



A webinar on 'CEO roundtable on reimagining food & agri in the next decade' organised by ThinkAg brought together market leaders to discuss the opportunities and the visible shift in the agriculture sector in the wake of Covid. The market leaders represented input sector, agri supply chain, agri retailers, banking and finance and start up. The experts were of the view that this pandemic can be seen as a once in a lifetime opportunity to remove the bottlenecks that have been prevalent from a long time.

The experts said that a visible shift has been seen in the customer behaviour where they are looking for healthy alternatives, more value add in the same product and are demanding immunity boosting products. Consumers are moving from unbranded to branded items. The reason being, consumers trust the way the product that has been used and monitored to keep the quality of the product intact.

People are now eating increasingly at home, therefore, consumption has gone higher and are buying premium products and are experimenting with products. Further, another stark difference that has been seen in the consumer behaviour is that they are now willing to trade for quality products on a higher price range.

The major shift that has been seen, is among farmers who are now more digitally connected than ever was. Digitisation has changed the archaic ways and farmers are now connecting through town halls and whatsapp. The move which otherwise would have taken 3-5 years, the crisis has made it possible in 3 months. Farmers are now more willing to connect with supply chain which is accelerated by whatsapp, demand for organised distribution has shot up and slowly people have started to realise the value in ordering digitally. Further with a projection of 1 billion internet users by 2025-27, more farmers are believed to use digitisation. Influencer farmers are expected to accelerate this digitisation and penetration of internet among the farmer fraternity.

The Government of India has been working for a long time to bring reforms in the supply chain and agriculture in general and the crisis has helped to implement these reforms in fast pace. While cereal crops and government procured crops may see good time, beyond wheat,

rice and sugar, vegetable procurement through alternate channel can be seen going up. While there will be higher growth in agri lending, larger role will be played by anchor investors, warehouse receipts will grow, there will be more reforms in APMC, price realisation to farmer will go up, there will be opportunity for exports and market segmentation will be better.

Storage has a huge potential and should be treated as an alternate mandi. Since it is close to farm there is an opportunity to create a market system and link it to farmer. There is also a need of multiplicity of services in warehouses, therefore adoption of automation is essential. Land and leasing reforms also needs to be looked at. If State Government adopts land leasing reforms, there will be better absorption of credit. There is a need for private sector, ag tech sector to come together and build a collaborative ecosystem where everyone is part of the chain and not working in silos. Further, the initiatives that were transactional in nature should be moved to long term engagement.

In another development, Dr Ratan Lal, the Indian-American soil scientist has been named as this year's recipient of the World Food Prize for developing and mainstreaming a soil-centric approach to increasing food production that conserves natural resources and mitigates climate change. Dr Lal's contribution to soil conservation also increased the global food supply by helping small farmers improve their soil's health. FSII congratulates him for this huge honour!

In this newsletter we have included a new section 'Thoughts & Views' where we will cover an interview of an industry expert conducted by the FSII Secretariat. We have also covered several important developments on agriculture across India, globally and in the area of research in this newsletter. We hope you find it a good read!



Shivendra Bajaj
Executive Director
Federation of Seed Industry of India

News from India

[Farmers finally freed from backward Mandi system – ‘One India, One Market’ can transform Indian agriculture](#)

(ET Now)

Farmers will now also be provided with greater freedom to sell their produce directly to wholesalers and other buyers, or via e-trading platforms, and no longer be confined to marketing their products at state-designated mandis. Finally, a new legal framework that permits farmers from entering into contractual agreements with private sector outfits regarding purchase quantities and pricing, has now been established. In amending the Essential Commodities Act, the Centre has finally acknowledged that India has transitioned from a food-scarce economy, to a net exporter of food. The Act permitted the government to intervene in commodity markets and set price ceilings with a view towards ensuring affordability.

[Indian American soil scientist Dr Rattan Lal wins World Food Prize — ‘Nobel’ of agriculture](#)

(The Print)

Leading Indian American soil scientist Dr Rattan Lal has been named as this year’s recipient of the World Food Prize for developing and mainstreaming a soil-centric approach to increasing food production that conserves natural resources and mitigates climate change. The World Food Prize is considered equivalent to the Nobel Prize in the field of agriculture, and the recipient is awarded \$250,000 for improving the quality and availability of food. Dr Lal’s contribution to soil conservation also increased the global food supply by helping small farmers improve their soil’s health.

[‘Punjab will fight’: Capt Amarinder Singh opposes Centre’s ‘so-called’ agriculture reforms](#)

(The Tribune)

Punjab Chief Minister Captain Amarinder Singh rejected the "so-called reforms" announced by the Government of India for the Agriculture sector, as yet another brazen attempt to erode and destabilise the country’s federal structure, and warned that it could pave the way for disbanding the MSP regime as well as the foodgrain procurement regime, triggering unrest among the state’s farmers. Strongly opposing the Centre’s move to suppress the rights of the states, as enshrined under the Indian Constitution, the Chief Minister said that Punjab would fight any steps on the part of the Government of India to weaken the federal structure of the country through such direct and detrimental interference in the well-established agriculture produce marketing system of the state.

[‘One Nation, One Market’ Is Vital: Niti Aayog’s Dr Ramesh Chand On Reforms In Agricultural Trading](#)

(Outlook India)

With the increase in commercialisation of agriculture, the share of farm produce that is sold within the state shrinks and the share sold outside increases. Moreover, consumption patterns in the country are getting diversified largely due to an increase in per capita income. People want to consume a range of products often grown outside the state and even outside the country. This necessitates seamless flow of farm produce across the country without regulatory restrictions and barriers and excessive intermediation. This requires supply chains and value chains that move products from one state to another state quickly and efficiently and integrate consumer with producer at distant geographies. Such development is accelerated if we have uniform rules of game across the country with freedom to farmers and traders to sell, buy and move produce without unnecessary checks and barriers. Such 'one nation one market' is vital to raise price realisation by farmers, supply food to the consumer at competitive prices and to compete with import and push export.

[Government hikes MSP of Kharif crops to boost farm income](#)

(The Times of India)

The Centre on Monday announced higher minimum support price (MSP) of 14 kharif crops for 2020-21, increasing the support price of most popular summer crop paddy from Rs 1815 per quintal to Rs 1868 per quintal. The hike is, however, primarily tweaked in favour of coarse cereals (bajra and maize) and pulses (arhar and urad) in terms of percentage of return to farmers over their cost of production.

[Monsoon 'good sign' for crop yields](#)

(The Telegraph)

India's monsoon rainfall this season will be 102 per cent of the long-term average, skewed towards above normal, the national weather agency said on Monday, boosting expectations for good crop yields amid farmers' concerns about lockdown-linked cash shortages. The India Meteorological Department (IMD) said rainfall during the monsoon season from June through September will be 102 per cent of the long-term average with a 66 per cent probability of normal or above normal rainfall. The monsoon rains have already arrived over Kerala with multiple weather stations across the state reporting abundant rainfall, weather scientists also said, while releasing a revised long-range forecast for the 2020 monsoon.

[How big tech is helping agritech startups and farming community](#)

(Live Mint)

Many agritech startups are helping farmers sell their produce on e-mandis. Platforms like AgriBazaar help farmers list their produce for sale and connect directly with buyers. Many of these platforms saw a huge spike in user base during the lockdown period. Some agritech startups are also helping farmers monitor crop and soil health using IoT sensors, while some are using AI (artificial intelligence) to forecast the best time to sow seeds.

[Changes needed to farm, MSME policy](#)

(The Economic Times)

The decision to tweak the definition of an MSME by raising the turnover limit to qualify as an MSME to Rs. 250 crore, that, too, excluding exports, runs the risk of leaving smaller firms being edged out from the benefits of the schemes. In the case of agriculture, the relief on offer is fine, but there is little attempt to leverage income support via the PM-KISAN scheme to drive structural change. India's farm sector suffers from chronic mismatch of crops and agroclimatic zones, thanks to distorted incentives ranging from subsidised and free inputs to significant support prices that make it difficult for farmers to switch crops. The Food Corporation of India carries stocks of grain far in excess of what is needed for food distribution, thanks to procurement at liberal support prices.

[What Will the End of the Road for APMCs Look Like?](#)

(The Wire)

Essentially, it allows sale and purchase of agricultural commodities in a trade area which is defined as any place outside the physical boundaries of market yards managed or licensed by APMCs. The only requirement for business in the trade area is that the trader should have a valid permanent account number and the farmer should be normally paid on the same day. However, this 'free trade' can be made subject to regulation as the government has rightly retained the right to notify any document other than a PAN card in future. The government can also prescribe a system for registration of traders, modalities of transactions and the mode of payment to farmers.

[Maharashtra agriculture minister poses as farmer, raids fertiliser shop](#)

(The Times of India)

In an undercover operation, Maharashtra agriculture minister Dadaji Bhuse posed as a farmer and raided a fertilizer shop in the Jadhavmandi area here. Bhuse said the surprise raid was prompted by an increasing number of complaints against traders allegedly stocking up fertilizers illegally to sell them at exorbitant rates.

[It could help government to get closer to doubling farmers' incomes by 2023](#)

(The Indian Express)

Agriculture matters not just for food security, but also for the good of the masses, since almost 44 per cent of the country's labour force is engaged in agriculture. So, "sabka saath, sabka vikas, sabka vishwas" will not be possible unless agriculture performs in a sustained manner at around 4 per cent per annum, if not more. The potential is definitely for more.

[Will India's Contract Farming Ordinance Be a Corporate Lifeline for Agriculture?](#)

(The Wire)

Of the three agriculture-related ordinances promulgated on June 5, 2020, the most predictable was 'The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Ordinance, 2020'. Put simply, it provides a legal basis to the existing practice of contract farming in India's agriculture and allied sectors. In 2018, the Union Ministry of Agriculture circulated a model law on contract farming. It was called 'The State /UT Agricultural Produce Contract Farming (Promotion and Facilitation) Act, 2018'. The Ordinance draws from this model Act.

[Food safety and security must become everyone's business in India](#)

(FnB News)

This year's focus will be on prevention, detection, and management of food-borne risks. Considering the current global pandemic situation, this year's theme draws attention to the need for food safety and security in the agriculture and food and beverage value chains. India is traditionally an agrarian economy. However, its contribution to the nation's GDP is still below that of the industrial and services sectors, despite various measures and governmental policies. While it is heartening to note that the contribution to GDP is higher than the global average, India still lags behind China. The Ministry of Agriculture has strategies in place to boost the agriculture sector's contribution to the nation's GDP and is striving to implement food safety protocols to ensure food security for all.

[Andhra Pradesh set for 10 GW of agricultural solar](#)

(PV Magazine)

The state government of Andhra Pradesh has approved setting up of 10 GW solar power plants to meet the energy requirements of the agriculture sector. The project is aimed at providing nine hours of power supply to farmers during the daytime. The State Cabinet, chaired by Chief Minister YS Jagan Mohan Reddy, also cleared setting up of an Integrated Renewable Energy Project (IREP). As part of the IREP, 550 MW of wind power, 1200 MW of pumped storage hydel power plant and 1000 MW of Solar power will be set up. The proposal to set up 10 GW of its own solar power generation projects was floated by the state government in February this year as it has been incurring more than Rs 10,000 crore to meet the agriculture subsidy, lift irrigation power charges and aquaculture subsidy every year.

[Why farm subsidies in India are far lower than in rich countries](#)

(The Hindu Business Line)

The WTO's AMS entitlement allows the US, Canada, EU and Australia to offer greater support to their farmers. So, it is unfair of them to ask for a cut in India's subsidies. Developed countries, including the US, Canada, Australia, New Zealand and EU, have been attacking India on the support it offers its farmers. They have been seeking a cut in India's de minimis entitlement under the WTO's Agreement on Agriculture (AoA). An analysis of the numbers showed that the per-farmer Amber box entitlement for India is a small fraction of that of developed nations. (In WTO terminology, subsidies are identified by 'boxes' — Green for 'permitted', Amber for 'slow down; needs to be reduced', and Red for 'forbidden'.) For instance, while an American farmer gets support of \$7,253 a year and a EU farmer gets \$1,068, an Indian farmer gets just \$49.

[India supplies 25 tonnes of Malathion to Iran to curb locust menace](#)

(CNBC)

State-owned insecticide manufacturer HIL (India) Ltd has supplied about 25 tonnes of Malathion 95 per cent ULV to Iran to help the country control the locust menace. The consignment, which has been supplied on government-to-government basis, is expected to reach Iran by June 16, the fertiliser ministry said in a statement. India had recently approached Iran and Pakistan for coordinated response to counter desert locust menace in the region. Iran has expressed its willingness to the proposal. Accordingly, the Ministry of External Affairs placed an order with HIL to manufacture and supply 25 tonne of Malathion 95 per cent ULV to Iran.

[Why Cash Transfers Cannot Replace Structural Reforms In Agriculture](#)

(IndiaSpend)

With the launch of the Rajiv Gandhi Kisan Nyay Yojana (RGKNY) on May 21, 2020, Chhattisgarh became the sixth Indian state in two years to initiate a direct cash transfer scheme for farmers. The scheme aims to supplement the income of the state's 1.9 million farmers by Rs 10,000-Rs 13,000 per acre of

land owned. Cash transfers for COVID-19 relief and stimulus are also gaining salience, with the Centre announcing frontloading of PM Kisan payments. How effective is this increasingly popular direct transfers approach? One way to assess this is to analyse the impact of India's first cash transfer scheme for farmers, Telangana's Rythu Bandhu Scheme (RBS), launched in May 2018. Both RBS and the Rs 5,700-crore RGKNY are alike in that both define cultivators in terms of land ownership.

[India's first climate change report offers a stern warning](#)

(Money Control)

A new report by the Government of India reveals that local climate change is influenced not only by the increase in greenhouse gases but also by the increase in air pollution and the local changes in the land-use pattern. The report goes on to warn that the rapid changes in India's climate will place increasing stress on the country's natural ecosystems, agricultural output, and freshwater resources, while also causing escalating damage to infrastructure and economy.

New from Around the World

[In India and Africa, women farmers lack land rights](#)

(The Interpreter)

In October 2016, women from across the African continent met at the base of Mount Kilimanjaro in Tanzania with a charter of demands pushing for women's right to use, control, own, inherit and dispose land. The Women2Kilimanjaro hike's demand for more inclusive land rights proved not to be in vain: in April 2017, the African Union (AU) endorsed the Pan-African Women's Charter on Land. This endorsement, while not binding, gives rural women a legal recognition and serves as a step towards more inclusive land laws. Coupled with the 2016 AU pledge to ensure that women make up 30% of landowners by 2025, this action shows that the AU recognises the plight of rural women and intends to direct more attention to their issues.

[Canada's farmland is a wise investment—during and after the coronavirus](#)

(Phys.Org)

Canada is one of the largest agricultural producers and exporters in the world. According to Statistics Canada, the country is the fifth-largest agricultural exporter. Agriculture is one of Canada's largest industries, directly employing nearly 300,000 people, and it accounts for roughly five percent of the country's gross domestic product. As the world's population grows, Canadian agriculture and related industries will grow in size and importance.

[Australia makes moves to lessen reliance on China as UK free trade talks begin later this month](#)

(The Cattle Site)

Free trade talks between the United Kingdom and Australia will officially begin later on 29 June as Australia looks to shore up trade relationships beyond China. According to news reports, Australia's Trade Minister Simon Birmingham announced the formal start of trade talks after years of background negotiations between the UK and Australia. The Australian government hopes it could finalise a deal within the year, a much quicker pace than the years it usually takes to reach an agreement. Despite the potential benefits of a UK trade deal, its value will pale in comparison to Australia's exports to China. Economists estimate that Australia's exports to China were worth nearly \$150 billion in 2019.

[Agriculture ministers call for R&D investment boost for biodiversity and green farming plans](#)

(Science Business)

EU's biodiversity and green farming plans will require increased investment in research and development, agriculture ministers say. In an informal videoconference chaired by the Croatian presidency of the EU Council, ministers broadly agreed the biodiversity and "farm to fork" strategies put forward by the European Commission in May are essential for delivering on the EU's ambitious green deal plan to boost the economy whilst meeting climate change targets. To transform food systems, member states will have to revamp production and distribution methods, which will require increased investment in R&D, digitalisation and new technologies. The new proposal for the EU's

multiannual budget, published by the commission in May, foresees a total of €391 billion for agriculture and rural development.

[Will Smart Farming Gain A Foothold In Europe?](#)

(EuroScientist)

Farming is one of the oldest industries there is, but it's not always one of tradition. Modern agriculture is often not the old-fashioned, traditional culture it's portrayed as. It's a high-tech business now, and it's getting more tech-forward by the minute. One of the most exciting trends in this industry is the rise of smart farming. Although relatively new, this practice is starting to take hold throughout Europe. In a few years, it may replace older ways of doing things entirely.

[In Europe, climate change brings new crops, new ideas](#)

(DW)

A September 2019 report by the European Environment Agency (EEA) noted that heat stress, extreme weather events like flash floods and hailstorms, and water shortages have already changed growing conditions for several crops in Europe — especially for Mediterranean staples like olives and wine grapes. Places in northern Europe, meanwhile, could see agricultural benefits from climate change, including longer growing seasons and a shorter frost period "allowing the cultivation of new crops and varieties," said the report. Suitable cropland around the Baltic Sea could more than double by 2100, from 32% of land area today to about 76%, with certain crops now common to southern Europe taking root further north.

[Backgrounder: Agriculture 4.0 in Vietnam](#)

(Geopolitical Monitor)

In Vietnam's Mekong delta, getting rice from a sticky mud field to bowl, isn't a simple process. In spite of the idyllic postcard images of a child on the back of the water buffalo or the stooped and smiling women in coned-shaped hats planting rice, the future for these farmers will require the adoption of digital technologies to meet the challenges of climate change. The arrival of 4.0 smart agriculture in Vietnam signals the end of an exclusive dependence on water, fertilizers, and pesticides. Instead, farmers will use the smallest amounts necessary, all the while accessing data, GPS technology and moisture sensors to break down traditional challenges to crop selection, market access, and innovation. Smart agriculture is critically needed in the Mekong Delta which is the heart of a region that cultivates over 1,600 varieties of rice at a convergence of water, boats, houses, and markets supporting 18 million residents.

['Carbon Farming' Could Make US Agriculture Truly Green](#)

(Wired.com)

As more big corporations and governments promise to go carbon-neutral, many are relying on carbon-emissions trading as a way to meet their goals. When a company buys carbon offsets, it funds projects elsewhere to help reduce greenhouse gas emissions, such as planting trees in Indonesia or installing giant machines inside California dairies that suck up the methane produced by burping and farting cows and turn it into a usable biofuel. What the offsets don't do is force their buyer to change their own operations.

New Research

['Broken Rice' Paper by Bruce and Faculty Members in Food Science Named Editor's Pick](#)

(University of Arkansas)

A paper written by a doctoral student and other members of the Department of Food Science in U of A's Dale Bumpers College of Agricultural, Food and Life Sciences has been named an "editor's pick" by the Cereals & Grains Association. The study found the use of broken rice kernels for production of instant rice is feasible and can reduce the cost of raw materials and improve cooked rice sensory characteristics. The authors recommend consumer sensory studies be conducted to determine product acceptability. The research provides information on the enhancement of the value of broken rice as a commodity through novel applications. It also provides science-based information on characteristics of medium-sized broken rice, which is useful in new product development.

[ARS scientists probe pollinator survival strategies](#)

(HP Journal)

Agricultural Research Service scientists have shed new light this spring on strategies used to ensure the survival of two very different pollinators. Researchers at the Edward T. Schafer Agricultural Research Center in Fargo have found that the amount of food provided to honeybee larvae is a major factor in determining whether they develop into queens or workers. Previous studies have focused on the importance of specific compounds or the ratio of key nutritional factors in the development of new queens and workers. But the study published this spring by ARS researcher George Yocum and his partners at North Dakota State University is the first to show that the amount of food provided is also important.

[Pakistani student research on cucumber in China, benefit Pakistani farmers](#)

(Technology Times)

Rahat Sharif, a resident from Peshawar, Khyber Pakhtunkhwa province, started his research in 2017 in the lab of vegetable ecophysiology and biotechnology. We do research on cucumber's production, quality and response to different environmental stresses. The research focused particularly on the role of HD-ZIP gene family in cucumber's growth and development under various abiotic and biotic stresses. Our lab conducts research of developing cucumber resistance against powdery mildew. The applied research has not only improved the production of cucumber but also the livelihood of local farmers.

[COVID-19: Experts look at mushrooms for employment, immunity concerns](#)

(Down To Earth)

The release of four new high-yielding strains of mushrooms for commercial use in Himachal Pradesh's Solan has put the spotlight on mushroom cultivation as a means to cushion employment loss in the wake of novel coronavirus disease (COVID-19) outbreak. The pandemic has also prompted a few experts to look at consumption of mushrooms, known for their immunity-boosting anti-viral properties, with renewed vigour. The two strains of white button variety are likely to fetch a 15 per cent increase in their yield. White button is among the most popular edible and culinary varieties of mushroom. It is the best source of Vitamin D for the vegetarian population. A mere 10 grams of its consumption can fulfil half the body requirement of Vitamin D. White button mushrooms also help keep sugar levels stable and are the most popular variety of mushrooms grown and produced in north India. Development and release of Milky mushroom is all set to enhance the yield by at least 16 per cent. This is a variety that is normally grown and consumed in the coastal parts of the country. It is among those rare varieties that can be grown in tropical climates where the temperatures are on the higher side 32-42 degrees Celsius.

[Tanzania to introduce new grape varieties to boost wine production](#)

(Xinhua)

The Tanzania Agricultural Research Institute (TARI) plans were afoot to introduce 13 new grape varieties from South Africa to boost production of wine in the country. The new grape varieties will also improve the country's production of grapes. Lack of wine grape varieties was stalling massive production of wines in the east African nation. He said the varieties to be introduced from South Africa were a mixture of red and white grafted scions as well as root stocks. Introduction of the hybrid varieties will go in tandem with many interventions to increase cultivation of grapes within the country, a move anticipated to stimulate wine making industries across the country.

[The hidden land use cost of upscaling cover crops](#)

(Nature)

Cover cropping is considered a cornerstone practice in sustainable agriculture; however, little attention has been paid to the cover crop production supply chain. In this Perspective, we estimate land use requirements to supply the United States maize production area with cover crop seed, finding that across 18 cover crops, on average 3.8% (median 2.0%) of current production area would be required, with the popular cover crops rye and hairy vetch requiring as much as 4.5% and 11.9%,

respectively. The latter land requirement is comparable to the annual amount of maize grain lost to disease in the U.S. We highlight avenues for reducing these high land use costs.

Syndromes of production in intercropping impact yield gains

(Nature)

The worldwide absolute yield gain of intercropping as compared with sole crops has not been analysed. We therefore performed a global meta-analysis to quantify the effect of intercropping on the yield gain, exploring the effects of crop species combinations, temporal and spatial arrangements, and fertilizer input. We found that the absolute yield gains, compared with monocultures, were the greatest for mixtures of maize with short-grain cereals or legumes that had substantial temporal niche differentiation from maize, when grown with high nutrient inputs, and using multirow strips of each species. This approach, commonly practised in China, provided yield gains that were (in an absolute sense) about four times as large as those in another, low-input intercropping strategy, commonly practised outside China. The alternative intercropping strategy consisted of growing mixtures of short-stature crop species, often as full mixtures, with the same growing period and with low to moderate nutrient inputs. Both the low- and high-yield intercropping strategies saved 16–29% of the land and 19–36% of the fertilizer compared with monocultures grown under the same management as the intercrop. The two syndromes of production in intercropping uncovered by this meta-analysis show that intercropping offers opportunities for the sustainable intensification of both high- and low-input agriculture.

Mr Ravichandran Vanchinathan, a farmer from Tamil Nadu featured in [CropLife Asia's Covid-19 Frontline #Foodheroes](#). Mr Ravichandran shares his views on growing food for the consumers during the ongoing pandemic

COVID-19 FRONTLINE #FOODHEROES

"Farming is highly seasonal and monsoon dependent. While people can live without automobile, TV or computers, they cannot live without food. We as farmers, must visit our farms daily and nurture our crops. If we fail to do so, we will not just lose our source of income but we will also lose the amount of money that we spent on our crops and be debt-ridden. "

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RAVICHANDRAN VANCHINATHAN

*Rice, Cotton & Pulses Farmer
from Tamil Nadu, India*



Thoughts & Views



Mr. S. Nagarajan is currently the Chief Operating Officer of Rallis India Ltd overseeing the operations of Seeds and Crop Care businesses. Previously, he was the Managing Director and Chief Executive Officer of Metahelix Life Sciences Limited, the seeds business subsidiary of Rallis India which merged with the parent in February 2020. He has over 29 years of experience working in several Tata Companies including CXO level business leadership. With deep experience in Automobile, Telecom, Media & Entertainment and Technology oriented sectors he has been associated with running both large-scale operations and smaller, relatively more entrepreneurial entities of challenging scope. He is actively involved in Business Excellence efforts of the Tata Group having led a number of TBEM (Tata Business Excellence Model) assessments across industries. He received the Long Serving Team Leader Award in 2015. He is an alumnus of the Indian Institute of Technology, Madras (B.Tech) and a Gold Medallist MBA (PGDM) from the Indian Institute of Management, Ahmedabad.

1. What are your thoughts on the recent reforms announced by the Hon'ble Finance Minister especially on EC Act, APMC act? Given the agro-climatic and crop diversity, are all states going to benefit the same way from these reforms?

a. EC act: We believe removal of stock limits for specified commodities is important. Private sector may be encouraged to invest in warehouses as earlier these stock limits were applicable to them which resulted in business risk in case government invokes ECA and limits storage. If warehouse investment increases, farmers can store the same and defer sales if they are unable to fetch a better price. Food processing industry also had to face restrictions on stock limits, and hence investments were lower as this created supply chain risk. With removal of stock limits, these industries can plan their supply chain more efficiently. So, we think it's a good development.

b. APMC act: Currently farmers do not benefit from demand from other states. For e.g., farmers in Punjab, who are unable to sell to the Government, sell wheat below MSP. They are forced to sell at lower prices in Mandis as there is oversupply of wheat in the Punjab market. Now anyone from any other part of the country (e.g., Karnataka) can procure as there is a deficit in that state. Price discovery will improve, and consumers also could benefit. This is also a very good development, if executed well.

c. We think all states will benefit from these reforms, though depending on the pace at which they move the benefits will accrue.

2. Would the above mentioned reforms impact our Food security due to higher food prices?

a. No. It will lead to both improved realisation for farmers and better prices for customers. The benefits will accrue due to improved intermediation. We don't believe that it will impact food security due to higher prices.

3. What should be the focus area of the government to improve post-harvest management? How can private industry contribute?

a. As per a Study, All India Cold-chain Infrastructure Capacity (Assessment of Status and Gap), there has been infrastructural gaps ranging from 10% in the case of cold storages (bulk & hub) to 99.6% in the case of pack houses as compared to the requirement for perishable produce like fruits and vegetables. Insufficient private investment in such infrastructure and logistics is one of the principal reasons for such gaps.

b. Small and marginal farmers' are unable to individually invest in primary processing technologies at the farm gate. Processing includes activities after harvesting through "pack houses" such as drying, grading, sorting, ripening, waxing, packaging, quality control assessment and the need for crop specific cold storage/ warehousing with pre-cooling facilities, cold chains, reefer trucks etc. Small and marginal farmers are also sometimes unaware of the crop quality specifications required by different types of buyers, affordability, including availability of technology, and intelligent information about near farm markets. Intermediaries are currently bridging the gap between farmers and the market and earning margins at every stage of the distribution chain.

c. Given the right motivation, the private sector could deploy strategies to benefit small and marginal farmers in post-harvest management of fruits and vegetables. These range from mechanization leasing models, farmer training/capacity building, solar technologies, contractual agreements, digital platforms, enlisting agricultural students/rural youth and FPO mobilization.

4. What role can the seed industry play in enabling/ strengthening farmer-market linkages?

a. Seed industry can provide quality seed and educate the farmer on better agricultural practices so that farmer can realise better yield. Beyond this, it's difficult for the seed industry to play a role in price discovery.

5. What changes you see will happen in the seed and crop protection industry post COVID 19 crisis?

a. Agriculture is less affected (vs other sectors) from the perspective of farmer level consumption of agri inputs

b. Crop Shift: Possible shifting of Paddy to Maize in PB/HR. Maize shifting to Cotton in TS

c. Shrinkage in Brand loyalty: Lack of cash and unavailability of brands leading to shifts in brand loyalty

d. Home delivery: Increase in emphasis

e. Digital Connect: Channel communication on WhatsApp and Zoom with company for offers, order placements from farmers through WhatsApp

f. Agri input companies directly reaching farmers through agri e-commerce companies

g. Collections remain challenged

6. What impact do you see in agriculture regionally due to covid? Do you see farmers shifting to a different crop than what they have been growing in the past?

a. As the Agriculture sector is exempted under essential commodities much of the preparatory operations were done during the lockdown. So, we expect an impact, but still much lesser than other sectors. Crop Shift: Possible shifting of Paddy to Maize in PB/HR. Maize shifting to Cotton in TS

7. Which crops do you think will be most affected because of the lockdown imposed in India? Do you see prices of agricultural produce sharply fluctuating in the coming months?

a. Fruits & Vegetables which are perishable are much affected during the lockdown, Exports of Grapes and Mango affected due to restrictions in importing countries. Farmers undertook distress sales as the produce is perishable and transportation is dislocated. In some places Veg are destroyed by farmers as they are not able to move to mandis due to lack of transportation and unavailability of labor. Depending on how the pandemic pans out and whether there are repeated waves and consequent lockdowns, price may turn volatile for select crops. Our stock-to-use ratio for most cereals are good, though there are reports of destruction of stored grains due to rains, storage pests etc. Hence, we have to be watchful on the prices front.

8. Food security and nutritional security are two sides of the same coin, if a country needs to ensure both, what should be the strategy?

a. Stabilize food supplies through adequate stockholding in the form of strategic food security reserves, improve post-harvest handling, packaging, storage, preservation, transport and distribution of food to reduce losses at all stages to enhance the health of people.

9. Do you think India is in a better position to address domestic needs of food security and become a reliable exporter?

a. With the record production of food grains over PY (296MT Vs 284MT) and good current storage levels of food grains indicate better position in food security. India has remained consistently a net exporter of agri-products, touching Rs 2.7 lakh crore exports, the Economic Survey 2018-19 said. However, its total agricultural export basket accounts for a little over 2.15 percent of the world agricultural trade. The major export destinations are USA, Saudi Arabia, Iran, Nepal and Bangladesh. The potential for India to do better remains. The government has recently initiated a comprehensive "Agriculture Export Policy" aimed at doubling the agricultural exports and integrating Indian farmers and agricultural products with the global value chains. It has created agri cells in many Indian embassies abroad to take care of agricultural trade related issues. Some of these initiatives will help India become a reliable exporter while assuring food security domestically.

10. According to you what kind of crops should be exported to get a better value for the produce?

a. Floriculture in India is being viewed as a high growth Industry. Commercial floriculture is becoming important from the export angle. The important floricultural crops in the international cut flower trade are rose, carnation, chrysanthemum, gerbera, gladiolus, gypsophila, liastris, nerine, orchids. Apart from this Fruits and Vegetable Seed in India is being viewed as a high growth Industry

11. Given the demand it has seen during COVID 19, do you think the government should encourage farmers to grow immunity booster herbal and medicinal crops?

a. There are several challenges in growing them like shortage of suitable cultivation technology, production of small quantities, unscientific way of harvesting, paucity of research on high yielding varieties, inefficient processing techniques, fluctuation in demand and supply and poor marketing infrastructure. It is very difficult to address them in quickly & it will take time to get enough demand for their cultivation.

12. Government has been pushing farmers to adopt technology for more farm efficiencies, given how tech is important for farms post covid, how do you think farmers can finally be convinced to adopt technology?

a. Mechanisation is expected to increase in the Indian farms. Cost effective solutions that address the Indian context e.g. small farm holdings will enable farmers to adopt these solutions.

b. There are other challenges faced by the farmers. Lack of practical knowledge, difficulty in handling machines properly, high cost of maintenance, environmental impacts due to overuse etc. These have to be addressed through strong and missionary extension work.

13. What role do you see for farm mechanization and digitization of agriculture in the social distancing scenario?

a. India's agricultural sector depends on migrant labourers for several operations. Now, an estimated 50 million migrant labourers (of India's 140 million) are expected to have returned to their native places from cities following the nationwide lockdown from March 24. Unavailability of labour may force the farmers to switch to purchase suitably machinery. However, this will work only for those who can afford the same.

b. Nascent trends of precision agriculture are at work with many private sector players trialing digital solutions providing weather, pest and yield forecasting engines. These solutions have to stabilise.

c. Individual farmer contacts by private players are now happening digitally through Whatsapp calls. Some farmers have started purchasing their inputs by placing orders on whatsapp, ecommerce platforms etc.

14. Due to COVID-19 many agricultural activities have taken a back seat. What do you think is the future of technologies like biotech and gene-editing given the current agricultural landscape?

a. Covid 19 has starkly brought home how a major crisis can come about unannounced and how great an impact it can have. Several commentators have called this a "1991 moment" and urged great regulatory reform. In this regard, biotech, gene editing etc are good options which the Government should consider permitting. So far, it was peace time. However now in war time, it has become clear that absent these technologies we may face severe problems of climate induced impacts in future. We have a reference to how our experience in Covid 19 has been. So far, we had no such experience and climate change was only a conceptual problem. Not any longer. It is hoped that this crisis will generate strong action on the regulatory front.

15. Can you share with us some good practices adopted by your company during covid? How did you reach out to farmers during these tough times?

a. Under the current Covid 19 situation, foremost, we are focusing on the safety of our employees and operations. All our office staff are WFH and in factories, we are following the norms of attendance, social distancing, use of masks, sanitisers etc.

b. To the extent possible, we have coincided our maintenance related shutdown with the lockdown period.

c. We are reaching farmers through Distance Marketing by telemarketing, Voice SMS, text SMS, Whatsapp etc.

d. We are engaging with our channel partners through video calls e.g google hangouts.

e. We are undertaking e-training programs for our staff and encouraging skill building at this time.

f. We have commenced using social media like Facebook, Youtube etc
