due to the abundance of protein in Quinoa, it is known as one of the best nutritious cereals. Its price ranges from Rs 50,000 to Rs 1 lakh per quintal in the international market. Mohan has just taken the production of Tulu as a Kharif crop. The sandy loam soil is most suitable for the cultivation of Tulu.

many ups and downs. Sometimes, he managed to make profits and sometimes losses too. Not only White Musli, but Mohan also cultivated Ashwagandha, Ginger and then Tulsii and Quinoa and now Akarkara - all medicinal crops.

NOTICE
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■ Publisher

Cong, BJP candidates file nominations for Ward by-poll



FP NEWS SERVICE
Kharagone

Survey pitches for promoting use of alternative fertilisers

Also stresses on elimination of chemical fertilisers

OUR BUREAU

Bengaluru, January 31

The Economic Survey 2021-22 has said there is a need to explore options and promote use of alternative fertilisers such as nano urea along with organic fertilisers that protect the soil and are more productive and will contribute to higher nutrient use efficiency.

Further, the Survey said that focus should be on use of new technology including drones and artificial intelligence-based decision support systems, reduction in use of chemical fertilizers and use of low-cost organic inputs and supporting start-ups for innovations.

The government is making available fertilisers such as urea and 24 grades of phosphatic and potassic (P&K) fertilizers to farmers at subsidized prices through fertilizer manufacturers/importers. While urea is being provided to the farmers at a statutorily notified maximum retail price (MRP), for P&K fertil-



Fertilisers such as urea are being made available to farmers at subsidised prices

isers the government is implementing a nutrient-based subsidy scheme. The Survey said the fertiliser subsidy till end of December 2021 stood at ₹85,300 crore. Till December-end, the production of urea was 187.4 lakh tonnes, DAP was 30.7 lakh tonnes and complex fertilisers 68 lakh tonnes. Imports during the same period stood at 59.6 lakh tonnes of urea, 40.1 lakh tonnes of DAP and 17.4 lakh tonnes of complex fertilisers.

Measures

In order to tackle the import dependency and make the subsidy regime more efficient and transparent, the government has taken several steps including notifying the New Urea Policy-2015 with the objective of maximizing indigenous production, promoting energy efficiency in production, and ra-

tionalizing subsidy burden. The government has made it mandatory for all the domestic producers of urea to produce only neem-coated urea.

Also, the government has brought Potash Derived from Molasses (PDM) under Nutrient Based Subsidy (NBS) scheme for the first time since its inception in 2010 to give a push to its manufacturing by sugar mills as a by-product and reduce its import dependence, the Survey said. Latest technologies such as coal gasification; implementation of Direct Benefit Transfer for providing benefits to farmers through point of sale machines are being promoted.

Further, the Survey said that the main component for promotion of natural farming is elimination of chemical fertilisers and pesticides usage and promotion of good agronomic practices. Natural farming also aims to sustain agriculture production with eco-friendly processes in tune with nature to produce agricultural produce free of chemicals. Soil fertility and soil organic matter are restored by natural farming practices. Natural farming systems require less water and are climate-friendly, the Survey said.

Potato prices likely to gain as weather hits Bengal crop

Heavy Nov-Dec rains affect output; price of spud's Pokraj variety surges 140%

SHOBHA ROY

Kolkata, February 21

Potato prices are likely to rule higher this year compared with last year on an anticipated drop in production in West Bengal, the second-largest producer of the spud in the country.

The tuber's production is likely to be lower by around 20 per cent at close to 8.5 million tonnes (mt) this year due to delayed sowing on the back of untimely rains. Last year, the State harvested a bumper crop, nearly a 16 per cent rise in production at 11 mt (compared with 9.5 mt in 2020).

Psychological impact

According to Tushar Kanti Ghosh, President of West Bengal Cold Storage Association, the wholesale price of early variety potatoes (Bohraj) has surged by 140 per cent to ₹200 a quintal currently from ₹50-55 a quintal same time last year.

The impact of the crop in

Bengal will likely reflect in potato prices across the country, said Ashish Guru, Senior Vice-President, Federation of Cold Storage Associations of India. "There will be at least some psychological impact of the development," he said.

At the Agra agricultural produce marketing committee (APMC) yard, one of the largest markets for the spud, prices were ₹780-800 a quintal, up ₹200 over the same period a year ago. As of February 23, arrivals in Uttar Pradesh are pegged at 58,396 tonnes from January compared with 77,423 tonnes during the year-ago period.

In Bengal, the loading price of potatoes in cold storage has increased by 60 per cent to ₹15-16 a kg this year against ₹8-10 a kg in the year-ago period. This would typically mean that the tuber could fetch anywhere between ₹25 and ₹26 a kg in the wholesale market when the stocks are

released from the cold storage during April-May. Potatoes freshly cultivated from the farm are usually consumed for the first 3-4 months of the year, post which the stored potatoes start making their way into the market.

"We experienced untimely rains during the sowing period which led to rotting of some crop. Though re-cultivation was done on some parcels of land, however, it may not prove to be good enough to offset the crop that we lost. So, we expect a lower production this year," Ghosh told *Businessline* after the annual general meeting of the association on Wednesday.

Bengal witnessed untimely rains in November and early December that affected the sowing of the crop. Nearly 55-60 per cent of sowing was complete (when Cyclone Jawad hit) in the key growing regions of Hooghly, Midnapore, Bankura and Burdwan.

The untimely rains, which had left the fields inundated, are not only likely to impact production but also the quality of

new crop. The early variety tuber, which usually starts arriving by the end of December early January, started coming into the market only by end of January.

Cultivation of potatoes in Bengal is spread over close to 4.6 lakh hectares of land. Hooghly, Burdwan, Bankura, East Midnapore and West Midnapore are key growing districts.

Guru said the crop shortage in Bengal would weigh on the supply chain in view of the importance of the eastern State in production. A final picture on the crop would be available after production is assessed later this week by associations across the country, he said.

Loading to be lower

Cold storages are likely to be loaded only up to 80 per cent of their capacity this year due to the lower crop against around 95-97 per cent last year. There are around 400 cold storages in Bengal and the total storage capacity is estimated to be close to seven mt.

According to Pitit Paban De, member, West Bengal Cold Storage Association, production in some of the other key growing regions, including Uttar Pradesh and Punjab, is good this year and prices are also comparatively lower than Bengal. A good quantity of potatoes from some of these markets has been making inroads into the Bengal market. This may have a "suppressing" impact on prices.

"The price at which potatoes have started loading into cold storages is quite high this year. Now whether it goes higher or continues to remain at these levels is something that we can understand only when a clearer picture of actual crop emerges. However, we expect prices to remain firm as of now," he said.

With inputs from Subramaniya Mancombu



At the Agra APMC yard, one of the largest markets for the spud, prices were ₹780-800 a quintal, up ₹200 over the same period a year ago

Agri products exports zoom in December

Value of shipments highest this fiscal; Ukraine-Russia stand-off may boost numbers

PRABHUDEUTTA MISHRA

New Delhi, February 22

December was the brightest period for the Agricultural and Processed Food Products Export Development Authority (APEDA) as exports of the products promoted by it were the highest in a month this fiscal. The value of shipments increased to a seven-month high of 37 per cent (\$2.44 billion). With the escalation of tension in Ukraine, if the global commodities prices flare up, it may help APEDA to achieve its target of \$23.7 billion for the current fiscal.

Exports of APEDA-promoted major agriculture and processed products, broadly divided into 27 categories, touched \$17.47 billion (₹1,29,782 crore), up by

23.83 per cent over the \$14.11 billion registered in the year-ago period, according to the latest export data.

However, to achieve the target, the current volume of shipments needs to be maintained during January-March quarter at previous quarter level, experts said.

74% export target achieved

"Already 74 per cent of the target has been achieved in first three quarters and growth momentum is likely to be same in last quarter (January-March) as well," said M Angamuthu, Chairman of APEDA. There was a slight slowdown during July-September, otherwise target could have been met before end of this fiscal, he said. APEDA has developed product metrics for about

Surging growth (\$ million)			
	2021	2020	% change
April	1,982.27	1,094.34	81.1
May	1,864.69	1,296.82	43.8
June	1,849.96	1,430.59	29.3
July	1,738.99	1,742.34	-0.2
August	1,765.38	1,578.79	11.8
September	1,928.36	1,722.00	12.0
October	2,029.87	1,672.60	21.4
November	2,001.52	1,604.36	24.8
December	2,439.04*	1,777.50	37.2

Source: APEDA, *Provisional



75 products in the top 50 countries and will actively encourage sustainable growth in their shipments, Angamuthu said. "Our endeavour is to make India a reliable food and nutritional security provider, globally," he said.

Opportunity for barley

According to official data, exports of non-Basmati rice

grew 46 per cent to \$4.49 billion (₹33,350 crore), buffalo meat by 6 per cent to \$2.5 billion (₹18,674 crore) and wheat 417 per cent to \$1.44 billion (₹10,694 crore), while Basmati rice dropped 19 per cent to \$2.38 billion (₹17,689 crore) during April-December of current fiscal. These four commodities make up 62 per cent of the total exports of the APEDA-

promoted products this year.

"The Ukrainian crisis will boost wheat, maize and honey exports from India. It opens up an opportunity in barley exports, too. All these export opportunities could be realised if there is no supply chain impediments," said S Chandrasekaran, a foreign trade policy expert. As global prices of commodities may flare up amid the geopolitical tension, it may help the country to get higher realisation in global markets in agri commodities, he added.

APEDA-promoted products have nearly 50 per cent share in the country's overall agricultural export of \$41.25 billion (in 2020-21), whereas marine products are the second most contributor with 14 per cent share, followed by spices with 10 per cent share.

Draft bill seeks tighter fertiliser control

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New Delhi: The fertiliser ministry has proposed to bring an 'Integrated Plant Nutrition Management Bill' to promote the use of bio- and non-chemical fertilisers. In the proposed Bill, the ministry has recommended the setting up of a regulatory body to control prices, supply and import of fertiliser, and also mooted appointing 'fertiliser inspectors' with sweeping powers, including to enter, search premises and also confiscate stock if they have "a reason to believe"



Photo for representation

GREEN DRIVE

that the nutrients manufactured, imported, sold, offered for sale, stored, exhibited for sale or distributed in contravention to any of the provisions of the pro-

posed Act or the rules.

Industry sources said while some provisions of the proposed bill are aimed at making things better and easier, there are also provisions which could bring back the 'inspector-raj'. A senior executive of a fertiliser company said the proposed powers for inspectors could cause unnecessary chaos.

As per the draft Bill, the Centre may fix the maximum price at which fertilisers would be sold and may also fix separate prices for fertilisers having different periods of storage or for different

areas or for different classes of consumers considering the local conditions.

It also proposes to set up an Integrated Plant Nutrition Management Authority of India, which would regulate the manner of registration for manufacturers of fertilisers, set out technical standards with respect to the quality of fertilisers, and promote sustainable use of innovative varieties.

Another proposal is to appoint fertiliser inspectors.

The Bill proposes hefty fine and also jail term for violators of the proposed law.

Godrej Agrovet launches insecticide 'Gracia' for pulses, vegetable crops

OUR BUREAU

Bengaluru, February 22

Godrej Agrovet Ltd (GAVL) has announced the launch of Gracia, an insecticide that helps control chewing and sucking pests in a variety of pulses and vegetable crops. The company believes the product will help strengthen its presence in the insecticides market.

Gracia (flumetamide, an isoxazoline compound) is a wide-spectrum product discovered and developed by Nissan Chemical Corporation Japan, which is being introduced in the market in collaboration with GAVL.

Godrej said Gracia exhibits excellent control of chewing and sucking pests such as larva, caterpillars and thrips in farms producing a variety of pulses, hot pepper, cole crops, tomato, brinjal and okra. It also has an excellent



Balram Singh Yadav, MD, Godrej Agrovet

Balram Singh Yadav, Managing Director, Godrej Agrovet Ltd, said.

"The Indian crop protection market is estimated to be around ₹25,000 crore, of which insecticides contribute 39 per cent. The launch of Gracia will strengthen our presence in this particular sub-segment that's estimated to be a ₹1,500-crore market opportunity," Yadav said.

GAVL has launched Nissan's Hanabi, a miticide, in 2019. "Gracia is a quick action, broad spectrum insecticide that will strengthen our leadership in the crop protection market," said Rakesh Dogra, CEO, Crop Protection Business, GAVL.

"As part of our overall commitment to doubling farmers' income, we have always introduced interventions that are suited for the Indian markets and farmers. After Hanabi, Gracia is the second product from Nissan Chemicals which we are introducing in the country,"

safety profile when it comes to mammals and beneficial insects, the company said in a statement.

"We are confident that like Hanabi, Gracia will also find wide adoption."

Dhanuka group signs MoU with Karnal varsity to promote drones

OUR BUREAU

New Delhi, February 22

Pesticides manufacturer Dhanuka Agritech has signed a memorandum of understanding (MoU) with Haryana's Karnal-based Maharana Pratap Horticultural University to jointly conduct research in crop protection chemicals and to promote modern technology in the agriculture sector.

The MoU was signed by the University's Vice-Chancellor Samar Singh and A S Tomar, vice-president, Dhanuka Agritech, on Tuesday, the company said in a statement.

Through this partnership, Dhanuka Agritech and the University aim to boost farmers' income by improving crop productivity. They will jointly organise awareness programmes for carrying out agri extension ser-



VICES. Farmers will be encouraged to use modern agriculture technologies such as drone artificial intelligence (AI) and precision agriculture.

"There is utmost need to undertake more research and development initiatives in agriculture and the tie-up with an institution like MHU will help us promote research activities in agriculture and allied activities," said Tomar.

"There is a great need for collaboration between academic research institutions

and companies of repute who are keen to promote research and development activities in various areas, including agriculture and allied activities," Singh said and exuded confidence that the tie-up will help encourage more students to undertake research.

To conduct trials

The university will conduct demonstration/adaptive trials of new molecules/products of Dhanuka Agritech at its farms as well as farmers' fields and will consider the inclusion of the findings (active ingredient only) into practices, the company said. Dhanuka will also sponsor bio-efficacy and phyto-toxicity projects of the university for managing insects and pests through drone application.

Centre looks to partner with agriculture startups

Zia Haq

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NEW DELHI: The central government is willing to be your business partner if you launch a startup focused on digital solutions for agriculture, climate change, rural development, education and even health care delivery, as India aims a big boost to its already bustling startup ecosystem.

Ministries, including agriculture and electronics, are gearing up to open themselves to business proposals from individuals, investors and firms where the state will hold limited equity partnerships.

A reason why the Centre has decided to be an investor is to

provide "nascent-stage funding for newer entrants given India's promising startup ecosystem and the potential they hold to transform many sectors", an official said, requesting anonymity.

The government had a "good idea and lots of data" on startups' potential and the value they can add to the economy's output by managing earlier initiatives such as Startup India, which had an outlay of over ₹900 crore, the official said.

India has overtaken the UK to be the third highest country in number of unicorns after the US and China, which added 487 and 301 unicorns, respectively, in 2021. As of January 14, India has 83 unicorns, with a total valuation of \$277.77 billion, according

INDIA'S VAST AGRICULTURE SECTOR HASN'T SEEN A MAJOR TECHNOLOGICAL INNOVATION SINCE THE 1970S GREEN REVOLUTION

to the latest Economic Survey. A unicorn is a startup with a valuation of at least \$1 billion.

Agriculture is being seen as a sunrise sector, a second official said, where digital technologies have already shown promising growth. On February 18, at the Dubai Expo 2020, agricultural secretary Abhilaksh

Likhi made a global pitch.

"He invited the startups and FPOs (farmer producer organisations) to submit their proposals to the agriculture ministry," said the second official, who didn't wish to be named.

The farm ministry is considering proposals for providing equity grants, management costs and other support measures for agri-tech led startups.

India's vast agriculture sector, dominated by small and poor cultivators, hasn't seen a major technological innovation since the 1970s Green Revolution, whose impact is fading fast.

Startups focused on services such as precise inputs to data-based, customized crop monitoring packages, and market intelli-

gence are being projected as the next being technical leap in the farm sector.

"India's agricultural revolution, or agriculture 4.0, is being fuelled by the rapid use of deep-tech solutions across the country," said a spokesperson for Aggromalin, an agri-startup.

Aggromalin, for instance, is a technology-driven agricultural diversification platform that allows farmers to enter the animal husbandry and aquaculture industries through a "stack tech" solution.

DeHaat is the country's fastest-growing agri-tech startup providing end-to-end AI-based solutions. Ninjacart is India's largest fresh produce supply chain startup.

जैविक खेती से गांव-किसान की तकदीर तय करने की कोशिश, एमएसपी पर दिया भरोसा

सरकारी फसल खरीद की 2.37 लाख करोड़ रुपये की रकम किसानों के खाते में सीधे भेजने की व्यवस्था

ए मएसपी को लेकर किसान आंदोलन की आंग को कम करने की कोशिश इस बजट में की गई है। आय बढ़ाने और खेती की हालत सुधारने के लिए तकनीक और ऑर्गेनिक खेती को बढ़ावा देने पर जोर दिया गया है। इस्वाफिक न्यूनतम समर्थन मूल्य (एमएसपी) पर खरीदारी का लक्ष्य पिछली बार के 2.85 लाख करोड़ से कम रखते हुए 2.37 लाख करोड़ किया गया है। सरकारी फसल खरीद की ये रकम सीधे किसानों के खातों में भेजी जाएगी।

केंद्र वित्तीय वर्ष 2022-23 के दौरान किसानों को ड्रोन तकनीक, रसायन मुक्त प्राकृतिक खेती, सार्वजनिक-निजी भागीदारी को बढ़ावा दिया जाएगा। कृषि और कृषक कल्याण योजनाओं का कुल बजट इस बार 1.24 लाख करोड़ रुपये रखा गया है जो पिछले बजट की तुलना में करीब छह हजार करोड़ ज्यादा है।

किसानों को बेहतर तकनीक उपलब्ध कराते हुए फसल मूल्यांकन (क्रॉप कर्टिंग) भूमि रिकॉर्ड के डिजिटलीकरण और कौटनाशकों के छिड़काव के लिए ड्रोन तकनीक पर जोर देने के साथ ही कृषि स्टार्ट-अप और ग्रामीण उद्यमों के वित्तपोषण के लिए नबाई के माध्यम से सह-निवेश मॉडल के तहत जुटाई गई मिश्रित पूंजी के साथ एक फंड की सुविधा दी जाएगी देगी। किसानों को डिजिटल और हाईटेक सेवाएं देने के लिए सरकार निजी एप्रोटेक और स्टार्ट अप को पीपीपी मॉडल पर योजना शुरू करेगी।

2023 मोटा अनाज वर्ष घोषित

मोनोक्रॉपिंग (एक तरह की खेती) से भूजल संकट बढ़ता जा रहा है। अब किसानों को मोटे अनाज पैदा करने के लिए प्रोत्साहित किया जाएगा। जिससे मानव स्वास्थ्य के साथ ही मिट्टी की सेहत भी बरकरार रहे। सरकार द्वारा अंतरराष्ट्रीय



स्तर पर मोटे अनाज की घरेलू खपत को बढ़ाने के लिए उत्पादन से लेकर बिक्री तक में सहायता की जाएगी। मोटे अनाज कम पानी में पैदा हो जाते हैं, इससे उन जगहों पर बढ़ावा दिया जाएगा जहां पानी का संकट है। जिससे कि भूजल का दोहन कम हो और कौटनाशकों का अंधाधुंध इस्तेमाल भी रुके।

कृषि डिजिटलीकरण पर खर्च होंगे 60 करोड़

कृषि के डिजिटलीकरण के लिए 60 करोड़ रुपये का प्रावधान किया गया है। किसानों और कृषि संबंधी सूचनाओं के बेहतर आदान-प्रदान के लिए कृषि सूचना प्रणाली और सूचना प्रौद्योगिकी तथा राष्ट्रीय ई-गवर्नेंस योजना को सुदृढ़ और प्रोत्साहित किया जाएगा। किसानों की आय दोगुना करने के मिशन के साथ-साथ आधुनिक आईटी जैसे आर्टिफिशियल इंटेलिजेंस और मशीन लर्निंग, ब्लॉक चेन टेक्नोलॉजी, इंटरनेट ऑफ थिंग, रोबोटिक्स आदि के उपयोग को शामिल किया जाएगा। किसानों को बेहतर तकनीक उपलब्ध कराने के साथ ही कराते हुए भूमि रिकॉर्ड के डिजिटलीकरण और कौटनाशकों के छिड़काव में ड्रोन तकनीक मदद करेगा। माना जा रहा है कि इससे मजदूरी कम होने के साथ ही किसानों की आय भी बढ़ेगी।



कृषि विवि के पाठ्यक्रम किए जाएंगे संशोधित

प्राकृतिक जल बजट खेती और जैविक खेती को बढ़ावा देकर किसानों की लागत कम करके उनकी आमदनी बढ़ाने पर भी जोर के लिए रखेंगे की कृषि विध्वविद्यालयों के पाठ्यक्रम को संशोधित करने के लिए प्रोत्साहित किया जाएगा। किसानों की सबसे अधिक लागत हाईब्रिड बीज और रसायनिक खादों व कौटनाशकों के उपयोग पर आती है।

खेती में स्टार्टअप पर जोर

गांव और किसान की आय बढ़ाने की दिशा में सरकार ने प्रयास को आगे बढ़ाया है। खेती में स्टार्टअप को बढ़ावा देने के लिए नबाई नई योजनाएं लाएंगे, जिसके जरिए नई मशीनें और उपकरण के स्टार्टअप शुरू किए जा सकेंगे। किसानों को भी आसानी से यह उपकरण अपने घर के आसपास उपलब्ध होंगे।

मत्स्य पालन को प्रोत्साहन

पशुपालन, मत्स्यपालन और डेयरी मंत्रालय का बजट बढ़ाकर 2.118 करोड़ कर दिया गया है। जो मौजूदा साल में संशोधित 1407 करोड़ रुपये था।

FERTILISERS

Allocation of higher subsidy to support increased prices, enhancing agriculture



credit and direct payment to farmers are expected to provide a fillip to fertiliser demand and promote usage of more complex and organic fertilisers.

MEASURES & IMPACT

ALLOCATION FOR AGRICULTURE AND ALLIED ACTIVITIES FOR FY23

₹1,51,521 cr

- **PPP model to help farmers access digital and hi-tech services; specialised Nabard funds for start-ups:** Farmers' income to increase through higher price realisation, access to new markets; agri start-ups to expand their outreach, farmers to be beneficiaries of new value chains
- **Extra credit limit of ₹50,000 crore under ECLGS:** To benefit a larger pool of small businesses hit by the pandemic
- **To revamp Credit Guarantee Trust for Micro and Small Enterprises:** To catalyse flow of institutional credit of an extra ₹2 lakh crore to MSMEs sans collateral

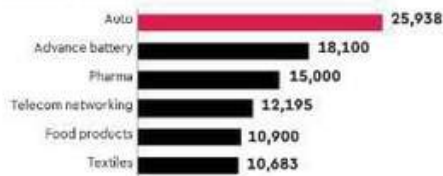
Private capex crawls



Source: CMIE

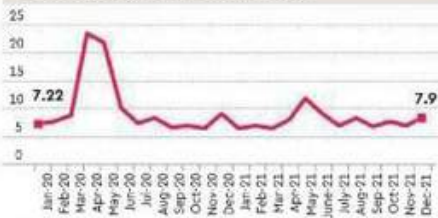
PLI schemes to boost investment

(Outlay in ₹ cr, over 5 years)



Source: Various ministries

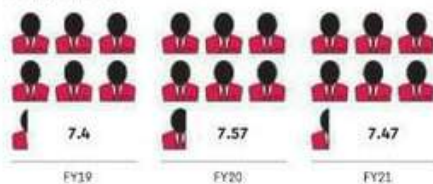
Unemployment remains high



Source: CMIE

Corporate sector hiring stagnant

(Total headcount, in)



Source: CARE Ratings

Farmers Keen on Hiring 'Affordable' Kisan Drones

Team ET

Farmers are keen to use 'kisan drones' to spray pesticides and nutrients on their crops provided they are available on rent at an affordable rate, some farmer organisations told ET.

"Usage of Kisan drones will reduce the dependence on farm labour," said Yashwanth Chidipothu, national spokesperson of Federation of All India Farmers' Association (Fai-fa). "However, farmers cannot buy drones on their own. They can hire them."

The government can put in place some agencies that can buy the drones and rent them to farmers

at a rate of up to ₹350 for spraying insecticides and fertilisers in an acre of land, he told ET.

Finance minister Nirmala Sitharaman in her budget speech on Tuesday had said the Centre will promote Kisan drones to help farmers assess crops, digitise land records as well as spray insecticides and nutrients.

"We are keen to use drones for spraying manures and keeping our crop pest-free," Chidipothu said. "Sometimes we do not get farm labourers to do the same."

Farmers from the soyabean belt of Madhya Pradesh said that during the pandemic they had faced problem in spraying fertilisers and insecticides in the fields.



AGRI & FERTILISERS

THE CENTRE HAS continued with its initiatives for promoting rural development and farmer welfare in the Budget. Healthy allocations for various ongoing farmer welfare schemes (irrigation, crop insurance, rural employment, etc.) would help in reducing the exposure of the sector to the vagaries of the monsoon in the medium term; additionally, the assured income support for farmers would help in timely procurement of key crop inputs (seeds, fertilisers, etc.), and aid the cash flows/sentiments of the farm community.

The allocation towards interest subsidy for agri-credit is marginally higher at ₹195.0 bn in FY23(BE) as compared to ₹181.4 bn in FY22(RE), while the allocation towards crop insurance and PM-Kisan remains broadly in line with FY22. Given the significant increase in the subsidy requirement, Govt has allocated an additional ~₹605.6 bn to meet the subsidy outgo during FY22(RE). The budgetary allocation for the subsidy for the fertiliser sector in FY23 is ₹1,052.1 bn which, as per ICRA estimates, is inadequate. ICRA expects Govt to make additional allocations in case of an increase in the requirements as the year progresses, as has been the case for the last two fiscals.

Impact: Neutral

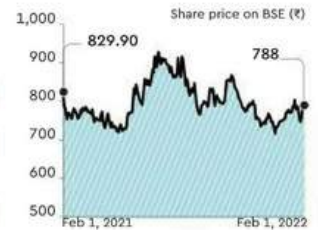
COROMANDEL INT'L

CLOSE : 788

▲ **0.65** % CHG: **-0.08**

EPS (₹)	P/E	Div yield
45.9	17.1	1.5
RM Cost/Sales*	Revenue growth*	PAT growth*
73.7	25.4	2.1

*For H1 FY22 (in %)



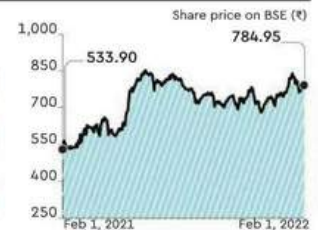
UPL

CLOSE : 784.95

▲ **8.60** % CHG: **+1.11**

EPS (₹)	P/E	Div yield
42.4	18.6	1.3
RM Cost/Sales*	Revenue growth*	PAT growth*
46.8	13.8	29.3

*For H1 FY22 (in %)



MEASURES

- Approval for additional subsidy of ₹605.6 bn for FY2021-22; subsidy allocation for FY2022-23 is ₹1052.1 bn.
- Enhanced outlay for procurement under the MSP structure.
- Assured income support (up to ₹6,000/annum for each household) to farmers under the Pradhan Mantri Kisan Samman Nidhi.
- Allocation under MNREGA kept at ₹730 bn for FY2023; RE of ₹980 bn for FY2022.
- Allocation of ₹129.5 bn for Pradhan Mantri Krishi Sinchai Yojana, ₹190 bn for Pradhan Mantri Gram Sadak Yojana & ₹480 bn for PMAY.

THE FINE PRINT

Agriculture, rural could do with more stimulus



S MAHENDRA DEV

The agriculture sector has done well during the pandemic with growth rates of 3.6 per cent and 3.9 per cent, respectively, in 2020-21 (FY21) and 2021-22 (FY22).

However, agricultural and rural incomes are under stress due to several reasons. Farmers have to pay more for farm inputs and non-agriculture consumption, including health,

as terms of trade are not in favour of agriculture. Reduction in remittances due to reverse migration and lower growth in rural wages led to low incomes in agriculture and rural areas. According to the Situation Assessment Survey of the National Sample Survey Organization, an average farmer is getting only ₹127 per day from cultivation and ₹341 per day from all sources (cultivation, wages, animals, and non-farm business). Micro, small, and medium enterprise (MSME) and informal sector workers have suffered a lot with loss in income and employment during the pandemic. In other words, we still have K-shaped recovery and high inequality. The rural demand for the fast-moving consumer goods sector, consumer durables, and two-wheelers has been low. Therefore, one expected more stimulus for the farm sector and rural areas in the Budget to improve growth and jobs.

Boost to infrastructure is the defining feature of this Budget and wants to have the vision of Amrit Kaal of the next 25 years. Capital expenditure increased sharply by 35.4 per cent, from ₹5.54 trillion in the current year to ₹7.5 trillion in 2022-23 (FY23). This will help rural areas also.

Food, fertiliser, petroleum subsidies were lower in FY23, compared with FY22. Some of the announcements for agriculture in this Budget are: (a) promoting chemical-free natural farming, (b) promoting post-harvesting value addition, consumption and branding of millets, (c) scheme to increase domestic production of oilseeds, (d) delivery of digital and high-tech services to farmers in public-private partnership mode, (e) use of *Kisan* drones to aid farmers, (f) launching fund with blended capital to finance agriculture start-ups facilitated by National Bank for Agriculture and Rural Development, and (g) comprehensive package for food processing with participation of states.

Some of these measures are in the right direction, but more push is needed to improve the income of farmers.

THE BUDGET COULD HAVE FOCUSED ON DIRECT PUSH TO AGRICULTURE AND RURAL INFRA DEVELOPMENT, INCREASE IN ALLOCATION FOR RURAL SCHEMES AND DIRECT CASH TRANSFERS TO REVIVE CONSUMPTION

There is marginal increase in the allocation for agriculture and allied activities, from ₹1.48 trillion in FY21 to ₹1.51 trillion in FY23 — an increase of 2.2 per cent. On agriculture research and development, the allocation is only ₹8,500 crore — the same as last year. This is only 0.4 per cent of agriculture gross value-added, while other countries have 1-2 per

cent of gross domestic product (GDP).

The Budget has not increased allocation for rural development and some important schemes. The expenditure for total rural development is stagnant at ₹2.06 trillion in FY22 and FY23. There is a demand for Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). However, the allocation to MGNREGA declined from ₹98,000 crore in FY22 to ₹73,000 crore in FY23. The continuation of the Emergency Credit Line Guarantee Scheme for MSMEs is in the right direction.

Credit guarantee trust may help the micro sector, but much more is required. There are some schemes for education and health. But the government has to address rise in quality and reduction in digital divide in rural areas.

The Budget could have focused on direct push to agriculture and rural infrastructure development. Increase in allocation for rural schemes and direct cash transfers to revive consumption. The ₹1-trillion agricultural infrastructure fund should be incentivised to utilise on fast track.

Similarly, investment in R&D in agriculture has to be raised as returns are much higher than other investments. Exports have to be pushed aggressively.

Around 51 per cent of MSMEs are in rural areas and many of them have to be revived. India can't become Atmanirbhar without dynamic MSMEs. Rise in incomes of agriculture and rural population can increase consumption and GDP.

The author is Director and Vice-Chancellor, IGDR, Mumbai

PARTIAL FULFILMENT

FM focuses on boosting rural infra, digitising agriculture

Budget for agri, allied activities rose by a nominal 2.5% for FY23, compared to FY22 RE

SANJEEV MUKHERJEE
New Delhi, 1 February

For the rural sector, the Budget was focused largely on creating tangible assets such as roads and houses in villages while at the same time slashing the Budget for the flagship MGNREGS by a 25.51 per cent against the revised estimates of FY22.

Being a demand-driven scheme, there is every possibility of a further topping up of the MGNREGS during the next financial year as it has happened in the current fiscal year, where the revised estimate has been raised to almost ₹98,000 crore as against a budgetary estimate of ₹73,000 crore during the year due to strong work demand.

For the agriculture sector, there was not much in terms of allocating funds for major schemes but some focus was on creating a digital ecosystem in farming and also shifting farmers towards oilseeds and pulses.

A big disappointment for farmers was in terms of not getting a hike in the direct benefit transfer scheme of PM-Kisan, for which the Centre allocated ₹68,000 crore in the Budget Estimate of FY23, marginally up from the Revised Estimate of FY22.

With elections in major agriculturally crucial states of Punjab and UP, which have been the hotbed of the recent farmers' agitation against the three laws, just round the corner, expectations were that the finance minister might increase the amount of money distributed under the programme from the current ₹6,000 per annum, but it seems she resisted it.

For other schemes in the farm sector, allocations for the crop insurance scheme and the



THE SUBSIDY MATHS



Interest subvention programme for short-term credit were maintained largely at their previous levels.

For promoting domestic oilseeds production, the Budget allocated ₹600 crore in FY23 under the broader umbrella programme of the Rashtriya Kishi Vikas Yojana (RKVY).

According to the Budget documents, the programme aims to increase the production and productivity of oilseeds in the next five years starting from 2020-21 until 2025-26 from

36.10 million tonnes to 54.10 million tonnes.

The productivity is targeted to be raised from 1,254 kg per hectare to 1,678 kg per hectare.

"Additional oilseeds area of 3.5 million hectares (from 28.79 million hectares) to 32.31 million hectares will be brought under oil seeds cultivation," the Budget document said.

The Budget for the agriculture and allied activities rose by a nominal 2.5 per cent in FY23 compared to the revised estimate of FY22.

HARVESTING NEW HOPES

₹73,000 crore Funds for MGNREGS, down 25.51% from Revised Estimates (RE)

₹68,000 crore Funds for PM-Kisan scheme of farmers, up 0.74% from RE

₹20,000 crore Budget for rural housing programme, which is up 1.56% from RE

₹19,000 crore Funds for rural roads programme, up 36% from RE

₹15,500 crore Funds for crop insurance scheme of farmers, down 3.05% from RE

₹10,000 crore Budget for revamped Rashtriya Kishi Vikas Yojana

₹900 crore Budget for newly created Ministry of Cooperation headed by Home Minister Amit Shah

Budget provides less for food, fertiliser subsidies

The food and fertiliser subsidies saw a big reduction in 2022-23 (FY23), compared to their Revised Estimates (RE) of 2021-22 (FY22), which indicates a likely discontinuation of the free food programme in the next fiscal year unless there is a fresh Covid shock and some easing of international fertiliser prices, according to the government's assessment. The Budget Estimates of food subsidy in FY23 has been pegged at ₹2.06 trillion, which is 25 per cent less than the RE of FY22, while fertiliser subsidy is pegged at ₹1.05 trillion, which is 28 per cent less than the RE of FY22. The petroleum subsidy is pegged at ₹5,893 crore, which is 51 per cent less. Interestingly, in case of food, the RE of subsidy for FY22 pegged at ₹2.86 trillion in the Budget is lower than the requirement of ₹3.9 trillion as laid down by the food ministry due to the continuation of the Pradhan Mantri Garib Kalyan Anna Yojana from May 2020.

For the rural sector, the Budget allocation saw a drop from ₹2,06,948 crore in FY22 (RE) to ₹2,06,203 crore in FY23 (BE).

The government has still not fulfilled the written assurances on which the farm unions had agreed to suspend the movement. In such a situation, the farmers will be left with no choice but to resume the farm movement," said Anil Sahu, president of the All Kisan Andolan. D Nairam, president, Bayer South Asia and Global Head of Smallholder Farming, welcomed the Budget.

Centre gives wings to 'Kisan Drones'

NEW DELHI

In a bid to tap the allied farm and food processing sectors to boost farmers' income, the government on Tuesday proposed higher budget allocation for these two sectors for the next fiscal, besides announcing finance support for startups, promotion of Kisan drones and PPP mode for delivery of high tech agri-services to farmers. Presenting the union Budget in the Lok Sabha, Finance Minister Nirmala Sitharaman said inclusive development is one of the four priorities of the government moving forward.

The Budget allocation for the Ministry of Agriculture and Farmers' Welfare has been raised marginally by 4.5 per cent to Rs 1,32,513 crore for 2022-23 fiscal. However, the Budget allocation for the Ministry of Fisheries, Animal Husbandry and Dairying has been increased by 44 per cent to Rs 6,407.31 crore and for Food Processing Industries by 2.25 times to Rs 2,941.99 crore for the next fiscal.

The Finance Minister said as part of the inclusive development, the government will implement a 'rationalised and comprehensive scheme' to increase domestic oilseed production, thereby reducing the country's dependence on the import of edible oils. The government will also bring in legislative and policy changes to promote agro-forestry and implement



The drones will be used for crop assessment, digitisation of land records and spraying of insecticides.

a comprehensive package, with States to adopt suitable varieties of fruits and vegetables that can be processed.

Further, the government will promote the use of 'Kisan Drones' for crop assessment, digitisation of land records and spraying of insecticides, she added. To finance startups and rural enterprises working in agri-space, the Minister said the government will facilitate a fund with blended capital raised under the co-investment model through Nabard. "This is to finance startups for agriculture and rural enterprise relevant for farm produce value chain," she noted. The activities of these startups will include inter-area support for farmer-producer organisations (FPOs), machinery for farmers on a rental basis at the farm level and

technology, including invitee base, she added. The Finance Minister further said the government will promote chemical-free natural farming throughout the country with a focus on farmers lands in five-km wide corridors along the river Ganga in the first stage. For the delivery of digital and high-tech services to farmers, she said the government will launch a scheme of public-private partnership model with the involvement of public sector research and extension institutions along with private agri-tech players and stakeholders of agri value chains. States will be encouraged to revise syllabi of agricultural universities to meet the needs of natural zero budget and organic farming, modern-day agriculture, value addition and management, she added. ■

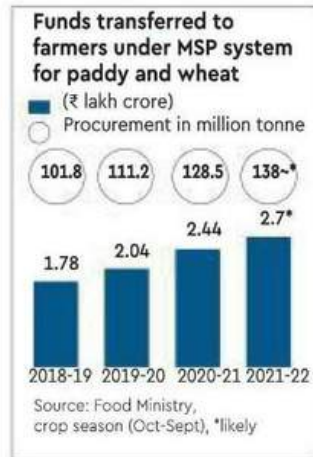
Govt likely to transfer record ₹2.7 lakh crore to farmers of paddy & wheat this crop year

SANDIP DAS
New Delhi, February 2

THE GOVERNMENT IS likely to transfer a record ₹2.7 lakh crore to farmers for procurement of rice and paddy under the minimum support price (MSP) operation by the Food Corporation of India (FCI) and state agencies in 2021-22 crop year (October-September).

Sources told FE that while ₹2.37 lakh crore has been transferred to farmers for procurement of 120 million tonne (MT) paddy and wheat so far while the paddy procurement for Rabi season is expected to commence from April 2022 in southern states including Tamil, Andhra Pradesh and Telangana.

The FCI and state agencies could purchase around 17 MT of paddy from the farmers in southern states in the current crop season, said sources. This would take the total procurement of paddy and wheat during the 2021-22 crop season



(October-September) to more than 137 MT, which would be a record.

In 2020-21 (crop year), ₹2.44 lakh crore was transferred to farmers for procurement of more than 128 MT of paddy and rice under the MSP operations while in 2019-20 (crop year), ₹2.04 lakh crore was provided to farmers for procurement of 111 MT of paddy and wheat by FCI and

state government agencies.

FCI and state agencies procure wheat (a rabi crop) during the April-June period while paddy is procured during October-September as the cereal is harvested in both kharif and rabi seasons.

In her Budget (2022-23) speech, finance minister Nirmala Sitharaman said "the procurement of wheat in rabi (2021-22) and the estimated procurement of paddy in kharif 2021-22 will cover 1,208 lakh metric tonnes of wheat and paddy from 163 lakh farmers, and ₹2.37 lakh crore direct payment of MSP value to their accounts."

FCI and state agencies procure paddy and wheat from the farmers mostly from Punjab, Haryana, Madhya Pradesh, Chhattisgarh, Odisha, Telangana and Andhra Pradesh through MSP operations. The highly subsidized food grains procured from farmers are supplied under the National Food

Security Act (NFSA) to more than 80 crore beneficiaries as well as kept as buffer stocks for dealing with exigencies.

However, because of an open-ended procurement system, FCI and state agencies procure far more volume of grain than required under NFSA leading to excess grains stocks.

At present, FCI and state government agencies have rice and wheat stocks of 54.89 MT against the buffer stocks norms of 21.41 MT for January.

Under the Price Support Scheme of the agriculture ministry, the farmers' cooperatives like NAFED procure pulses and oilseeds from farmers to maintain buffer stocks. NAFED procures from the farmers by paying MSP if prices fall.

Similarly, Cotton Corporation of India (CCI) commences procurements from farmers when market prices fall below MSP.

Fertiliser import deal: India, Russia in talks

India, a top importer of urea and other soil nutrients, is in its first government-to-government negotiations with Russia for long-term supply of fertilizers, sources said. The sources said India is aiming to lock in 1 million tonnes a year each of diammonium phosphate and potash; and about 800,000 tonnes a year of a mix of nitrogen, phosphorus, potassium. Officials from the ministry and fertilizer firms will visit Moscow later this month to discuss the deal with Russian trade minister. **REUTERS**

Stock limits on edible oil, oilseeds tightened

SANJEEB MUKHERJEE
New Delhi, 4 February

The Centre has tightened the stock limits on edible oil and oilseeds by extending it till June 30, 2022, and also by specifying the quantity that each trader can hold in states where the quantum hasn't been laid out.

The government — in an order issued in October 2021 — had imposed stock holding limits on edible oil and oilseeds to control their prices.

But, it had left it to the states to determine the quantum of holding depending upon their local needs and requirements.

However, since then, six states — UP, Karnataka, Himachal Pradesh, Telangana, Rajasthan and Bihar — had specified the quantity of stocks that retailers, wholesalers, processors and bulk consumers can hold. The rest of the states hadn't specified the quantum. This was valid till March 2022.



The government had earlier imposed stock holding limits on edible oil and oilseeds to control their prices

Following a review of the directions, the Centre has now laid down that retailers can hold only up to 30 quintals of edible oil and 100 quintals of oilseeds. Wholesalers can hold 500 quintals of edible oil and 200 quintals of oilseeds at any given point of time.

Similar norms have also been laid down for big chain retailers and processors.

This will not be applicable

in those six states which have levied their own stock limits on retailers and wholesalers. "The decision will empower states to regulate storage and distribution of edible oils and oilseeds and check hoarding in the country," the government said in a statement.

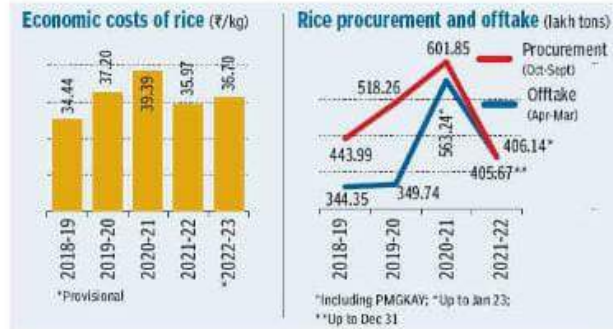
Ironically, the limits have been tightened at a time when oilseeds production in the ongoing rabi season is projected to be higher than this year.

According to latest data, oilseeds crop has been planted in around 10.27 million hectares this year. This is 23 per cent more than last year.

Mustard seed production is estimated to be over 11 million tonnes this year, up from 8.5 million tonnes last year.

The decision to tighten stock limits comes days after the Economic Survey said that knee-jerk reaction to price rise of essential commodities sends wrong signals to domestic producers.

Centre may continue rice subsidy for ethanol



PRABHUDEUTTA MISHRA
New Delhi, February 4

As paddy procurement rises every year, much above the 28 million tonnes (mt) official annual requirement for distribution under the National Food Security Act (NFSA), the government is likely to continue to offer rice from the Central Pool stock for ethanol for the next five years at subsidised rates, potentially reducing stock by 10 mt over and above normal offtake.

As the Centre has approved about 860 crore litres capacity of grain-based ethanol plants, taking the total capacity of grain-based units to about 1,100 crore litres by including the existing plants, as much as 22-23 mt of rice will be required if all these plants use rice as feedstock. However, as all these approved proposals may not materialise and some plants may use maize as feedstock, there may be about 10-11 mt of rice seen to be utilised by these plants, which is enough to produce 440-480 crore litres, an official said.

Bulging stocks

In 2020-21, apart from 35.6 mt offtake of rice under NFSA and other regular schemes, the government could reduce the stock by additional 19.6 mt through distribution under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY). Still, FCI had close to 50 mt of rice (including unmilled paddy in terms of rice) stock as on April 1, 2021 (end of FY21), which was 368 per cent more than the prescribed buffer norm and strategic reserve of 13.58 mt. Incidentally, the procurement of rice in-

creased to record 60.19 mt in 2020-21 (October-September), up by over 16 per cent from the previous year.

Rice stock with FCI was at 53.89 mt (including unmilled paddy in terms of rice) as on January 1, 2022, which was more than seven times the stocking norm of 7.61 mt. Besides, the high stock of rice also after as much as 36 mt offtake reported under all schemes during April-December 2021.

Cost of grains

"There is no problem of stock available with the government. Real challenge is subsidy as at the current (provisional for 2022-23) economic cost of ₹36.70/kg and offer price for ethanol plants at ₹20/kg, the government bears ₹16.70/kg in every kilogram of rice. It has to be seen with savings on crude import as well as contribution towards reduction in pollution," the official said adding there could be this subsidised rice made available to the industry for next five years.

The economic costs of grains vary as per the Budgetary support made available to the FCI and so also the subsidy, said a former executive director of FCI. The subsidy amount can be brought down if some mechanism is found to allow direct procurement of paddy at MSP by the ethanol plants, he said.

Due to rising level of procurement as well as increase in MSP every year, the food subsidy claims of FCI has gone up to ₹2,17,460 crore (for 2021-22) against ₹1,09,600 crore in 2016-17.

Keep GM food out of diet, doctors write to FSSAI

KV KURMANATH

Hyderabad, February 4

As the deadline for submitting feedback on draft guidelines on GM (genetically modified) food ends on February 5, a group of doctors has opposed the move to allow GM foods. They have asked the Food Safety and Standards Authority of India (FSSAI) to ensure that GM foods are not sold in the country.

"This de jure regulatory reality should be implemented, with penal action taken against anyone selling GM foods," Arun Gupta, a paediatrician and public health expert, said.

As many as 162 doctors from different States have signed the feedback letter sent to the FSSAI, a copy of which was sent to Mansukh Mandaviya, the Union Health Minister.

Asking the authority to with-

draw the proposed regulations, they urged to ensure that the regulatory regime is mainly to keep GM foods out of the diet. They alleged that the proposed regulations didn't provide scope for independent, long-term, comprehensive, multi-generational biosafety assessment.

"They seem to be ready to accept regulatory approvals for GM foods elsewhere and allow the same in India too. Such an approach obviously puts a question mark on the very purpose of notifying any regulations," they contended, adding "there is a body of scientific evidence to show the health risks that GM foods present."

By paving the way, FSSAI would also be allowing unhealthy ultra processed foods to flood the country's food chain, the letter added.

Cotton research centre in Adilabad

Toor dal seed centre at Tandur will also be developed: Niranjan

STATE BUREAU
HYDERABAD

The agriculture sector is emerging as the most remunerative and leading employment sector in Telangana, with the State government's farmer-friendly and market-driven policies. Agriculture Minister S Niranjan Reddy stated that besides crop diversification, there was extensive research activities were being promoted through the agriculture research stations in the State.

Considering the demand for Telangana cotton in the international market, the State government has decided to establish a cotton research centre in Adilabad at the earliest. In this regard, the Minister said the government was extending all support for research and setting up basic amenities in this regard. Further, the toor dal seed research centre at Tandur also will be developed. He chaired a review

A committee will be constituted to study traditional cultivation methods for oil palm cultivation

— S NIRANJAN REDDY
AGRICULTURE MINISTER

will be constituted to study traditional cultivation methods for oil palm cultivation, apart from making the best usage of modern technology for agricultural development.

The officials were directed to acquire necessary land for the establishment of a new oil factory at Vemsuru in Khammam district under Telangana Oil Federation (TS Oilfed) in addition to the existing one at Ashwaropeta. Plans are afoot to establish two more oil palm factories in Siddipet and Mahabubabad as well as another four oil palm factories in the next six months.

Rythu Bandhu Samithi chairman and MLC Palla Rajeshwar Reddy, Agriculture Secretary Raghunandan Rao, Prof Jayashankar Telangana State Agriculture University vice-chancellor Praveen Rao, Sri Konda Laxman Horticulture University vice-chancellor Neeraja Prabhakar, and other officials were present.

meeting on the government policies, agricultural growth, and farmer-friendly initiatives among others with the officials of Agriculture, Horticulture, Marketing and Cooperative departments along with agricultural and horticultural universities and other officials here on Tuesday. Niranjan Reddy said not confining to Hyderabad and its surroundings, vegetable cultivation should be encouraged extensively in towns and municipal corporation limits. A committee

FY23 fertiliser subsidies may not last full yr: Experts

SANJEEB MUKHERJEE
New Delhi, 4 February

The near 25 per cent drop in fertiliser subsidies in FY23, as laid out in the Union Budget, has opened up three possibilities.

The first is the Centre not expecting international prices to remain at the same elevated level next year as was the case this year. This would bring down the burden in the months ahead.

The second is the likely hike in retail rates. And the third, and most likely, scenario is the Centre injecting more funds into fertiliser subsidies in the middle of the year — as it has been doing for the past two fiscal years — if global rates spike. In FY22, the Centre had budgeted the fertiliser subsidies to be about ₹79,530 crore, but with the year coming to an end, it has pegged the revised subsidies at more than ₹140 trillion, a jump of 76.1 per cent.

Of all the possibilities, trade and market sources said the second or the third scenario looked most probable.

Usually in a normal year, the Centre needs to allocate about ₹80,000 crore as subsidies for both urea and non-urea fertilisers. In FY23, though lower than the Revised Estimates, the Budget allocation is still 31.5 per cent more than this notional requirement.

But whether this is enough to meet the full year's requirement is a million-dollar question. Market sources said given the current market prices of all fertilisers and the price outlook, the Budget allocation for fertilisers in FY23 should last six-seven months. Thereafter, another fresh infusion might be needed if the market conditions persist.

"The global fertiliser market is dynamic and a lot depends on how prices of crude oil, gas, and petroleum move in FY23 and also how geopolitical tensions play but nonetheless, the consensus is that a subsidy of ₹1.05 trillion in the Budget for fertilisers should last six-seven months at the current level of consumption," a senior industry official said.

Pricespike

The data from various agencies shows that in the current fiscal year till January 28, 2022, the price of urea in international markets went up from \$357 per tonne to about \$869 per tonne.

The price has moderated a bit since the first week of January 2022, before which it had climbed to even \$959 per tonne (in November 2021).

In the case of imported diammonia phosphate (DAP), the global prices have moved up from \$400 per tonne in April 2021 to \$930 as of January 2022, a rise of 132.5 per cent.

Urea is the most widely consumed fertiliser in India, followed by DAP.

In DAP, almost half the annual domestic consumption is produced locally, while the rest has to be imported.

In the case of urea, India annually consumes around 33 million tonnes, of which almost 70 per cent is domestically produced.

In the case of DAP, almost the entire ammonia and the phos-



INTERNATIONAL PRICES

Items	Apr 1, '21	Jan 28, '22	% change
Urea	357	869	143.42
Ammonia	430	900	109.30
Phosphoric acid	795	1,330	67.30
Finished DAP	400	930	132.50

Source: Trade and industry

phoric acid that go into its making has to be imported.

The price of ammonia in world markets in this financial year moved up from \$430 per tonne to \$900 as on January 22, 2022, while phosphoric acid during the same period has risen from \$795 per tonne to \$1,330.

Because of this sharp increase in global prices of

largely finished DAP and its key inputs, the Centre had first infused about ₹15,000 crore as fertiliser subsidy in June and then topped it up with round of infusion in October 2021 because prices didn't show any sign of falling.

Because of the sharp rise in global prices, companies stopped importing DAP and their raw

material, leading to an acute shortage ahead of the key rabi sowing season.

At present, DAP is being sold in retail markets at ₹1,200 per 50 kg bag while trade sources said the non-subsidised price should be ₹3,200-3,300 per bag.

Going forward

Most experts and market watchers say much will depend on how crude oil and gas prices move in the next financial year.

The expectation is as the major consuming countries in the world enter their summer season, consumption will go down, which will help in bringing down imported LNG prices and if the government intervenes then the domestic pooled gas price will also stabilise.

"I think the Centre has kept the fertiliser subsidies at a fairly reasonable level because if they had over-provisioned then international players would have raised rates, knowing then India will subsidise the same for its consumers," a senior industry official said.



Governor Rajendra Vishwanath Arlekar interacts with heads and students of CSK HP Agriculture University, Palampur, on Monday. PHOTO: RAVINDER SOOD

Scientists must contribute to farming, seed protection: Guv

OUR CORRESPONDENT

PALAMPUR, FEBRUARY 7

Governor Rajendra Vishwanath Arlekar interacted with the heads of departments and students at the Chaudhary Sarwan Kumar (CSK) Himachal Pradesh Agricultural University, Palampur, today and stressed working towards development and

conservation of local seeds, along with traditional farming. The Governor also visited the Dr GC Negi College of Veterinary and Animal Science.

He said the curriculum was previously prepared keeping in mind the needs of the industries and accordingly the education system was progressing. Now, the need was to lay emphasis on the requirement of today's society and to take education forward in this direction. There was a need to change research and curriculum, he said.

Arlekar said traditional agriculture should be promoted in the right perspective.

He directed the university to adopt some schools to promote medicinal plants and make students aware about the quality of such plants. The traditional seeds should be protected and a biodiversity register should be made at the panchayat level.

The Governor also expressed concern over the increasing drug addiction among the youth. All must fight together against the menace, he added.

Earlier, Vice-Chancellor Prof HK Chaudhary welcomed the Governor and apprised him of the activities and achievements of the university.

Dr Mandeep Sharma, Dean of Dr GC Negi College of Veterinary and Animal Science, presented the vote of thanks.

Pests destroy chilli in over 30,000 acres

Farmers from Suryapet, Nalgonda districts in distress

P SRINIVAS
Suryapet

Chilli farmers are facing huge losses in Nalgonda and Suryapet districts due infesting of western flower thrips to the horticulture crop in thousands of acres of land. The farmers took up cultivation of chilli crop in 27,472 acres in Suryapet district and in 3,073 acres on Nalgonda.

More than 28 lakh tonnes of chilli crop is estimated to be produced in Suryapet and Nalgonda districts this season. On an average, around 12 tonnes of chilli crop would be produced per an acre. But, the farmers could get just 10 percent of the expected yield, i.e. around six quintal per acre due to infesting of western flower thrips. The situation also shown impact on the green chilli prices in the vegetable markets. The price of green chilli was increased to Rs 80 per kg. The price of red chilli may also become dearer in the next couple of months.

Losing hopes

A farmer Aludasa Venkaiah, who was native of Loyapally in Suryapet district, has ploughed his four-month-old chilli field in his one acre land using a tractor due to infestation of western thrips.

He spent Rs 1.7 lakh for investment of chilli cultivation, but resorted to act after losing hope that he would get even get one quintal of chilli. Speaking to *Telan-*



A farmer clearing his damaged chilli crop in his one-acre land, at Loyapally in Suryapet district.

We are trying to create awareness among farmers on the methods to protect their crops from thrips, says official

ing the crop last week. To protect chilli crops, he spent additional money for pesticides, but in vain.

Awareness

Assistant Director of Horticulture Sridhar told *Telangan Today* that horticultural scientists already examined the infested chilli crops in some mandals in the district.

"We are trying to create awareness among the chilli farmers on the methods to protect their crops from western flower thrips. Western flower thrips issue was reduced in Athmakur (S) and Chivvemla mandals where the farmers followed the suggestions of the horticulture officers. The problems is still continuing in the remaining mandals," he said.

A clear picture on crop damage can be estimated only after plucking of chilli crop by the farmers in the first week of March, he added.

Millets: APEDA eyes doubling of footprint

PRABHUTTA MISHRA

New Delhi, February 4

With 2023 being announced as the International Year of Millets, India's agri export promotion body, APEDA, wants to expand the country's export footprint to 100 countries from the current 50, in the next two years. Besides, it is working on strategies to boost overall agriculture products' exports in countries other than the top buyers.

"Currently, our products are going to about 190 countries. The challenge is to improve the volume in other than the top 10 countries, while sustaining the growth in major buying nations," said M Angamuthu, chairman of Agricultural and Processed Food Products Export Development Authority (APEDA).

The global millets market is

estimated to grow to over \$12 billion by 2025 from the current \$9 billion.

Although India's shares in the production of millets is around 41 per cent with an annual output of about 12 million tonnes (mt), the country's exports were 87,558 tonnes in 2020-21, up 16.32 per cent from the previous year. The bulk of India's exports (60 per cent) go to Nepal, the UAE and Saudi Arabia. The share of top 10 countries in the total volume is 87 per cent.

Tapping newer markets

In the top millets importing countries such as Indonesia, Belgium, Japan, Germany, Mexico, Italy and Brazil, India's presence is nearly zero, and these markets can be tapped with higher focus, trade sources said. While mil-

Global trade rankings

- Canada is the top exporter with shipments at \$93.16 million
- US stands at No. 2 position with \$58.15 million exports
- India is fifth; exports fell to \$26.73 million in 2020 from \$30.82 million in 2019

lets, both as raw materials and in the form of value-added products, should be exported, the Centre should roll out an export-centric production incentive in partnership with State governments, an exporter said, as it would also help in crop diversification.

According to ITC Trade Map, India dropped to the fifth position in global trade, below Ukraine, as its export fell to \$26.73 million in 2020. There is a big gap between India and the US, which is at number two with \$ 58.15 million exports.

During the Budget, Finance

Minister Nirmala Sitharaman said, "Support will be provided for post-harvest value addition, enhancing domestic consumption, and for branding millet products nationally and internationally."

Angamuthu said APEDA has already signed a MoU with Indian Institute of Millet Research (IIMR) for export-oriented production of millets and for making a strategy for their promotion in the international market. It has organised many virtual buyer-seller meetings where Indian embassy officials also took part.

Fertiliser firms asked to increase DAP production to meet rabi season demand

No 'acute' shortage of the fertiliser, Centre tells RS

AJVINAYAK

Mangaluru, February 8

The Union government has asked fertiliser companies to manufacture additional DAP (di-ammonium phosphate) to meet the demands during the current rabi season. In a written reply in the Rajya Sabha on Tuesday, Mansukh Madaviya, Union Minister for Chemicals and Fertilisers, said there is no acute shortage of DAP fertiliser in the country.

However, in between the season, some States reported shortfall of DAP fertiliser, particularly in a few districts. Accordingly, based on the requests of State governments, DAP rakes were moved to meet the requirement.

The overall availability of DAP fertilizer in the country is com-



Nearly half of the demand for chemical pesticides came from Maharashtra, UP and Telangana

fortable during the ongoing rabi season 2021-22, the minister said.

On the initiatives taken by the Government to increase DAP production in the country, he said the Department of Fertilisers has instructed companies to manufacture additional DAP by using the NPK stream for DAP production on "no profit no loss" basis over and above the ongoing production of DAP. This is aimed at meeting the demand of the farming community. He said that a roadmap is in place to ensure reg-

ular and sufficient supply of raw material/finished fertilizers from various countries under long-term arrangement.

Pesticide demand

Nearly half of the country's demand for chemical pesticides in 2020-21 came from the three States— Maharashtra, Uttar Pradesh and Telangana. Almost 46.38 per cent of the demand for 70,668 tonnes of chemical pesticides was from these three States.

Maharashtra contributed nearly one-fifth of the country's demand for chemical pesticides during 2020-21. While Maharashtra led the demand for chemical pesticides at 14,396 tonnes, Uttar Pradesh and Telangana followed it with 11,850 tonnes and 6,535 tonnes, respectively, during the period. The demand from other agriculture-centric States such as Punjab and Haryana for chemical pesticides was at 5,700

tonnes and 4,200 tonnes of, respectively, during 2020-21.

Some States in India do not use chemical pesticides. In a written reply in Rajya Sabha on Tuesday, Mansukh Mandaviya, Union Minister for Health and Family Welfare and Chemicals and Fertilisers, said the northeastern States such as Meghalaya and Sikkim have been notified as 'organic State'. The reply said the information is based on inputs provided by States and Union Territories during zonal conferences on plant protection for kharif and rabi seasons. It also said the use and requirement of pesticides are based on specific pests and diseases in agriculture in the States and Union Territories. Comparatively, the demand for chemical pesticides across the country has come down from 73,244 tonnes in 2018-19 to 70,668 tonnes in 2020-21. The country's demand stood at 69,211 tonnes in 2019-20.

Industry dept using drones to lift Lakadong turmeric in Meghalaya

PNS ■ NEW DELHI

The commerce and industry ministry on Saturday said it is promoting use of drones for transportation of famous Lakadong turmeric from Meghalaya to other parts of the country with an aim to resolve first mile connectivity issues of farmers from the hinterland.

Lakadong turmeric has been identified under the One District, One Product (ODOP) Initiative of the Department for Promotion of Industry and Internal Trade (DPIIT) as a product with huge potential for growth and export from West Jaintia Hills, a district of Meghalaya.

West Jaintia Hills today witnessed the first-of-its-kind Fly-Off Event to demonstrate the use of novel and innovative drone/UAV technology for payload delivery, that could serve as a model of solving the first mile connectivity issues for Lakadong Turmeric farmers from the hinterland," the ministry said in a statement.

Sumita Dawra, Additional Secretary, DPIIT said that this event was a first step towards showcasing the innovative solutions that can propel first mile connectivity.

The flyoff event would not only give a fillip to the ODOP initiative but also leverage modern technology



as a fundamental solution to overcome the bottleneck of transportation that acts as a barrier in realizing the opti-

mal potential of this spice from Meghalaya, she said. Despite India being the world's largest turmeric pro-

ducer and exporter, turmeric imports had also been increasing.

It said that in spite of the highest curcumin content and excellent potential for domestic sales and export, Lakadong turmeric faces severe market access issues due to the remoteness of the location, topography and terrain.

Thus, buyers have to incur additional costs to transport the goods from the villages via local pick-up trucks till the major transporters' loading point. Additional costs of transportation and delays in the same act as barriers / disincentives for the buyer in the process of procurement," it added.

This turmeric has the highest curcumin content of 7-9 per cent (in comparison to 3 per cent or less in other varieties). Meghalaya has also applied for a Geographical Indication tag for Lakadong turmeric.

The percentage of curcumin and oleoresin content in turmeric determines its demand by the industry and the price. India is the largest producer and exporter of turmeric. India exported USD 236.5 million worth of turmeric in 2018 from USD 182.53 million in 2017.

India produces 78 per cent of the world's turmeric. In 2018-19, turmeric production was 389 thousand tonnes.

States urged to facilitate private investment in agriculture sector

Farmers' bodies see this as the option after Centre scraps farm laws

RADHESHYAM JADHAV

Pune, February 8

For decades, grape growers in Sangli district, Maharashtra, have experimented with varieties and exported them. Many of them, however, still struggle to access basic infrastructure like roads, connectivity, cold storage, and transportation.

In rural Osmanabad, farmers don't hope to see these facilities in the near future. Farmer organisations want State governments to facilitate private investment in agriculture.

'No growth sans investment'
Yogesh Thorat, managing dir-



Anil Ghanwat, President, Shetkari Sanghatana

ector of MahaFPC, a consortium of farmer producer companies in Maharashtra, argues that investment would have flowed into the agribusiness infrastructure supply chain had the farm laws been approved.

Recent developments have shaken the confidence of investors in the agri sector, he said. Many in the FPC movement echoed Thorat's view that public investment would not bring any reforms in agriculture and other investment

avenues must be tapped, including a market-led system.

Expectations from States

Shetkari Sanghatana leader Anil Ghanwat wants State governments to help private players invest in agriculture. He said that without capital and technological freedom, farmers cannot survive on agriculture alone.

"If the Union government is not able to take farm reforms forward, States must make provisions in State laws to introduce reforms that will attract private investment. I am not sure how agriculture and farmers will sustain without investment," says Sayaji Mane, a farmer from Sangli. The Union government has admitted that private corporate investments need to be crowded in by offering an appropriate policy framework and an increase in public investment.

‘Centre to ensure higher opening stock of urea, DAP for next kharif season’

PRESS TRUST OF INDIA
New Delhi, February 9

TO ENSURE ADEQUATE and timely supply of fertilisers to farmers in the next kharif season, 2022, the government targets higher-than expected opening stock of urea and diammonium phosphate (DAP) nutrients, a senior government official said on Wednesday.

Normally, sowing in the kharif (summer) season begins with the onset of Southwest monsoon in July. However, the fertiliser requirement for the kharif season is mostly between April and September.

Stating that advance preparations have been made to source the fertilisers and raw materials from the global market for the next season, the official said this will help in maintaining higher-than-expected opening stocks of urea and DAP, which are widely consumed in the country.

The opening stock of DAP is



Fertiliser requirement for the kharif season is mostly during April-September

estimated to be 25 lakh tonne for the 2022 kharif season, higher than 14.5 lakh tonne in the 2021 season.

The opening stock of urea would be 60 lakh tonne for the next kharif season as against 50 lakh tonne in the 2021 kharif season, the official added.

The government official further said India is in talks with several countries and exploring long-term agree-

ments for supply of the key soil nutrients.

The advance preparation is being done as global fertiliser prices continue to be ruling high amid tight supplies affected by the Covid-19 pandemic and restrictions imposed by China from where India imports 45% of its DAP requirement and some quantities of urea, the official added.

Unlike urea, the prices of DAP and other phosphatic fertilisers are fixed by private companies. A rise in global prices of raw materials has influenced domestic DAP rates.

However, the government raised the nutrient-based subsidy on DAP and NPK fertilisers separately for 2021 kharif and the ongoing rabi season to ensure farmers get the soil nutrients at affordable rates.

The government also asked companies not to sell DAP at more than ₹1,200 per bag of 50 kg.

“Over Time, Drone Services will be Cheaper than Human

Ramesh Chand, member of NITI Aayog, says the cost of drone services will come down when demand increases and that the agriculture drone market will grow exponentially in India. Edited excerpts from an interview with **Shantanu Nandan Sharma**:

What’s the rationale behind the government’s recent push for agriculture drones?
Use of drones in agriculture will have many benefits. First, it will achieve the goal of precision farming (information technology-based farm management).

It will improve efficiency, reduce cost and promote quality. Manual spraying of pesticides, for example, leads to uneven distribution whereas drones do it precisely. An advanced drone will be able to control the spray as it will automatically leave out areas where crops are not infected by any disease. Second, spraying pesticides using drones will minimise hazards on human health. Use of drones



will be more helpful for tall crops such as sugarcane. In the future, the functioning of drones will keep expanding. It can be used for planting seeds too.

NITI Aayog has been pushing for drones in agriculture for some time now. Earlier, a lot of permissions were required to fly a drone. If a drone completed one spray, it again needed permission for the

second flight. Now such provisions have been discarded.

Will farmers be able to pay for such a costly service?

Drone services are costly initially. Over time it will be cheaper than human labour because of the sheer economies of scale. Let us give this new application a chance. Suppose a group of farmers hires a drone for one cluster, cost per farmer will come down. Also, we will have to factor in the cost of human health in manual spraying versus spraying by drones.

Don’t you think drone holdings will be a challenge?

To my mind it is not easy to buy a tractor or hire a drone company. Agencies and landholders will grow. Once the cost of drones comes down, a few will then. Agri will grow.

'India needs to allow import of new tech in biopesticides'

PRABHUDEVI MISHRA

New Delhi, February 11

FMC India, a leading player in agrochemical sector, has seen its turnover increasing to about \$400 million from about \$40 million in past seven years and has been growing above industry average of 6-7 per cent, thanks to its targeted approach to provide latest technologies to small and marginal farmers.

In an interview with *BusinessLine*, FMC India's president Ravi Annavarapu covered topics such as natural farming to application of pesticides through drones and why the country's agriculture is poised for sustainable growth.

Government has announced subsidy scheme to promote use of drones in application of pesticides. How do you view this development?

I think drones are key for spraying pesticides. A lot of awareness is required for the farmer and there will be a whole new layer of infrastructure and service providers to be developed. A service provider will have to develop a network of people who are trained and knowledgeable. I think that will take some time. I applaud the government for bringing in the regulatory clarity so quickly.

Will it reduce or increase the consumption of pesticides?

It will improve the efficiency of applying pesticides. It will reduce the losses due to weeds. Above all, it will develop rural entrepreneurship as they will be trained by companies like us on how to safely and efficiently use these products. Also, spurious products will give way to right products, unless somebody really colludes. Newer technologies will give way to older chemistries. So, we are optimistic that drones would do significant good to the agriculture.

You are supposed to spray in a certain way. Insecticides should be sprayed with the fine mist, herbicides are supposed to be sprayed with coarse stop droplets which have to fall on the specific weed for it to have the right efficacy. With a drone you can tune the approach – at the right place, at right time in the right way.

Whether drones can really replace the entire spraying operations, which are currently done manually?



There is room to streamline the process to accelerate the access of new technologies for farmers

RAVI ANNAVARAPU
President, FMC India

At this point we get to see a lot of work going on. We are doing trials with drones. There's a lot of learning, globally. I know it's not going to replace manual spraying totally. Companies like ours have a role to play because we understand how to use drones in other parts of the world. It's about bringing that learning during the trials. But it won't be applicable to all the segments. Need for manual intervention will be there while using boom sprayers or tractor-mounted sprayers.

As the government has changed the narrative towards a chemical-free farming, where do you see yourself in bio-pesticides or other biological products?

We are one of the leaders in the biological space, globally. We have some of the best and most advanced biological products – specific strains comparable to performance of chemical pesticides. The challenge we have is the regulatory environment in India. You cannot make an application to the Central Insecticide Board, there's no provision for it. The government has to recognise that global technologies will really help the farmers in organic sector also.

Our objective is to bring those technologies to India and then grow them here, so that 'Make in India' happens.

How is India's R&D environment in agriculture? Because mostly what we hear is from public sector and very few in-house developments in the private sector.

It takes a long time, seven years almost, from the time you start evaluating a new candidate to the time it hits the market. India is one of the longest regulated regimes compared to anywhere globally. In other

places, it could take as short as one to two years. There is room to streamline the process to accelerate the access of new technologies for the farmers. Though the approval of the Central Insecticide Board is valid all over the country, there is also State licensing. Some States are relatively quick, some take a little longer. You've got to get manufacturing licenses, so wherever you are making these products, each state has to provide you.

How do you view the Pesticides Management Bill?

There are a lot of views around that. We are also actively trying to get our perspective heard through the industry associations. There's still a lot of room for incentivising innovators and giving data protection. People who are generating a lot of this initial data on a new molecule globally, it's accepted practice to give them data protection. There are also some provisions on criminal offence which the government should really reconsider.

With regard to your business in India, how has been the performance?

The India business is somewhere between \$370 and \$400 million (₹2,800-3,000 crore) that we had shared with our investors last year. We have grown substantially – from \$40-50 million range 6-7 years ago. India is a very attractive agricultural space overall. Farmers are hungry for high quality, sustainable products and we are here to invest in R&D in bringing those products. Globally, India is one of the top three markets for FMC, others are Brazil and the US. India is poised for growth (in crop protection) regardless of what you're hearing as it is critical for food security.

As you have also crop nutrients products, what is the ratio between crop nutrients and crop protection in your turnover in India?

Crop nutrients are relatively smaller business. Unfortunately, I can't give you the exact numbers, but it is growing very rapidly. We are working with farmers to understand soil health deficiency. For me, it is really satisfying when you see what you're providing. The difference that it is making from quality perspective, crop nutrition space has bright future in India.

Soybean arrivals drop on poor market demand

FE BUREAU
Pune, February 11

SOYBEAN ARRIVALS BETWEEN October 2021 and January 2022 have dropped to 48 lakh tonnes on poor market demand. Crushing has also gone down to 27.50 lakh tonnes in the same period as farmers are holding back stocks.

Last year, the arrivals were 64 lakh tonnes in the same corresponding period, while crushing was also higher at 46 lakh tonnes. DN Pathak, executive director said that imports have resulted in poor demand in the market and there is little offtake as the poultry industry has reduced inclusion of soybean meal in their feed. Slow farmer selling has reduced oilseed crushing in India and farmers are holding back the crop in anticipation of better prices.

Crushing has also gone down to 27.50 lakh tonnes in the same period as farmers are holding back stocks

In October 2020, soybean futures were trading at around ₹3,800 per quintal, but prices jumped to a record Rs 10,680 per quintal in August 2021 on lower output and strong demand from the poultry industry. Farmers, therefore, decided to expand the planted area resulting in an output of 118.89 lakh tonnes for the October 2021 to September 2022 period as compared to 104.55 lakh tonnes for the last year's corresponding period. The Centre took a number of steps to lower soymeal and edible oil prices, including allowing the first ever imports of genetically modified soymeal and slashing edible oil import taxes.

आजादी का अमृत महोत्सव • देशभक्ति गीतों ने माहौल भावुक कर दिया शहीदों को श्रद्धांजलि और भारत गाथा सुना मनाया आजादी का अमृत महोत्सव

• शहीदों की वाणी ही संतों की वाणी है • अजय भाई मखारपुरा |

• विधायक मोहनलाल, डीसी ललित सिवाच, वीसी डॉ. राजेंद्र अनायत व डॉ. समर सिंह ने कहा- देश अपने शहीदों का ऋणी है



हाँ, हथौं में लिंग केकर देशभक्ति के गानों पर सुभाष विभाक मोहनलाल बहुरीन व डीसी ललित सिवाच।

आजादी का अमृत महोत्सव भारत गाथा के साथ सुभाष को नमस्कार सिवा प्रदोशनक कार्यक्रमस कएली में मनाया गया। सुभाष अहिंसि विभाक मोहनलाल बहुरीन, डीसी ललित सिवाच, प्रोडगर मंडल एवं जनसेवी युनिवर्सिटी के वीसी डॉ. राजेंद्र सिंह अनायत, महागा प्रभाष बहुरीन वीसी ललित सिवाच व वीसी डॉ. समर सिंह ने कहा कि देश शहीदों का ऋणी है। शहीदों के विचारों का अनुसरण करत ही सच्ची अदालत है। कार्यक्रम के अध्यक्ष एसी संजय अनायत व संयोजक निरंकर भूषेण बहुरीन ने भारत पता की आवाज को श्रद्धांजलि दिया। एसी संजय अनायत व निरंकर भूषेण बहुरीन ने भारत माता के लिए पर मान्यता के लिए श्रद्धांजलि दिया था। कार्यक्रम के दौरान सुभाष का भी श्रद्धांजलि दिया गया। कार्यक्रम के अंत में भारत माता की आवाज को सुनाया गया। कार्यक्रम के अंत में भारत माता की आवाज को सुनाया गया।

भारत माता की आरती के समय भावुक हुए श्रोता
आजादी के अमृत महोत्सव को भारत गाथा के रूप में मनाया जा रहा है। देशभक्ति के गीत गाए गए। कार्यक्रम के अंत में 'भारत माता की आवाज' गानों को श्रद्धांजलि दी गई। सुभाष व अहिंसक विचारों के अंतर्गत ही देश का विकास होना चाहिए। देश के शहीदों का श्रद्धांजलि दी गई। देश के शहीदों का श्रद्धांजलि दी गई। देश के शहीदों का श्रद्धांजलि दी गई।

Farm mechanisation: ICAR asks States to set up separate agri-engineering units

PRABHUDUTTA MISHRA

New Delhi, February 10

As India loses over ₹1-lakh crore annually due to post-harvest losses, the Indian Council of Agricultural Research (ICAR) has suggested creation of separate directorate of agriculture engineering at least at block level in every State as it could help substantially reduce the losses and boost farmers' income.

"Agriculture engineers are not available even at district levels in most of the States. Even if they are available their services have been utilised in other areas like seeds distribution in those States where there is no separate directorate," said SN Jha, Deputy Director General (engineering) at ICAR. He has urged the Agriculture Ministry to impress upon States to create separate directorate of agriculture engineering.

Expressing concern that the talent of agriculture engineers

are not tapped to their potential, Jha said there will be triple benefits – employment generation, reduction in post-harvest losses and increase in farmers' income.

Post-harvest losses

The range of average post-harvest losses for foodgrains, oilseeds, fruits and vegetables have been estimated at 4.65-15.88 per cent valued at ₹92,651 crore at 2014 prices, according to a study by Ludhiana-based Central Institute of Post Harvest Engineering & Technology (CIPHET).

It had found that overall losses have gone down by two per cent between 2005-06 and 2013-14 mainly due to improvement in infrastructure and transport facilities.

Paddy, wheat, chana, soya-bean, tomato, onion, potato, banana, mango, coconut, sugarcane, fish, poultry meat and

milk together have 78 per cent share in the total post-harvest losses, the study found. Of this, horticulture produce has the highest 34 per cent share due to their perishable nature.

Citing the examples of Tamil Nadu and Madhya Pradesh, where separate directorate of agriculture engineering has been created, Jha said such step will aid in the growth of agriculture sector.

As mechanisation is the way forward in farming, he said it is an agriculture engineer who understands both engineering and agriculture can do justice even in case of application of pesticides through drone.

He has urged the Karnataka government, which is the first State in the country to set up a separate directorate of secondary agriculture, to include agricultural engineering also within the new set-up.



Centre cuts agri-cess on crude palm oil

New Delhi: The Centre on Monday said it has reduced the Agri-cess on crude palm oil (CPO) from 7.5 per cent to 5 per cent. This will benefit the domestic edible oil refiners and also check prices of cooking oils, the Union Ministry of Consumer Affairs, Food and Public Distribution said.

"With a view to provide further relief to consumers and to keep in check any further rise in the prices of domestic edible oils due to rise in the prices of edible oils globally, the Government of India has reduced the agri-cess for Crude Palm Oil from 7.5% to 5% with effect from 12th February,

2022," the ministry said. "After reduction of the agri-cess, the import tax gap between CPO and Refined Palm Oil has increased to 8.25%. The increase in the gap between the CPO and Refined Palm Oil will benefit the domestic refining industry to import crude oil for refining," it said. **ENS**

by **U. Suresh**, **Head**.

The department of agriculture estimates that the service of a drone that has the capacity to carry a 10 kg payload will cost ₹350-450 per acre. The calculation is based on the assumption that a drone equipped with multiple batteries will be utilised for at least six hours a day, covering about 30 acres of farmland. The cost of operation could vary, depending on the type of crop and topography.

According to the database of the Directorate General of Civil Aviation (DGCA), as many as 558 drones had a unique identification number as on February 9. The model number, weight and category of each drone are noted. The categories include nano (up to 250 gram), micro (up to 2 kg) and small (2-25 kg). There are 22 registered drone manufacturers and importers in India, according to the database. Models such as Omni Agri 01 (2 kg) and Agribot UAV (23 kg) are mainly used for agriculture.

“Use of ‘Kisan Drones’ will be promoted for crop assessment, digitization of land records, spraying of insecticides, and nutrients”

Nirmala Sitharaman, FM, in her budget speech on Feb 1



According to the government's SOP, only agriculture drones approved by the DGCA are permitted to fly. The pilots, who operate the drones, have to be DGCA-certified too. Agriculture drones with a 10 kg payload are considered most suitable for spraying from a height of 1-3 m over the crop canopy, according to an official in the department. The agri-drone SOP also adds that the pilot must not consume alcohol for eight hours prior to flying, and that it must not fly over a gathering of people or private properties without permission.

Delhi-based company Matrix Geo Solutions, which has 15 drones, has been providing services since 2014. Its cofounder Amit Sharma says, so far, only two of its trips have been connected to agriculture — for an assessment of sugarcane crop in UP and to fight the locust attack of 2020. He says it makes economic sense for a drone company to visit a farm, provided it gets an order for ₹12,000-15,000 a day.

On Wednesday, India banned the import of foreign drones except those used for research and development, defence and secu-

Crystal Crop floats new entity to retail agrochem products

VISHWANATH KULKARNI

Bengaluru, February 10

Crystal Crop Protection Ltd has floated a new entity - Saffire Crop Science - for retailing of agro-chemical products. The new venture will leverage technology to offer crop solutions and services and help expand the market reach for the parent company across the country.

Saffire has been operational in Maharashtra for some time now, where Crystal Crop has been test piloting the concept of a separate entity to retail the agro-chem products.

Portfolio

Saffire currently has a portfolio of over 50 products including insecticides, herbicides, fungicides, plant growth regulators and bio-stimulants. It is also setting up its own network of over 2,500 distributors and partnerships to retail the products across the country. Ankur Aggarwal, Man-

aging Director, Crystal Crop Protection, said the rationale of setting up a separate venture is to build a platform for a deeper penetration in the domestic market.

Aggarwal said the usage of agrochemicals in India is lower when compared to the world average. The Indian agrochemical market is largely fragmented and is estimated at around ₹22,000 crore. The market is expected to grow between 8-10 per cent annually for the next 10 years, Aggarwal said. Having a separate marketing entity will

help the Crystal Group, which is also into seeds and farm mechanisation, sustain and expand its market share in the Indian agro chemical segment.

No product overlap

While stating that there won't be any product overlap between the two companies, Aggarwal said Saffire will have its distribution and partnership model. Saffire will also distribute products manufactured by global players, in addition to those produced by the parent company. About 10 per cent of the products to be sold by Saffire will be from the global companies, Aggarwal said.

Saffire will be leveraging various IT tools and technologies, besides partnering with various agri-tech start-ups for an enhanced market reach. Saffire is eyeing a turnover of ₹500 crore in five years, Aggarwal said.



Ankur Aggarwal, MD,
Crystal Crop Protection Ltd

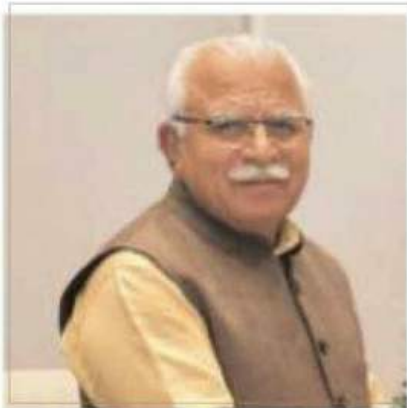
Govt committed for education, farmers' welfare: Haryana CM

AGENCIES

CHANDIGARH, 19 FEBRUARY

Chief Minister Manohar Lal Khattar on Saturday said keeping in mind the vision of modern Haryana, this time the state Budget will give priority to promises made to the people.

The Chief Minister was speaking during a virtual meeting with party leaders and workers in Delhi. He said the government is committed for education, agriculture and farmers' welfare. "Whatever will be good for the pub-



lic, work is being done in that direction."

The state is also working for the development of Haryanvi culture and tourism, he said. The government is also

working for the welfare of the ex-servicemen and the soldiers.

The Chief Minister said before preparing the Budget, suggestions were invited. Pre-Budget discussions were held with major departments. "It is the effort of the government that the Budget is being prepared keeping in mind the all-round development and the future of Haryana," an official statement quoting Khattar said.

The Budget session of the Vidhan Sabha will begin from March 2.

Farmers employ AI-powered drones to fight crop diseases, insects

ACFI/Anshika & Vignesh Anandham
NEW DELHI

Institutes, farmers and agricultural enterprises in India are employing technologies such as unmanned aerial vehicles (UAVs) and artificial intelligence (AI) tools to improve farm yields. Researchers at IIT Naya Raipur, for instance, have partnered with the Indira Gandhi Agriculture University in Raipur to develop a drone-based crop health forecasting solution that uses AI to identify insects and diseases that commonly afflict crops, and suggest quick and accurate remedies.

According to the institute, its forecasting solution will help farmers deal with crop diseases

in a timely manner and curb overuse of pesticides, which is rampant due to the lack of accurate information about the extent of crop infection.

IIT Naya Raipur's forecasting solution uses drones to monitor crops and capture live images if it detects any issues in them. The images are then sent from the drone in real time to the institute's servers, where an image classification model based on convolutional neural networks (CNN) is used to identify the disease and insects that are affecting it.

CNNs are AI algorithms commonly used for image and video recognition. They can process an image, assign importance to its various attrib-

utes, and differentiate one image from another.

"After the footage is captured and sent to our server, it is analysed and within seconds, farmers will be informed of the issues with the crop on the Agrifical app, along with recommendations on how much pesticide to spray and in which part of the field. This will reduce overuse of pesticides among farmers,"

said Shrivishal Tripathi, assistant professor, electronics and communication engineering (ECE) at IIT Naya Raipur. Asper Amragsingh, assistant professor, at the institute, the AI model was trained using images captured by drones of crops infected with diseases and insects that commonly



IIT Naya Raipur's forecasting solution uses drones on ground to monitor crops and capture live images if it detects any issues.

appear in India. He said the programme can help identify insects that look similar and are difficult to distinguish without help of machines. He also noted that drones can help farmers inspect large fields, where manual intervention is difficult

and inefficient. The fact is that farmers globally lose up to 40% of their crops to insects and diseases every year, costing industries about \$290 billion, according to the United Nations' Food and Agriculture Organization

(FAO). That said, plant health monitoring using drones is not new in India. According to Mughilan Thiru Ramasamy, chief executive of drone service provider SkyLark

Drones, the company used to work only with large seed companies that could afford a large-scale drone deployment on their farms, but awareness among farmers, agriculture institutes and startups is growing.

"A lot of agritech startups have reached out to us since the budget announcement asking for solutions for farmers. Now we are building software to auto-

mate spraying of chemicals in fields using drones," he said.

During the Union Budget speech on 1 February, finance minister Nirmala Sitharaman said the use of kisan drones will be promoted for crop assessment, spraying insecticides and nutrients. The promotion of drones-as-a-service is also expected to encourage more farmers to use drone services to protect their crops,

according to industry experts. Spraying pesticides and water-soluble fertilizers in large fields is another application of drones that is gaining

traction. For instance, in January, the Rajasthan government carried out a pilot on the outskirts of Jaipur where drones were used to spray fertilizers. The Indian Farmers Fertilizer Cooperative Ltd (IFFCO), a cooperative society that manufactures fertilizers, is not behind either. In an interview on 2 February, Anil Kumar Gupta, executive director of IT services at IFFCO, said it has been using drones to spray nano urea in agricultural fields since October 2021. Nano urea is a liquefied form of urea that is mixed and sprayed with water as an alternative to conventional urea. It was developed by IFFCO in collaboration with Indian Council of Medical Research (ICMR). ash@ashankar@firvomit.com

Centre, 2 states ink \$115 mln loan pact with World Bank for agriculture sector

The Centre along with the governments of Karnataka and Odisha have signed a loan agreement of \$115 mln with the World Bank to boost the agricultural sector, the finance ministry said on Friday in a release. "The new programme will help the participating state governments in their efforts to transform watershed planning and execution and adopt science-based planning that could be replicated across the country," the release said.

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