Impact of CoVid-19 on Seed Trade
On-Line Seminar

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Executive Director, Federation of Seed Industry of India
Agenda

1. Overview of seed trade and brief introduction about seed trade and relevant policy
2. Analysis of the impact of the epidemic on seed trade and movement
3. Suggestions for ensuring smooth global and regional seed trade
4. Post Covid-19 scenario/prospect (seed trade and movement)
Seed trade overview and seed trade and relevant policy introduction in your country

- Import and Export policy
  - Import permit
  - Phytosanitary inspection requirements
- Import/ Export value

  India has sixth largest size of domestic seed market in the world, estimated to be at about 2.6 Billion dollars. India exported seeds worth USD 122.74 M in 2018-19. India imported seeds worth USD 119.77 m in 2018-19.

- Top 10 imported crops- Cashew, Jute, Tea, Tobacco
- Top 10 exported crops- Coffee, tea, rice, cotton, soybean, corn, wheat and spices
- Main trade partners-Netherland, USA, Russia, China, Mexico, Bangladesh and Thailand

Analysis of the impact of the epidemic on seed trade and movement

Current: A 67 day lockdown has been put in place in three phases

Current Infected number, fatality number(brief): Total- 96,169; Fatalities- 3029; Recoveries- 36,824.

Impact on life and economics-

❖ The complete lockdown has severely impacted businesses, especially the MSME’s and the economy per se. Many of the MSME’s in the non-essential sector are on the brink of insolvency. Government is planning to come up with multiple schemes to support businesses.

❖ Government has already provided relief to businesses by delaying their loan repayments, extending the loan periods and extending deadlines for tax submissions.
Analysis of the impact of the epidemic on seed trade and movement

Impact on seed industry

❖ Agriculture was not included as an essential activity and FSII proactively took up the matter with the Central and State governments before the lockdown was initiated. The importance of harvesting the crops standing in the fields as well as monsoon sowing was put forward.

❖ The government in turn included Agricultural related activities in the Essential services that were allowed during the lockdown with appropriate safety measures.

❖ Seed companies operating plants have taken necessary precautions like- Operation with 30% staff, frequent site sanitization, social distancing and regular health monitoring of the staff. There is no overlap between shifts and site is sanitized between shifts.

❖ Such measures have decreased the productivity of the plants by 50%, even though plants are operating in multiple work shifts.
Analysis of the impact of the epidemic on seed trade and movement

- Harvest was enabled with subsidized procurement of the farm machinery as farm labour was not available.
- The availability of trucks and restrictions in their movement was taken up with government. Though there was a delay in implementing measures across State borders, trucks carrying seeds were issued passes that allowed them to move across the nation.
- The government also set up special cargo and courier services for movement of essentials.
- Indian Railways is operating Parcel services especially to support seed movement across the nation.
- Delays in procurement of packing material have also impacted seed packaging.
- Some truck or transport personnel are unable to deliver stocks and distributors are not allowed to operate in assigned red zones.
Analysis of the impact of the epidemic on seed trade and movement

- Cotton, fruits and vegetable farmers across the country have suffered from a plunge in prices due to bottlenecks in movement from villages to cities.
- An increase of 49% has been observed for fertilizers sales, this could be due to expected uncertainties is no guarantee for a good kharif crop.
- Due to homeward migration of labour, they will not be available for paddy transplantation and other activities.
- Soybean will face the most serious shortage of quality seed this year due to damage to kharif crop in 2019 due to late rains
Analysis of the impact of the epidemic on seed trade and movement

R & D activities- Stopped. Only essential activities including harvesting of plots and quality check labs are being undertaken.

Staffs- Processing and packaging units operational with 30% staff. The personnel are issued passes to move out and reach the plants.
Inter-city movement of staff as well as movement across villages is a challenge, especially as villagers are blocking the entry of outsiders.

Export and import- Challenging due to delays in phytosanitary certifications and custom handling due to a skeletal staff managing both operations. Non-availability of labour for loading and unloading at ports is also an issue.

With all these support measures in place the Kharif sowing has commenced in 3rd week of May 2020.
Analysis of the impact of the epidemic on seed trade and movement

Finance - Seed Companies liquidate 70% sales during the Q1. The low collections from the trade are crippling the companies’ ability to conduct the business as usual. FSII has connected with relevant officials to request for

❖ Some kind of Credit Enhancement Scheme for seed companies without any additional collateral.

❖ Enhancement of working capital limits by 40% to 50% on the same collateral base for the period till December 2020.

❖ Interest subvention scheme involving interest subsidy of 3% to 5% for Seed companies for a year on their working Capital borrowing.

❖ Seed companies should be exempted from GST and given export incentives and transport subsidy.
Government announced a COVID package to support businesses and essential services, May 12, 2020

COVID – A mega economic relief package worth USD 270 Billion for the coronavirus-hit economy was announced by Prime Minister on May 12, 2020.

❖ The combined package works out to roughly 10 per cent of the GDP, making it among the most substantial in the world after the financial packages announced by the United States, which is 13 per cent of its GDP and by Japan, which is over 21 per cent of its GDP.

Agriculture package-
❖ Setting up of USD 13 Billion agriculture infra fund for farm-gate infrastructure.
❖ Rs USD 1.3 Billion scheme for the formalisation of micro food enterprises.
❖ Amendment of Essential Commodities Act, allowing de-regulation of agricultural produce including cereals, edible oils, oilseeds, pulses, onions and potato.
❖ Agriculture Marketing Reforms to provide marketing choices to farmers.
Government announced a COVID package to support businesses and essential services, May 12, 2020

**Agriculture package-**

- **USD 4 Billion** Additional Emergency Working Capital for farmers.
- **USD 27 Billion** credit boost to 25 million farmers under Credit Card Scheme.
- **USD 535 million** for promotion of herbal cultivation. Develop a corridor of medicinal plants along the banks of Ganga with 800 hectare farm area.
- **Operation Green** will be extended from Tomatoes, Onion and Potatoes (TOP) to **all** fruits and vegetables. It will allow 50% subsidy on transportation from surplus to deficient markets and 50% subsidy on storage, including cold storages.
- **Agriculture Produce Price and Quality Assurance.** Facilitative legal framework will be created to enable farmers for engaging with processors, aggregators, large retailers, exporters etc. in a fair and transparent manner.
- **Risk mitigation** for farmers, assured returns and quality standardisation shall form integral part of the framework.
Impact of Covid 19 on Seed Industry

What trend and changes happened for the seed industry after outbreak of Covid -19?

❖ Work style-virtual meetings- ergonomic breaks are suggested.
❖ Webinars- ergonomic breaks are suggested.
❖ Social distancing requirements and 30% staff in a shift has led to loss of productivity especially in processing plants.
Suggestions for ensuring smooth global and regional seed trade

❖ Though self reliance will be a key, regional cooperation will also be critical in assuring food and nutritional security.
❖ Transparency and information sharing regarding any human and plant health issues.
❖ Agreement on safety norms in post COVID trade across nations in the region.
❖ Establishment of Green corridors for smooth movement of seeds, produce and processed food across international borders.
❖ Investment in infrastructure for adequate and safe storage of agriculture related inputs at trading ports.
Post CoVid-19 scenario (seed trade and seed movement)

- Government is pro-actively looking into sustainability measures for agriculture and food supply. The use of advances technology, mechanization, AI etc. is being considered.

- Prime Minister announced a mega economic relief package and at the same time called for an "Atma-Nirbhar Bharat (self-reliant India)."
Thank You
Impact of CoVid-19 on Seed Trade On-Line Seminar
I. Seed trade overview and relevant trade policy
种子贸易及相关政策介绍

II. Analysis of the impact of the epidemic on seed trade and movement
新冠疫情对种子贸易和流通的影响分析

III. Suggestions for ensuring smooth global and regional seed trade
确保全球和地区种子贸易顺利进行的建议

IV. Post CoVid-19 scenario/prospect (seed trade and movement)
新冠疫情后的展望（种子贸易和流通）
I. Seed trade overview and relevant policy 种子贸易及相关贸易政策（1/4）

China Seed Trade Overview 中国种子贸易概况

- Total trade value in 2019: 646 mn USD.
- Import value: 435 mn USD, export value: 211 mn USD.

2019年种子进出口总额6.46亿美元。
2019年种子进口额4.35亿美元，出口额2.11亿美元。
2014-2019进口额始终大于出口额。
I. Seed trade overview and relevant policy 种子贸易及相关政策（2/4）

China Seed Trade Overview / Import  中国种子贸易—进口

- Top 10 imported crop in volume: No.1 Ryegrass (31110 tons in 2019)
- Top 10 imported crop in value: No.1 Vegetable (224 mn USD in 2019)
- Top 3 countries we imported from: USA, Japan, Denmark

前三大贸易进口国：美国、日本、丹麦。
I. Seed trade overview and relevant policy 种子贸易及相关政策（3/4）

1) China Seed Trade Overview / Export 中国种子贸易—出口

- Top 10 exported crop in volume: Rice (17,527 tons in 2019)
- Top 10 exported crop in value: Vegetable (116 mn in 2019)
- Top 3 countries we exported to: Pakistan, the Netherlands, South Korea

出口量最大：水稻种子。
出口额最大：蔬菜种子。
前三大贸易出口国：巴基斯坦、荷兰、韩国

Export to 2019前十出口国

Top 10 crop seed in export volume 2019出口量前十作物

Top 10 crop seed in export value 2019出口额前十作物

单位: ton
单位: USD
## I. Seed trade overview and relevant policy 种子贸易及相关政策介绍（4/4）

### Relevant Seed Trade Policy 种业贸易政策

<table>
<thead>
<tr>
<th>Import: 进口要求</th>
<th>Export: 出口要求</th>
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<tbody>
<tr>
<td>• Import permit 进口审批</td>
<td>• Export permit 出口审批</td>
</tr>
<tr>
<td>• Quarantine permit 检疫审批</td>
<td>• Export quote &amp; permit for grain seed export for grain seeds export 出口配额和许可证（谷物种子）</td>
</tr>
<tr>
<td>• Entry permit 调入函</td>
<td>• Seed production base filing 出口基地备案（海关）</td>
</tr>
<tr>
<td>• Quarantine inspection at port 报关检验</td>
<td>• Phytosanitary Certificate 植检证</td>
</tr>
<tr>
<td>• Field inspection 田间跟踪检疫</td>
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COVID-19 IS A COMMON THREAT TO HUMAN BEINGS

WHO data May 18
II. Analysis of the impact of the epidemic on seed trade and movement
新冠疫情对种子贸易和流通的影响分析（1/4）

Anti-epidemic Measures in China
中国疫情防控情况

The Epidemic was effectively controlled within 2 months with the most strict prevention and control measures.

Government decision and leadership, great efforts of medical personnel, implementation from local governments, and understanding and cooperation of the public.

- 42,000 medical and nursing personnel assigned to assist Hubei
- Medical subsidies, ensuring supply of essential agricultural and food products, stabilizing prices and employment.
- Medical assistance provided to 127 countries and 4 international organizations.
- At early stage: “Prevent internal diffusion and external output “
- At present: “Prevent external input and internal rebound “

Up to May 15, total confirmed: 82,941, cured 78,219 (94%), death 4,633.
II. Analysis of the impact of the epidemic on seed trade and movement
新冠疫情对种子贸易和流通的影响分析  (2/4)

The Impact on Economy in China - Q1, 2020 疫情对中国经济的影响

GDP fell **6.8%** in Q1

<table>
<thead>
<tr>
<th>Economic Index</th>
<th>Impact</th>
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<tr>
<td>The import and export of goods slowed down, decreased by <strong>6.4%</strong>.</td>
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<tr>
<td>Industrial production declined by <strong>8.4%</strong> and service industry production declined by <strong>9.1%</strong>.</td>
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<tr>
<td>- Food and beverage revenue decreased by <strong>44.3%</strong>.</td>
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<td>- Retail sales decreased by <strong>15.8%</strong>.</td>
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<td>- Hotel occupancy declined <strong>80%</strong>.</td>
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<td>- Rapid growth of online retail, <strong>5.9%</strong> increase</td>
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<td>- Investment growth in e-commerce and anti epidemic related industries</td>
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The direct impact on grain production is limited. But there are a big negative impact on fresh agricultural products such as vegetables and fruits in short term.

<table>
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<tbody>
<tr>
<td>- The overall situation of economic and social development is stable.</td>
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<tr>
<td>- The resumption of work and production is accelerated. Schools are re-opened gradually.</td>
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<tr>
<td>- China's production and supply have gradually returned to normal</td>
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II. Analysis of the impact of the epidemic on seed trade and movement
新冠疫情对种子贸易和流通的影响分析（3/4）

The Impact on China Seed Industry

R&D Activities
- Breeders and staff could not go back to breeding stations to observe the trials due to restriction on travel
- Investment maybe reduce by sales decline

Seed Testing
- Slow down in seed testing as personnel responsible for testing seeds could not return to the lab
- Sample seeds overstocked to be tested due to spring festival and delayed resumption of work

Seed Production
- Production plan was difficult to determine due to uncertainty of sales volume
- Stock seeds could not be delivered to the production base
- Seed Quality is difficult to be controlled and monitored due to lack of technical personnel
- Labor shortage

Seed Sales
- Logistics and transportation was the biggest problem, and seeds could not be delivered to farmer’s hand
- Face to face on site sales promotion stopped
- The decrease in sales revenue leads to lack of cash flow and financial crisis for SME

Seed Import and Export
- No great impact on seed trade in Q1. Total import and export value was USD140m, down by 7.2%
- Import down by 11.5%, export up by 1.9%
- MARA accepted online application for im/ex permit
- Difficult to book air cargo space due to lack of international flights
- The cost of air transportation increased greatly
- Slow down in customs clearance and cargo congestion at port
II. Analysis of the impact of the epidemic on seed trade and movement
新冠疫情对种子贸易和流通的影响分析（4/4）

The Impact on China Seed Industry2  疫情对中国种业的影响2

Changes in work and communication
- Work from home
- Sales promotion move from offline to online
- Virtual meeting gets popular

Spring sowing and food security
- There is no impact on spring sowing production and food security is guaranteed
- China's grain output has increased year by year with large reserves.
III. Suggestions for Ensuring Smooth Global and Regional Seed Trade
确保全球和地区种子贸易顺利进行的建议（1/2）

RESPONDING TO THE COVID-19 PANDEMIC WITH OPEN AND PREDICTABLE TRADE IN AGRICULTURAL AND FOOD PRODUCTS
- Not impose agriculture export restrictions
- Not to refrain from implementing unjustified trade barriers on agriculture and agri-food products and key agricultural production inputs.

Guidance to NPPOs for Mitigating Impacts of COVID-19 Crisis on Plant Health from the CPM Bureau and the IPPC Secretariat
- Ensure the continued supply of food with practicing certain flexibility
- Accepting phytosanitary certificates via different mechanisms
- Implement effective equivalent phytosanitary measure

Movement of Seed Under The COVID-19 Crisis
- Facilitate the international movement of seed
- Not to impose restrictive measures
- Seed companies will take all necessary measures to guarantee the health and safety of workers who are involved in the shipment of seed.

Feeding Asia in a Crisis: Guarding Against the Unintended Consequences of COVID-19 Containment
- ensuring the uninterrupted and timely transboundary movement of crop protection products and seeds
- enable farmers to grow safe and nutritious food is more critical than ever before.
III. Suggestions for ensuring smooth global and regional seed trade
确保全球和地区种子贸易顺利进行的建议

Prioritize to restore circulation of agricultural production materials, eliminate trade barriers and maintain the stability of the int’l agricultural products market and seed trade.
优先恢复生产物资的流通，消除贸易壁垒，保持国际农产品市场和种子贸易稳定

- Streamline procedures
  简化审批和通关手续
- Ensure the supply of quality seeds
  确保作物种子供给
- Fair and just seed trade
  公平公正的种子贸易
- Phytosanitary cooperation
  (E-phyto)检疫合作
- Information sharing and cooperation
  加强信息分享与合作
- Agricultural stimulus package to support SME
  小企业扶持
- Online business model
  在线商务模式
IV. Post Covid-19 Scenario/Prospect (seed trade and movement)
新冠疫情后的展望（种子贸易和流通）

Global Prospect 全球展望
- uncertainty of the epidemic situation 疫情的不确定性和
- Decline of the global economy (WTO/IMF) 全球经济下滑

Seed Industry 种业
Seed trade and movement face challenges and changes
种子贸易与流通面临挑战与变化

- Recovery of market demand and global seed trade needs some time
- It will take some time to eliminate negative impact on global seeds trade depending on the epidemic control situation in each countries
- New working way by using virtual meeting and tele-communication will become normal
- Innovative business model including E-commerce with online sales promotion, digital agriculture integrated with 5G, big data and other info technology will be accelerated
- For food security reason, application of biotechnology and PBI will be accelerated to explore new trait with pest and disease resistance.
- Should call all countries to ensure the stability and smooth flow of the global supply chain to facilitate seed movement.
Virus has no national boundaries, so solidarity and cooperation is imperative.

病毒没有国界，团结合作势在必行

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Thank You
Impact of CoVid-19 on Seed Trade

On-Line Seminar

Salman Aziz Khan

Seed Association of Pakistan (SAP)
Agenda

1. Overview of seed trade and brief introduction about seed trade and relevant policy
2. Analysis of the impact of the epidemic on seed trade and movement
3. Suggestions for ensuring smooth global and regional seed trade
4. Post CoVid-19 scenario/prospect (seed trade and movement)
Agriculture in Pakistan

- Pakistan is among the world’s top producer of rice, wheat, cotton, sugar cane, mango and oranges

- Agriculture is the mainstay of Pakistan’s economy

- It contributes 19 per cent to the country’s GDP and employs 39 per cent of the labor force

- Major crops (cotton, wheat, rice, maize and sugar cane, vegetables) contribute 4 per cent and minor crops add 2 per cent to GDP
Seed Availability Pre-Pandemic

Seed Availability - Pakistan (2018-19)

- Production (Metric Tons)
  - Local Production: 543,094
    - Private Sector: (91.03%)
    - Public Sector: (08.97%)
  - Imported: 31,783
  - TOTAL: 577,877

Source: Economic Survey of Pakistan 2019
**Seed Supply System**

**SEED SUPPLY SYSTEM**

**FORMAL SYSTEM**
- **PUBLIC SECTOR**
  - Research Institutes develop varieties (Pre Basic & Basic seed)
  - Provincial Seed Corporations (Basic & Certified Seed)
- **PRIVATE SECTOR**
  - National Seed Companies
  - Multinational Companies

**INFORMAL SYSTEM**
- Farmer’s Own Saved Seed
- Farmer to Farmer Exchange
- Seed Purchase from Arthi*

Quality Cover by Federal Seed Certification & Registration Department

*“Arthi” is the local way of referring to the businessmen who act as middlemen in the exchange of crop produce between the farmer/grower and the buyer of that crop and he often hosts the auction process at his shop in the local grain market. The term is derived from “arhati”, which means commission, as the arthi takes commission for his services, usually quoted as the sale price of the crop produce and deducted up front at the time of crop sale.*
Seed Trade Policy

Import Policy

- 2 years adoptability trails are compulsory for Variety / Hybrid enlistment before import
- NO GMO allowed except approved traits
- Cotton, Wheat seed import is restricted
- Import Permit, Seed Analysis, Non GMO Reports are basic documents
- Crop base conditions to fulfill and to declare on Phyto.
Seed Trade Policy

- Top 10 imported Crops: Peral Millets, Paddy, Maize, Potato, Tomato, Cucumber, Watermelon, Onion, Okra

- Top 10 exported crops: Not much exports

- Main trade partners: USA, China, Europe, Thailand, India
Impact of pandemic

- Covid 19 cases – as of May 17, 2020
  - Confirmed Cases 38,799
  - Recovered Cases 10,880
  - Casualties 834

- Current status: Lockdown eased since May 09, 2020

- Marked economic slowdown is now leading to negative GDP growth, as projected by the International Monetary Fund (IMF), the World Bank and the State Bank of Pakistan
Impact of pandemic

- Containment and Control
  - Lockdowns and Designated Quarantine Areas
  - Social Distancing Guidelines
  - SOPs for operating businesses during the pandemic – including operational hours, adequate sanitization etc.
  - Staff rotation
Impact of pandemic

- ECONOMIC IMPACT
  - The COVID-19 impact on the Pakistani economy is estimated to be equivalent to 0.8-1.3% of the GDP
  - Imports are estimated to decrease by 50-60%
  - Exports are estimated to reduce by 10-20%
  - Employment loss is estimated at 20%
  - Economy growth -ve 1.5%
Impact of pandemic

▪ Impact on life
  ▪ Due to lock down, life badly effected, consumption of different products decreased drastically especially closure of restaurants, marriage halls, transportation and limited banking made economical activities very slow.

▪ Impact on seed industry
  ▪ Import of maize and vegetable seed is severely impacted and the shortage has led to increase in prices and also impacted the sowing and crop planning for the upcoming seasons
  ▪ Spring sowing vs food security
    ▪ Spring crop has been deeply impacted due to shortage of seed supply. Procurement of wheat seed has been deeply impacted as well due to several reasons and this may lead to shortage in the wheat seed for the next season.
Impact of Covid 19 on Seed Industry

- What trend and changes the seed industry after outbreak of Covid -19?

  - Home gardening
    - Due to off season, home gardening was not possible

  - Season
    - Unusual and repeated rains has badly effected wheat crop

  - Work style-virtual meeting
    - Working style virtual meetings have been a feature, however some offices have been operating with minimum staff but various factors impact the communications.
Impact of Covid 19 on Seed Industry

▪ What trend and changes the seed industry after outbreak of Covid -19?

▪ Social distancing requirements
  ▪ Protocols for social distancing have been issued however it has been a struggle to maintain it is due several circumstances

▪ Labor Shortages and Limited Operating Timings
  ▪ The pandemic has resulted in limited operational timings for institutions and banks which further restrict several activities
Impact of Covid 19 on Seed Industry

- Lockdown situation has made the movement of 2019 seeds stock extremely difficult
- Restricted Airlines and Freight has created demand and supply issues resulting in increase in prices
- Vegetable seeds are required to be in stock at least 30-45 days prior to the season, in current situation neither exporters nor importers can assure supplies
- Sea freight increased by 20%
Relief Packages to offset economic impact

Pakistan’s economy has weathered many storms in the past and has shown resilience under extreme global situations.

For the economic stimulus the Government has taken following steps:

- Prime Minister has announced Rs1.13 trillion ($7 billion) stimulus package to offer relief to the economy and people during COVID-19.

- Rs280 billion ($1.7 billion) allocated for wheat procurement, around Rs100 billion ($627 million) for deferred payment of loans for small and medium enterprises including Rs56.6 billion package for agriculture sector
Relief Packages to offset economic impact

- The Punjab Government has offered Rs15 billion worth interest-free loans to farmers, crop insurance for 250,000 farmers and 1.2 million sacks of seeds for the next wheat crop.

- One of the biggest relief was Ehsaas Emergency Cash program offering a one-time cash assistance of Rs12,000 each to support 12 million families.

- Rs75 billion allocated for laborers and daily wage earners who lost jobs due to the pandemic.
Suggestions for ensuring smooth global and regional seed trade

▪ Government must engage the seed industry in progressive dialogue to salvage the industry from deepening crisis and absorb the financial operational shock, midterm effects of which shall be apparent within six months.

▪ Short term policy to manage import of seeds which are essential for upcoming seasons in Pakistan because the sowing season for FY 2020-21 is starting from Sept 2020.

▪ Long term planning should focus on facilitation of seed companies to produce quality hybrid seed in Pakistan to decrease the dependence on imports.
An opportunity to reform agriculture sector

Experts believe that COVID-19 is an opportunity for Pakistan to reform the agriculture sector and suggest these measures:

▪ Sustainable agricultural mechanization to improve production, create more jobs (by training and relocating workers) and encourage youth participation. Local production of tractors and other modern equipment should be encouraged while making it available at reasonable price.

▪ Connecting Pakistan’s farming industry with technology, manufacturing, engineering, e-commerce, can offer multitude benefits such as boosting economy, creating jobs and improving lives.
An opportunity to reform agriculture sector

- Government should play a leading role to ensure food security and control price. Directly buying from the farmers and pushing the middleman out of the equation would remove barriers and deter hoarding and corruption.

- Lack of cold storages, proper packaging and food processing capacity is one of the major reasons of food waste. Investment in refrigerated transport and cold storages for food items as well as silos for grains for preservation.

- Introduce special industrial zones in every farm district, equipped with cold storages, food-processing units, connected with retail chains and export industries. Tax free zones, provision of basic utilities and facilitation from setting up food SMEs to exports can attract expat investors.
An opportunity to reform agriculture sector

- Most farmers feel secure growing traditional cash crops (wheat, sugar cane, rice). However, diversification of products such as canned mangoes, cherry jams, dried fruits juices, jellies, frozen yogurts and even pickles and chutneys can help reduce waste and earn foreign exchange.

- Improving water management is key as the four major crops (rice, wheat, sugar cane and cotton) consume 80 per cent of water but contribute only 5 per cent to GDP.

- Improving the nexus of agriculture, education, training and research and technology.
Post CoVid-19 scenario (seed trade and seed movement)

- Purchase power of farmers will greatly reduced
- Farmers and seed industry will be expecting some relief in taxes and subsidy on seed
- Supply Chain’s increased cost will also effect the market
- Local Seed Production can decrease production cost for farmers and value addition for seed sector
- Viable Seed Movement will be critical factor in success
- Food security and sustainable agriculture
Thank You