COVID-19 Response Report

Agriculture and Wheat Procurement

Initiatives and policy measures by
Government of Punjab

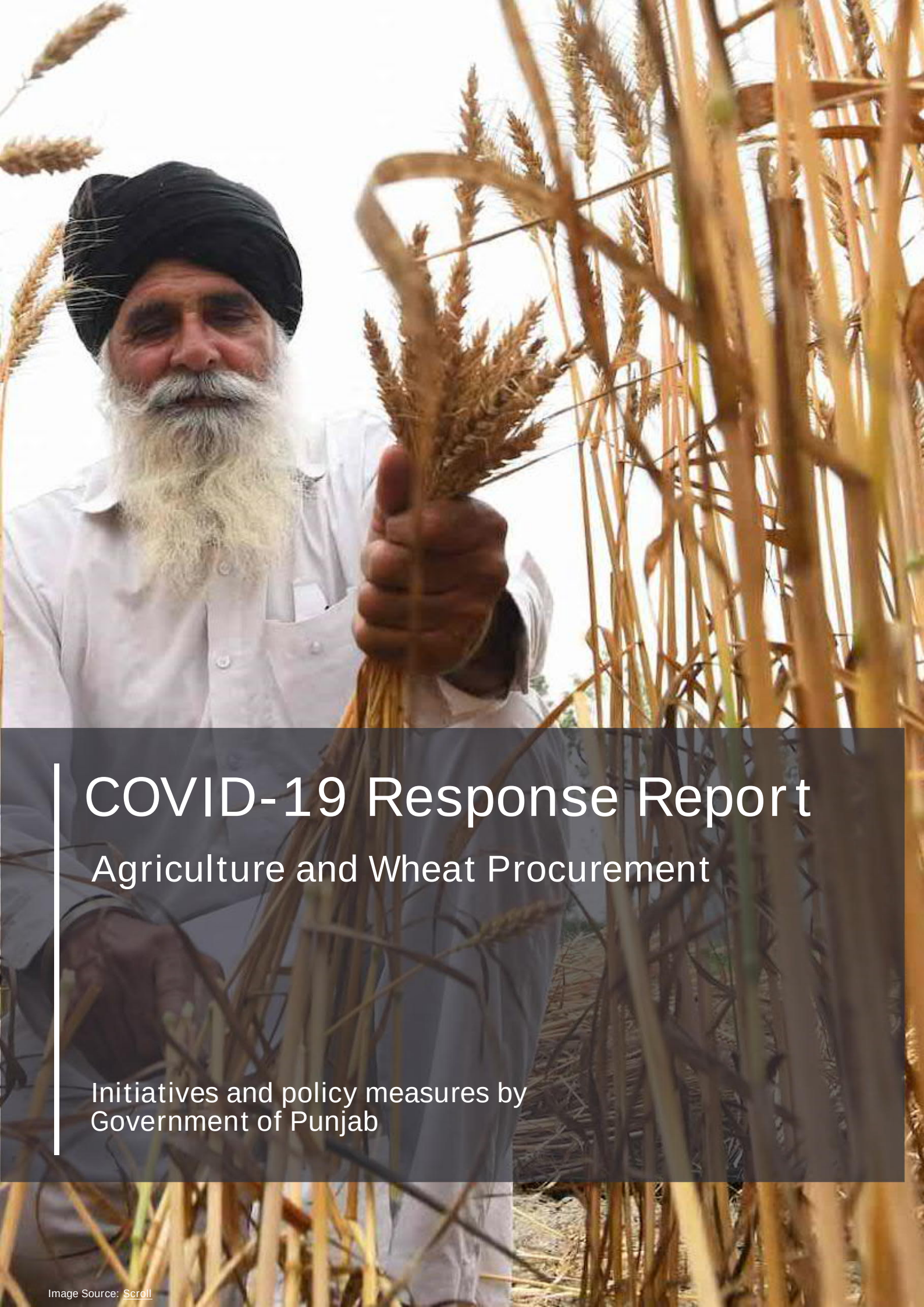

Image Source: Scroll

Foreword

Captain Amarinder Singh

Chief Minister of Punjab

Success in challenging times is defined as much by the agility and proactiveness of response, as by the ability to leverage inherent strengths and grit. It is the way they respond to a crisis, the speed with which they react, and the dexterity with which they adapt to the environment shaped by the challenges, that distinguishes winners from losers.

The unprecedented Covid-19 crisis pushed the limits of the resilience of every individual affected by it. It challenged each of us to draw from the reserves of our capabilities and capacities to deliver success in extraordinary circumstances. It marked a defining moment that will go down in history as a transformational event that changed the way we live and work, across industries, businesses and day-to-day operations. And it brought out the best of the collective will of every section of our people, forcing them to prove their mettle in these tough times.

So did we pass the test? Did we prove ourselves in meeting the demands of the new norms unleashed by the pandemic?

Yes, resoundingly yes. I am proud to say that every Punjabi rose to the occasion to give his/her best. A notable example is our farmers, the Arthiyas and all those officers, men and women who support them in delivering a bumper wheat crop once again to sustain the nation's food security in these critical times.

It could not have been easy, but, standing firm with the government in their commitment to ensure a safe procurement operation, they did it successfully. On behalf of a grateful nation, I salute them. India will look back at this moment with pride, and all of us will learn from these lessons to build a new Punjab, stronger than before.

One of Asia's largest
wheat procurement operations-127+ LMT of wheat procured within 45 days

Zero
cases of coronavirus reported on account of the procurement process

INR 27,000 Crore
infused into the state economy through wheat procurement

17.51 Lakh
Arthiya-Kisan e-passes issued to ensure seamless procurement of wheat

99.6%
wheat procured by Govt procurement agencies

~2200 additional mandis
setup to ensure even spread of arrivals

More than 5 Lakh
people involved in the procurement process

3000+ ex-servicemen
Guardians of Governance (GoG) monitored the procurement operations

1700+ trains
were arranged for transport of ~50 LMT of wheat and rice to the consumer states

List of Abbreviations

ACS(D)	Additional Chief Secretary (Development)
APMC	Agricultural Produce Market Committee
CMM	Council of Ministers Meeting
GoI	Government of India
GoP	Government of Punjab
DGR	Department of Governance Reforms, GoP
FCI	Food Corporation of India
GoGs	Guardians of Governance
KMS	Kharif Marketing Season
LMT	Lakh Metric Tonne
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MSP	Minimum Support Price
PMB	Punjab Mandi Board
RMS	Rabi Marketing Season
DLPC	District Level Procurement committee
MC	Market Committee

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Snapshot

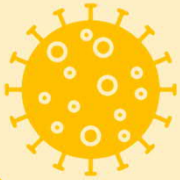
Increased purchase centres[1] from 1820 centres to 4006 centres, that spread the procurement operations across a larger number of mandis that limited the farmer footfall in a mandi and ensured that farmers travelled the least distance from their villages

To maintain social distancing, each mandi yard was divided into 30 ft x 30 ft blocks, which were large enough to accommodate a heap of wheat (upto 90-110 quintals) including its mandi operations

Introduced 'Procurement by Invitation' by issuing Arthiya Kissan Passes that were mandi and date specific. A total of 17.51 lakh such passes were generated and distributed that ensured staggered and uniform arrival of wheat in the mandis

Over 5 lakh people (Farmers, Arthiyas[2], Paledars[3], Health Officials, Procurement Agency officials, Mandi Board Officials, Guardians of Governance[4], Policemen, Truck Drivers, and other Punjab Government officials) worked daily in the mandis observing social distancing protocols

Despite the magnitude of the operations and the threat of the COVID-19 pandemic, the patience, discipline and adherence to the strict health and safety measures during harvesting, procurement and storage of wheat ensured zero COVID-19 cases in the entire process. The government improvisation of the procurement operations with the innovative use of technology, helped in preventing the spread of the disease to villages and to those involved in the procurement process



[1] Purchase centres/ aggregation points (commodity markets): set up and notified by the State Government for the coordination and interaction of the entire agriculture marketing chain. These are also referred to as Mandis.
[2] Arthiya: Commission Agents for farmers. They are licensed by the Punjab Mandi Board
[3] Paledar: Specialised labourers who work in the Mandi operations. They mostly belong to Bihar and UP and are employed by the Arthiyas
[4] Guardians of Governance : Ex-servicemen

Highlights

Unified command and team-work involving all stakeholders in the procurement operation

Transported ~50 LMT of stored food grains in 1771 special trains to the consumer states concurrently during the procurement operations

Regular sanitisation of mandis and optimum supply of masks, sanitizers, soaps and water at all mandis

Digitisation of data to ensure transparency and consistency across all portals

Significantly reduced the time period spent by the farmers in mandis by regulating and streamlining the procurement process

127.67 LMT of wheat procured in 45 days

Timely payments to farmers (mostly within mandated 48 hours of lifting). 100% of offered wheat procured by Govt. procurement agencies (99.6%) and the remaining by Pvt. agencies (0.40%)

Procurement exercise infused about INR 27,000 crore into the state economy

Agricultural Procurement

1.Introduction

Image source: Huffington post

"Strong communities are built around locally grown food. The food we trust to nourish our bodies, farmers and the planet."

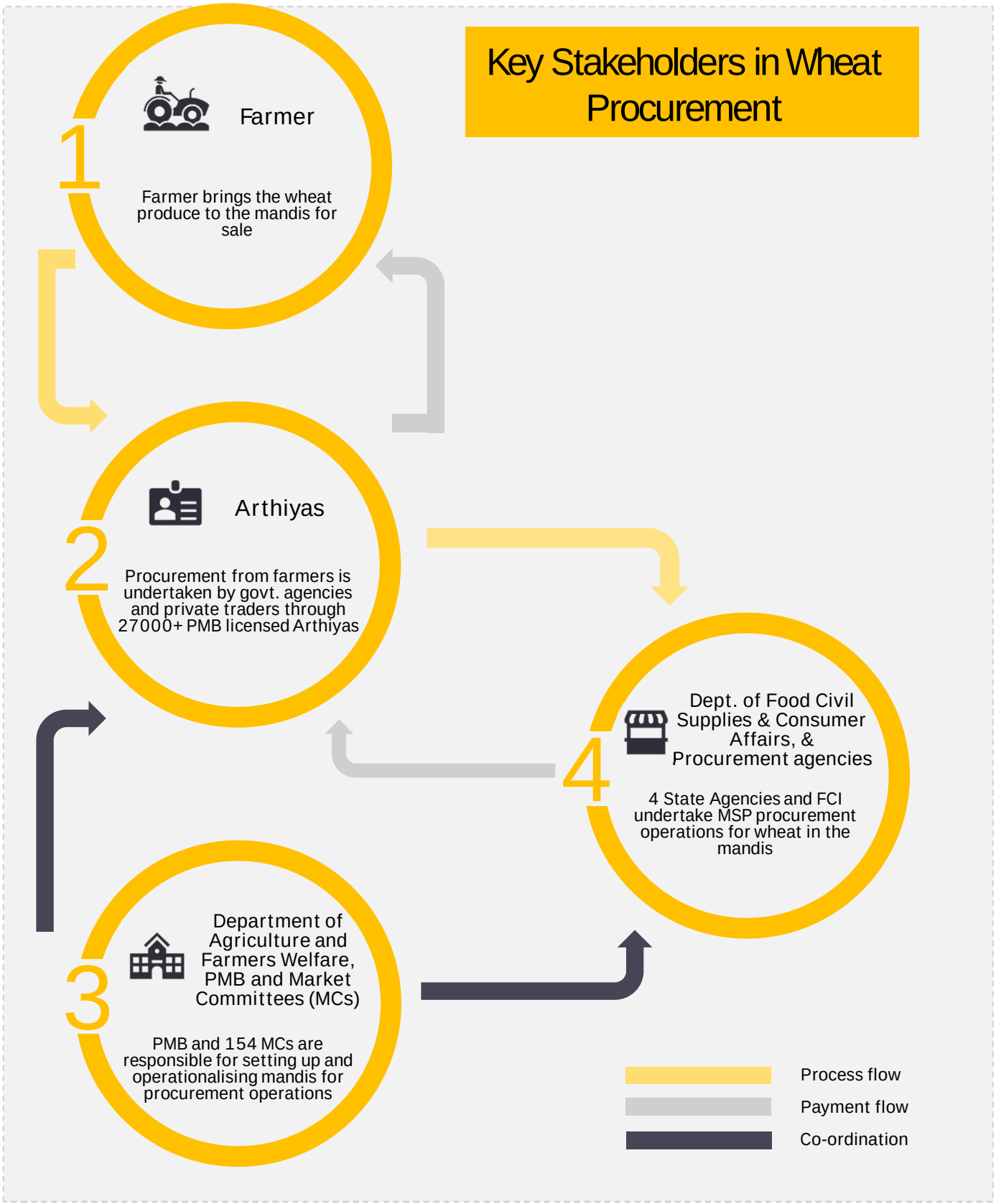
Punjab has long been a key contributor to India's agricultural landscape, providing the country with a much needed degree of food security. Important crops produced in Punjab include rice, wheat, maize, bajra, sugarcane, oilseeds and cotton.

The COVID-19 outbreak in India came mere weeks before the states wheat harvesting season. The procurement and storage of wheat stocks in Punjab amidst a nationwide lockdown and global pandemic, was a complex operation. Much of the state population including farm labourers, farmers, transporters, market men, procurement agencies, State and District Level Administration are involved in the operations from harvesting , transportation, to procurement in the mandis and storage of around 130 LMT grains in the godowns within the state and dispatching it to other states.

In the given window of 40-50 days, procurement is always a mammoth task. In 2020, the onset of COVID-19 made the exercise all the more challenging, but also, more rewarding.

24 Mar'20	28 Mar'20	31 Mar'20	03 Apr'20	04 Apr'20
NDMA issues directives about measures to be taken by states for the Lockdown [1]	Agriculture and Food Committee formed to ensure smooth and proper procurement of wheat [2]	Agriculture and Food Committee approves staggered procurement, use of pass and various COVID-19 protocols [3]	Agriculture and Food Committee proposed rice mills as additional purchase centres / mandis	CMM approves the Agriculture and Food Committee recommendations for procurement by invitation and increase in number of mandis. The mandate was 'Not a single grain in mandis must be left unprocured'

Key Stakeholders in Wheat Procurement



06 Apr'20	10 Apr'20	11 Apr'20	12 Apr'20	15 Apr'20
PMB issued SOPs for all stakeholders to be followed during mandi and storage operations[4]	Department of Agriculture released orders for sanitization of all Combine harvesters entering the state [5]	Wheat Procurement Control room at PMB commences operations	Online system of E-pass distribution goes live [6]	Start of Rabi Marketing Season (RMS) wheat procurement operations

1.1 Detailed procurement process

1

Farmer

In Punjab, GoI provides MSP for the procurement of wheat and paddy through FCI and State Agencies. The finances for carrying out procurement at MSP by the State Procurement Agencies are provided by GoI through Cash Credit Limit authorized by Reserve Bank of India, channelled via State Bank of India led consortium of banks. The FCI arranges its own credit for procurement of its share of the stock.

The farmer's produce is set for sale in the mandi to the private purchasers and government procurement agencies. Procurement at MSP is open ended i.e. all the grains offered by the farmers, within the stipulated procurement period, conform to the quality specifications prescribed by GoI are purchased at MSP by the State Government Procurement agencies and FCI for central pool stocks.

2

Arthiyas
(Commission Agents)

- Arthiyas are licensed and regulated under the APMC Act by PMB. They render service of immediate intermediary and aggregator in the process of procurement
- The procurement of the farmers' wheat and paddy by government agencies or private traders is undertaken at the mandis through Arthiyas, for which they are paid a commission[5] by the buyers, as notified in the APMC Act
- In addition to being the primary support agent for the farmer and facilitating the sale and purchase of wheat and paddy, Arthiyas also provide credit to farmers. They foster direct relationships with farmers, which typically span generations.

Image Source: Indian Express

[5] 2.5% of MSP in case of government procurement of wheat and paddy

3

Department of Agriculture and Farmers Welfare, GoP & PMB and MCs

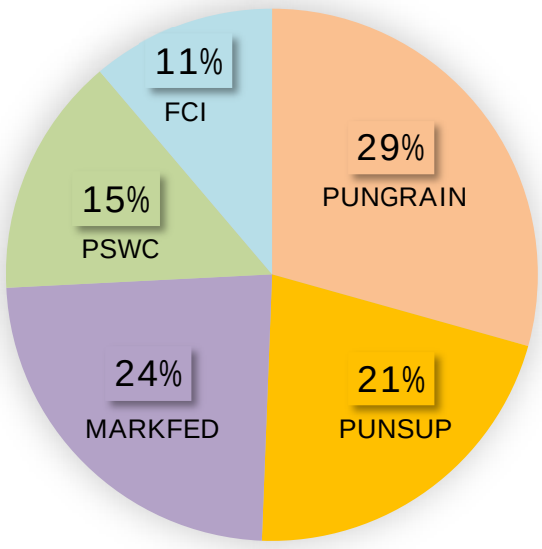
- The Department of Agriculture and Farmers' Welfare, GoP coordinates the cultivation, harvesting of crops and supervises the working of PMB.
- The Punjab Agricultural Produce Markets Act 1961 (PAPMA) mandates establishment of new markets for agricultural produce in the state. This mandate intends to regulate the marketing of agricultural produce, eliminating malpractices prevalent in the trade and provide better facilities and amenities to the farmers for sale/purchase of agricultural produce.
- Under PAPMA, PMB and MCs are responsible for setting up mandis, providing amenities like auction platform, sheds, office building, canteen, roads, electrification, public health services and putting in place procedures to regulate the marketing of agricultural produce.
- PMB has setup 1820 mandis across 22 districts.

4

Dept of Food, Civil Supplies and Consumer Affairs, GoP & Procurement Agencies

- The Department of Food, Civil Supplies and Consumer Affairs, GoP is the nodal agency for coordinating procurement of paddy and wheat, for which it issues State polices. The department also issues policies for custom milling of paddy, transportation and labour.
- The Department also coordinates the sanction of the Cash Credit Limit, supply and availability of gunny bales[6] and stock articles (LDPE covers /tarpaulins, mesh-nets, crates etc.) for procurement of wheat and paddy in the state.
- The State Procurement Agencies and FCI procure wheat at MSP from farmers in the mandi/ temporary purchase centres/ aggregation points (commodity markets) set up and notified by the State Government.
- The State Agencies preserve the wheat stocks under their custody for which they are paid carry–over-charges (COC) by FCI at the time of liquidation/delivery to FCI.
- The procurement and storage of huge quantity of wheat in Punjab, in a short time span, is a unique and complex post harvest operation

% of procurement of State and Central Procurement agencies for RMS 2020-21



- Punjab Grains Procurement Corporation Ltd. (PUNGRAIN)
- Punjab State Civil Supplies Corporation Limited (PUNSUP)
- Punjab State Co-op Supply & Marketing Federation Ltd.(MARKFED)
- Punjab State Warehousing Corporation (PSWC)
- Food Corporation of India (FCI)

[6] A typical gunny bale contains 500 Bags

1.2 Harvesting of wheat and procurement seasons

Rabi Marketing Season and Kharif Marketing Season

- Wheat is procured in the RMS and the procurement period usually starts on 1st April each year and ends on 31th May.
- Paddy is procured in the KMS and the procurement period is usually notified from 1st October to 30th November each year.
- On procurement of wheat and paddy, the payments of MSP, dammi[7], Government Fee, mandi labour charges, transportation charges, etc. are paid through the Agencies to the stakeholders as per GoI cost sheet issued for each procurement season.

[7]Arthiyas commission of 2.5% of MSP is called dammi

Sources of images (counterclockwise): The Hindu, Tribune, Business Standard

2. Harvest, Mandi & Storage Operations of wheat in normal course

[8]Tola, a licensee of PMB is employed by the Arthiya and he undertakes and is responsible for the weighment of the produce sold at auction by the farmer in the mandi.

Image Source: Business Standard

3. Harvest Operations of wheat during COVID19

3.1 Harvesting of wheat during COVID-19

Healthy wheat crop growing in 35 lac hectares promising bumper harvest of 182 LMT was about to ripe when the lockdown was announced. Following steps had to be taken to ensure a timely and safe harvest:

- Ensuring return of harvesters: At the time of the lockdown, a large number of combine harvesters were operating in other states, and got stuck there due to the lockdown. Therefore, Department of Agriculture worked proactively to facilitate the return of these harvesters to Punjab. For this purpose, a dedicated group of officers was constituted in the department, headed by the Joint Director. A Helpline was also set up for this purpose.
- Sanitization: Systems were set up for sanitization of combine harvesters and straw reapers with Sodium Hypochlorite solution.
- Tracking: Detailed guidelines were issued to ensure tracking, screening and supervision of all combine harvesters operating in Punjab. It was ensured that they all download and use COVA APP.
- Accommodation outside villages: Combine operators and workers were instructed to ensure that they stay and live in fields outside the village and follow Covid-19 prevention guidelines of maintaining social distancing, wearing masks and washing/ sanitizing hands.
- Medical check up: Screening of workers on the harvesters was ensured. Medical check up of inter-state and inter-district moving combine operators were ensured prior to commencement of daily work.
- Social audit: Department teams were constituted to conduct social audits in mandis to enforce social distancing, ensure that people wear face masks and wash hands regularly.
- Monitoring access through passes: In order to monitor access to locations for harvesting, passes were issued to combine operators by the Department.

Sanitization of combine harvesters at State borders

Routine sanitization of combine harvesters in farm fields (Top and bottom picture)

Social audit of Covid-19 prevention measures such as social distancing, sanitization and ensuring people wear masks in the mandis

4. Process enabled in mandis for RMS 2020-21 wheat procurement during COVID-19 outbreak

All mandi operations have unique challenges, however the RMS 2020-21 wheat procurement season came with constraints of COVID-19 protocols, curfew in the state that restricted movement, and necessity of maintaining social distancing. In view of these constraints, and to ensure health and safely of all, novel mechanisms had to be developed and deployed.

The following steps helped in the execution of wheat procurement operations that ensured zero COVID-19 cases due to the process.

4.1	Procurement by Invitation through Arthiya-Kisan e-pass
4.2	Reconfiguration of mandi capacity by demarcation of 30 ft x 30 ft blocks on the mandi yard
4.3	Increase in number of mandis in RMS 2020-21 procurement
4.4	Dedicated Wheat Procurement Control Room to assist and manage the operations
4.5	Measures undertaken by Agriculture and Food Committee

Image Source: Indian Express

Box 1: Payment to farmers for produce sold in the mandis during COVID

- Government of Punjab introduced Agriculture Produce Markets Rules 2020 to ensure electronic payments by the purchaser to the Arthiya within 48 hours of purchase and by the Arthiya to farmer within 48 hours of receipt of funds.
- Arthiyas continue to get their commission of 2.5 % [9] but are now required to electronically transfer to the farmers' account full purchase amount (i.e MSP amount in case of government agencies), deducting only the labour costs spent on unloading and cleaning of wheat of the farmer.

Cartoon by Shallu Narula

4.1. Generation and delivery of Arthiya- Kisan Passes

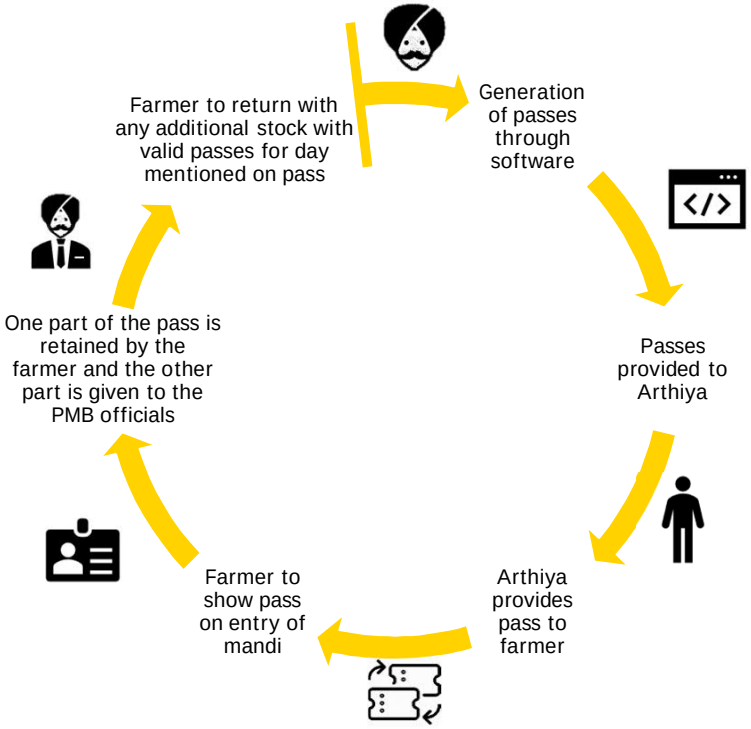
Background

The PMB's Market Committees generated the Arthiya Kisan passes and delivered these to the named Arthiyas who would further deliver it to farmers.

As the state was in a lockdown and under curfew, the Arthiya Kisan pass was a permit for the farmer to transport wheat from village/farm to the specific mandi on specified date mentioned on the pass. The farmer would also use the pass for travelling back from mandi to the village.

Arthiya Kisan e-pass with hologram

Process of procurement being regulated through e-passes



Standard parameter used in Procurement by Invitation
1 Pass = 1 trolley = 1 block in mandi yard

Features of the Arthiya-Kisan Pass

- The pass was issued in the name of the Arthiya basis their trading in yesteryears.
- The pass was embossed with a hologram/QR Code and a unique pass number in order to avoid duplication and misuse
- The pass was divided in two parts – one to be retained by the farmer and the other part on arrival at the mandi was handed over to PMB official
- Unused passes would expire
- Passes were initially generated and distributed to the Arthiya 72 hours prior to the date of arrival mentioned on the pass itself. To ensure social distancing, this 72 hour timeframe was reduced to 24 hrs to effectively coordinate the pass generation with lifting of sold produce.
- Any forgery or tampering of the pass was subject to legal action. No photo copy of the pass was to be entertained for entry into the mandi.

Managing the number of passes

Traffic in mandi was restricted by controlling the incoming load, as only one trolley was allowed with one Arthiya-Kissan pass. During the first three days of the procurement season, the daily passes were limited to a third of the total number of 30ft x 30ft blocks in a mandi. Once a pass was issued and used, it was expected that the block would be utilised and emptied (wheat sold & lifted) in 48-72Hrs. Thereafter, PMB released passes every day equivalent to availability of empty blocks in the mandis to maintain social distancing during mandi operations. Passes were moderated as below:

1. Number of passes issued on 15th and 16th April 2020: Software generated passes as per Arthiya capacity. It issued minimum of 5 passes and in multiples of 5 thereafter, depending upon Arthiya capacity
2. Passes issued from 17th April to 24th April 2020: To ensure that all Arthiyas got passes, the system of issuing passes was changed to minimum of 5 passes to all available Arthiyas irrespective of capacity.
3. Passes issued 24th April 2020 onwards: During first 5 days of a week, passes were issued as per Arthiya capacity and for the remaining days of the week, passes were issued to all Arthiyas specially those who hadn't received passes during the initial 5 days of the week.
4. Fag end: The issuance of minimum passes was reduced from 5 to 2 per Arthiya

4.1.1 Development of Software for Arthiya-Kisan Passes

Punjab has a vast and well established mandi infrastructure, that handles during each season about 120-130LMT wheat and 170-180 LMT Paddy arrivals, with a well entrenched Arthiya-Farmer system. The parameters for developing a procurement strategy were unique amidst the ongoing pandemic, thus the innovation (change from 'Procurement by Will' to 'Procurement by Invitation') had to be unique in itself as well. Key features:-

- An algorithm based online tool was developed to generate online passes (limiting human intervention/interference) based on PMB's historical data. Net gain/loss factor was calculated which was adjusted in the next day's allotment. i.e. the Arthiya who failed to get any allotment or got less than his entitlement for the day, was given priority allotment the succeeding day. The allotted passes were deducted from the balance capacity of the Arthiya.
- Previous year's trade was taken as a base to estimate the current year's capacity of the Procurement Centre and Arthiya, respectively.
- Each MC was given web-portal access to generate passes. All passes for the day were to be generated in a single attempt as per the ratio calculated by the system on the bases of Arthiya capacity.
- MC, on the basis of empty blocks in the mandi (while considering social distancing norms) generate the number of passes to be issued for the day for a mandi.

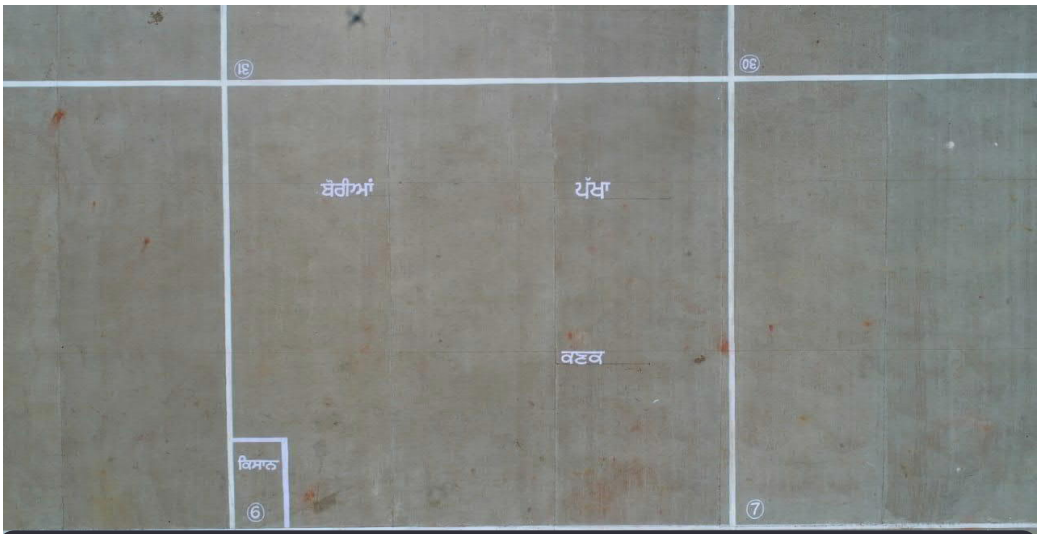
4.1.2 Challenges anticipated and resolved

Challenge 1	Resolution to Challenge 1
Limiting quantity of wheat to be allowed at each mandi	• Optimum requirement for a heap of wheat and its mandi operations was calculated and blocks of 30ft x 30ft were drawn on mandi yards. These blocks automatically reduced the optimum mandi capacity (calculated as per the no. of blocks in its yard). • Limited arrivals ensured that the mandi was not overflowing with wheat at any time during the process
Challenge 2	**Resolution to Challenge 2**
Calculating Arthiya capacity to issue passes	Arthiya Capacity: As the Arthiya-Kisan pass had to be issued in the name of the Arthiya, an objective and fair formula was devised to calculate the Arthiya Capacity, as follows: • Arthiya's RMS 2019-20 business calculated at 100% or • Arthiya's KMS 2019-20 business calculated at 60%. • New Arthiya licensees or Arthiya who had not worked in the RMS/ KMS 2019-20 were also allowed to operate but with much reduced Arthiya capacity
Challenge 3	**Resolution to Challenge 3**
Digitization of Data & limited IT proficiency of staff	Based on the collected data, the software automatically generated the requisite number of passes each day for each centre in the names of the Arthiyas, calculated on the basis of Arthiya capacity. The PMB sought assistance of Sevakendra employees and took onboard 310 data entry operators at MCs to assist with managing and implementing the Arthiya-Kisan pass software. This helped in tiding over the staff shortage.

4.2 Reconfiguration of mandi capacity by demarcation of 30ft x 30ft blocks on the mandi yard

1	2	3
Marking blocks of 30ftx30ft	**Mandi Capacity calculation**	**Mandi traffic control**
To ensure social distancing during the mandi operation, considering the most substantial truckload would be 80-90Qtl, PMB calculated and fixed the block size at 30ft x 30ft- sufficient for mandi operation of ~110Qtl of wheat. This marking of 30ft x 30ft blocks was done on the yards of all purchase centres	The spatial capacity of each mandi for the operational activities of unloading, cleaning, auction, weighment and storage ahead of lifting was calculated by the PMB on the basis of no of blocks of 30ft x 30ft drawn on the yard of the mandi	Traffic in mandi was restricted by controlling the incoming load, as only one trolley was allowed with one Arthiya-Kissan pass. Passes for first three days were limited to one-third of the total number of blocks in a mandi. Once a pass was issued and used, it was expected that the block will be utilised and emptied in 48-72Hrs. Thereafter, PMB released passes every day as per the availability of empty blocks to maintain social distancing during mandi operations

The blocks effectively reduced the optimum capacity of mandis thereby ensuring social distancing. Across the mandis there were a total of 2,57,847 blocks (excluding rice mills)



30ft x 30ft boxes were optimum to accommodate 90-110 qtls wheat including all mandi operation associated with it. The blocks had provisions and markings for various mandi operations.

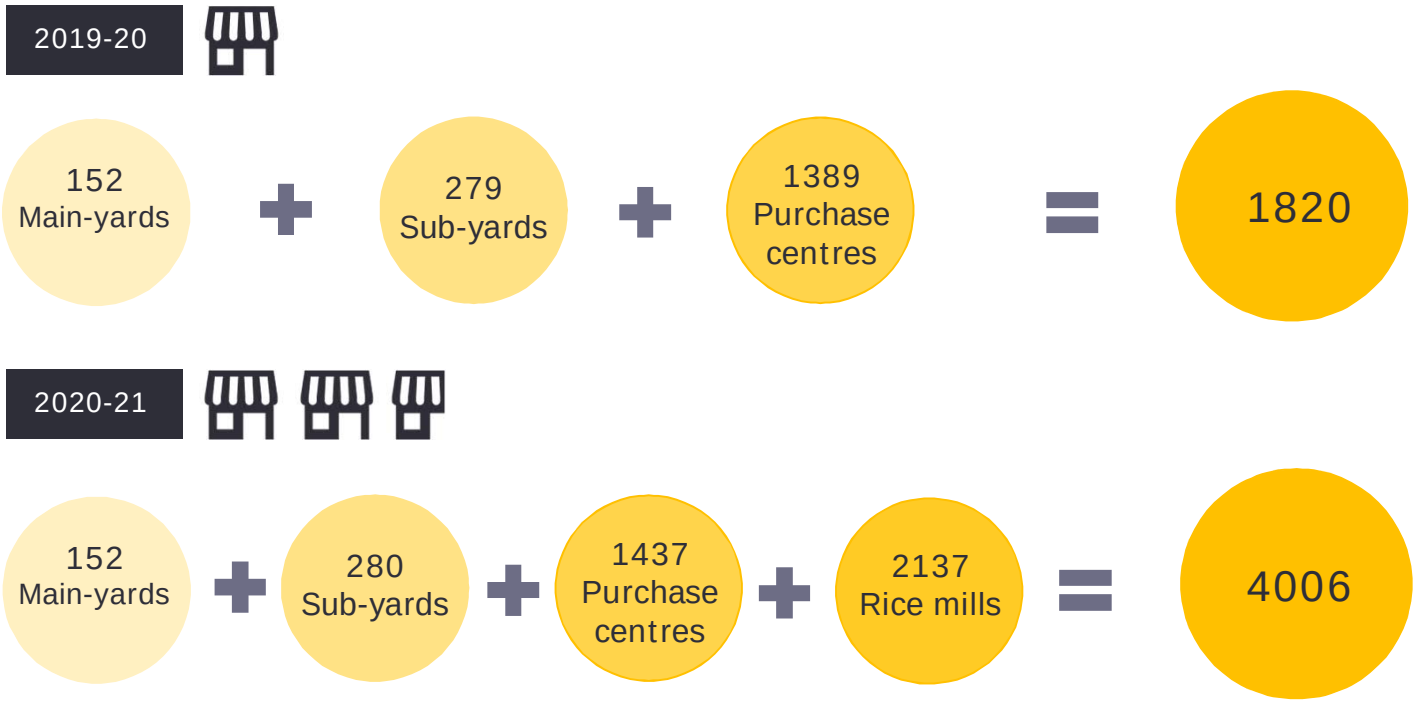
Box 2: Farmer's experience

Farmer Parshotam Singh Mahal, from village Mahlan Jhalian, who came to sell his produce in District Rupnagar mandi on 16th April 2020, shared the following experience:

1. He received the e-pass one evening before the mandi visit
2. He was given arrival time of 8am, which he adhered to
3. He was asked to bring dry produce
4. Within 15-20 minutes of his entry into the mandi, the labour started assisting in offloading the produce
5. Sanitisers were available at entry and with Arthiyas
6. Social distancing was maintained

Hear what he has to say

4.3 Increase in mandis in RMS 2020-21



In view of the pandemic, it was imperative that wheat arrival at all the purchase points of PMB must be well-regulated so that the wheat arrival was evenly spread across the RMS 2020-21 procurement season i.e. at any given time the mandis should not be overflowing with wheat arrivals.

To ensure the protocol of social distancing it was necessary to limit the farmer footfall in a mandi and also ensure that the farmer travels the least distance from his village.

Accordingly, mandis for sale of wheat were increased from the traditional 1820, with the identification and notification of the available rice mills and additional focal points. All the basic facilities related to drinking water, sanitation, electricity and manpower were put into place across various centres, as indicated above.

4.4 Wheat procurement control room

As a novel and unique IT based procurement exercise (changed from "by farmers will" to "Procurement by invitation") was being implemented amidst COVID-19, Arthiyas and farmers were justifiably apprehensive. In view of the lockdown, it was crucial to ensure that correct information was disseminated via social media and tele-calls to all the stakeholders.

The PMB set up a 30 member Wheat procurement control room, under the supervision of senior and experienced officers of the organization, which was made functional from 11th April 2020 onwards. Initially, the control room was flooded with queries for the first two days, however, working on a well defined path, the IT software and procedures stabilized, that reflected in the decline in queries directed to the Control Room.

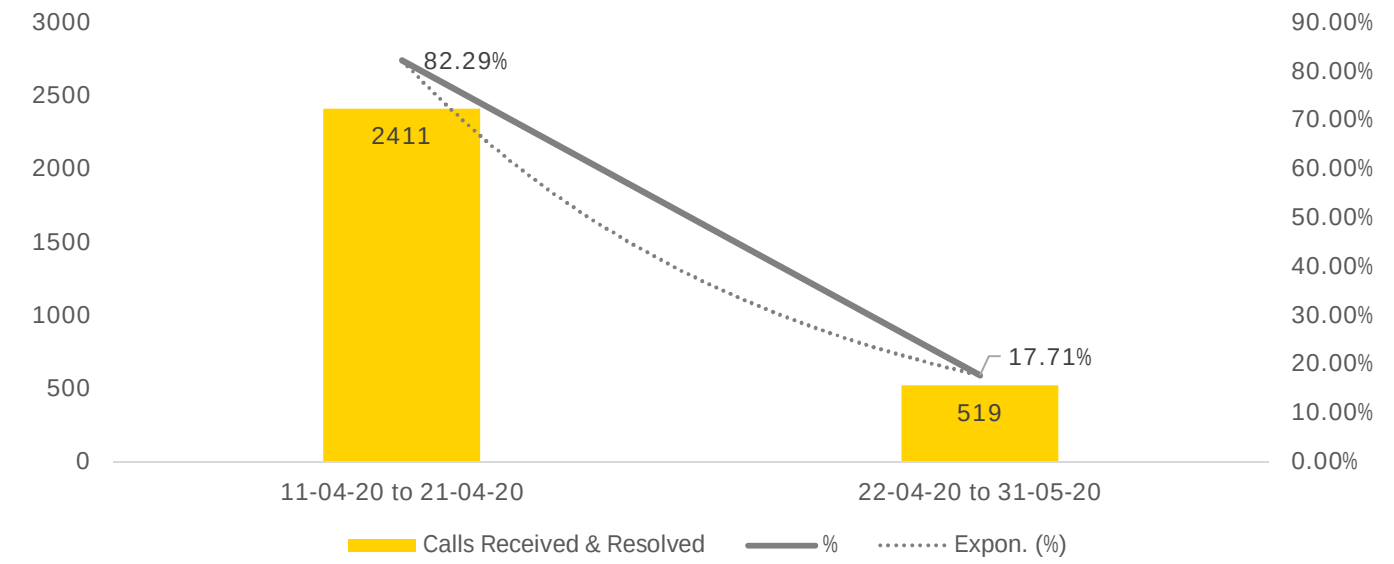
Wheat procurement control room - Mohali office

Helpline numbers of Control Room

- A wheat procurement control room was set up at the PMB office at SAS Nagar, with a 30 member team, dedicating one line and a operator to each of the 22 districts. The control room was operational from 7am to 8 pm daily.
- Queries were targeted to be resolved within 4 hours, and in any case before the end of the day.
- Helpline numbers for each district in the State were assigned and publicised in the media.
- Public awareness and promotion of the helpline facility was handled through print and digital media.

- The control room was designed to be the fulcrum of the procurement process, providing information to all stake holders, so as to familiarize them with the newly introduced 'Procurement by Invitation' system and the online generation and distribution of Arthiya Kisan Passes. It also served as a means of receiving grievances from the districts and addressing them in real time.
- The success of the control room operation can be attributed to the 100 percent resolution of all complaints in a timely manner.

Calls received and resolved by the control room



4.5 Other measures undertaken by Agriculture and Food Committee

All mandi operations have unique challenges, however the RMS 2020-21 wheat procurement season came with constrains of COVID-19 protocols, curfew in the state that restricted movement, and necessity of maintaining social distancing.

In view of these constraints, and to ensure health and safely of all, novel mechanisms had to be developed and deployed.

Agriculture and Food Committee (Constituted on 28th March 2020)

The mandate of the committee was to focus and ensure smooth procurement of wheat in a regulated manner.

Members

Chairperson

- Additional Chief Secretary (Development)

Members

- Principal Secretary-Food
- Secretary Agriculture
- Director Food
- SPA MDs
- Secretary Mandi Board (Member-Convenor)

Protocols issued

- Regulation of wheat transport by the farmers to the mandis
- Increase in the number of mandis by recommending notification of rice mills as purchase centres
- Issue of Standard Operating Procedures and COVID-19 protocols to be followed by all stakeholders
- Introduction of Procurement by Invitation through Arthiya-Kisan pass system on the basis of the RMS/KMS 2019-20 business
- The generation of passes online at the MC level and the delivery of passes to farmers by Arthiyas
- Regular social audit of all facilities at mandi to be conducted

Image source: Sify

PMB ensured sanitisation and safety through:-

- Foot-operated 1,124 handwash stations (500 litre capacity) installed in the mandis with adequate water and liquid soap
- 35,000 litres of sanitizer made available and used during procurement operation
- 1.5 Lakh 3 ply and 9000 N-95 masks distributed in the mandis
- 200 First-aid medical kits, medical supplies and 18,000 sanitizer bottles made available in mandis
- Fumigation of mandis undertaken at regular intervals (12.65 Lakh litres of Sodium hypochlorite used)
- Holograms for passes (Arthiya-Kisan Pass and mandi Pass) -20 Lakh arranged and used

4.6 Flattening of the arrival curve to prevent crowding in mandis

During the regular RMS procurement season, 120-130 LMT wheat is procured over a period of 40-50 days with peak day arrival in mandis of about 11-12LMT. This scale of arrivals has always led to mandis overflowing with unlifted and unsold wheat for weeks together during the wheat procurement season.
However in the RMS 2020-21 procurement, with the increase in number of mandis and introduction of passes i.e. 'Procurement by Invitation', the wheat arrivals in the mandis stabilized during the peak days to around 6-7 LMT daily i.e. the arrival curve remained flat during the entire season without any spikes. The streamlined lifting of the procured wheat and adequate labour arrangements during the season ensured that there was no glut in the mandis .

THE TIMES OF INDIA

'Asia's largest wheat procurement' operation over: Punjab CM Amarinder Singh

TNN | Jun 1, 2020, 04.48 AM IST

CHANDIGARH: After "successful" procurement of 128 lakh metric tonne (LMT) of wheat, Asia's largest wheat procurement operations, despite the Covid-19 challenge, Punjab chief minister Amarinder Singh on Sunday lauded farmers, arhtiyas, labourers and all government agencies.

The chief minister complimented the departments of agriculture and food and civil supplies, along with their agencies, including Markfed, Punjab State Warehousing Corporation, Punsup, as well as the FCI.

No crowding in Asia's largest mandi, arrivals staggered

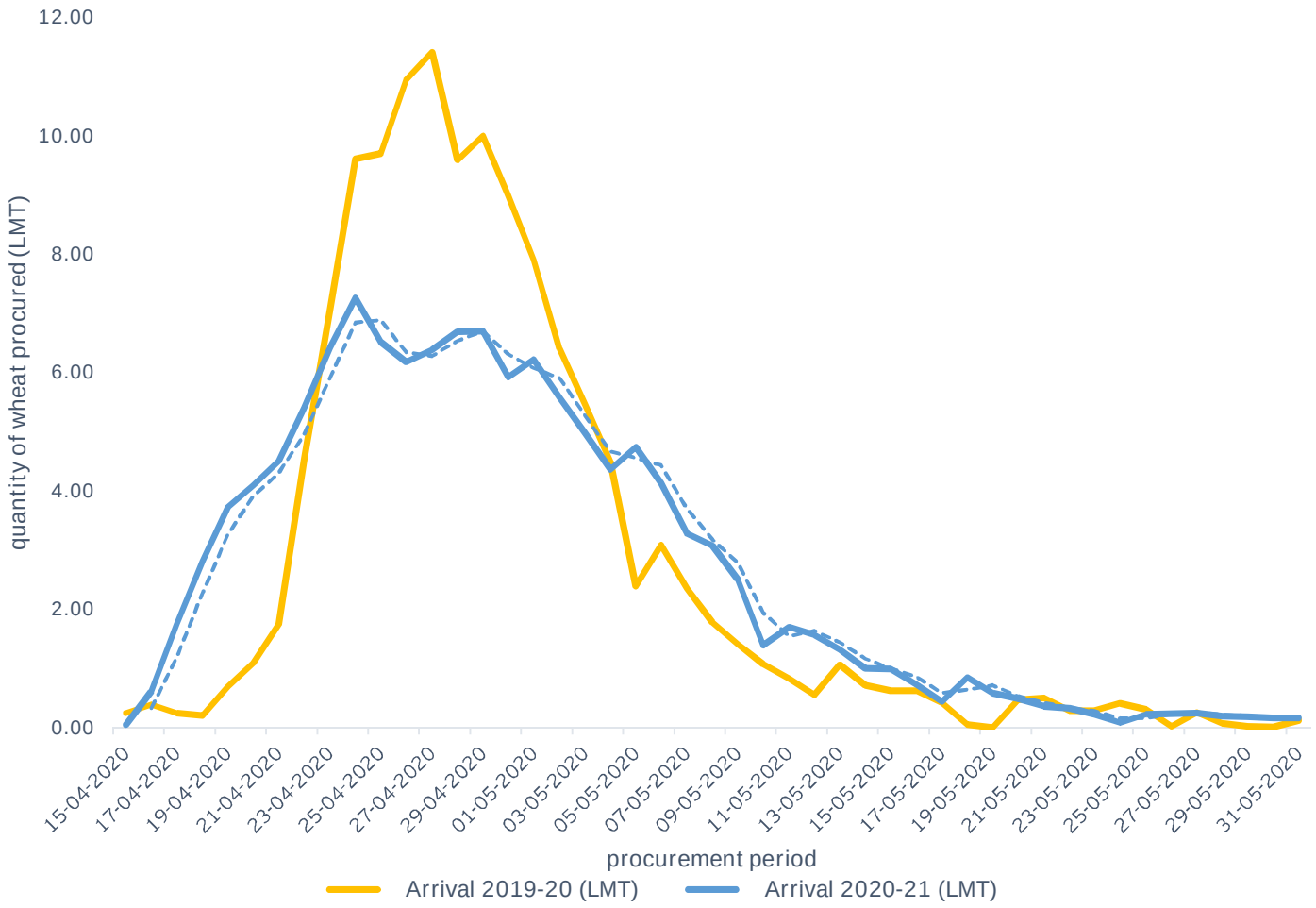
27.32 LMT grain procured so far against 12.57 LMT last year

GURMINDER SINGH GREWAL

KHANNA, APRIL 23

The purchase of wheat at Asia's largest grain market is going on smoothly. There is no rush or glut since limited coupons are being issued on a daily basis and because pur-

Flattening of the arrival curve of wheat in mandis for 2020-21 vis-a-vis 2019-20



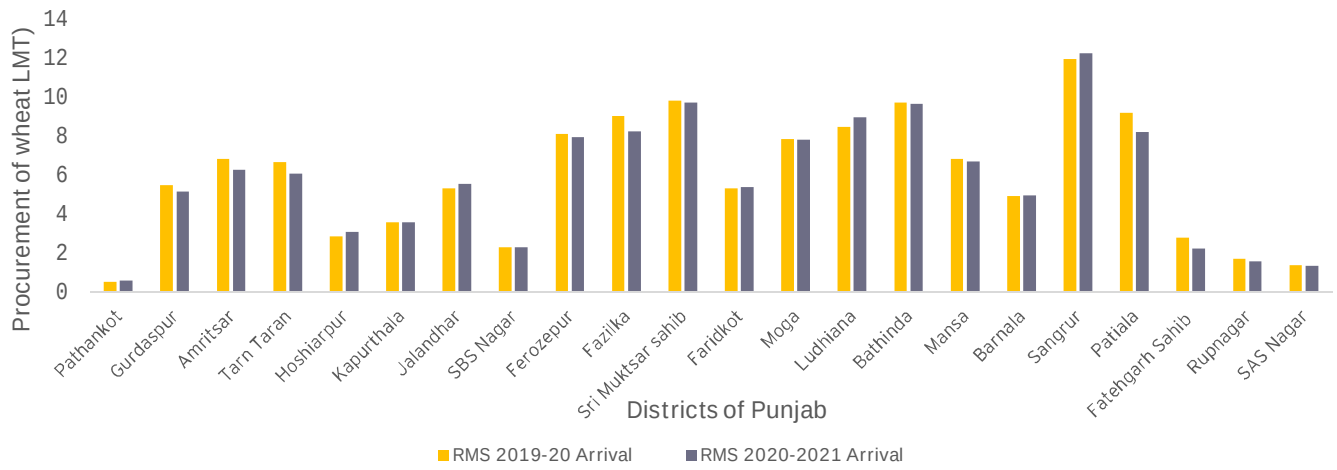
4.7 Procurement comparison 2019-20 vs. 2020-2021

A comparative study of the RMS 2019-20 vs 2020-21 reveals that the current year wheat arrivals in the mandi were about 2.3% less. This difference is attributed to:

- Untimely rains and hailstorms at the height of harvesting season that hit the ripe wheat crop in the State especially - Patiala, Rupnagar, Fatehgarh Sahib and SAS Nagar districts in April 2020 leading to shrivelling of grains, thereby affecting the total yield
- The Punjab farmers, known for their philanthropy, donated large quantities of wheat to community kitchens of various religious shrines, NGOs and other philanthropic bodies which are involved in helping the poor.

Despite the onset of COVID-19 and the climate challenges during the harvesting season, the Government was able to ensure a record procurement of 127.67 LMT.

District wise procurement comparison 2019-2020 vs 2020-2021



hindustantimes

Punjab farmers give 50,000 tonne grain in charity to shrines during lockdown

Golden Temple langar got 3,650 tonne wheat of a total of 6,260 tonnes SGPC-run gurdwaras received since April 15 when harvesting began in state

Of the 6,260 tonne grain the Shiromani Gurdwara Parbandhak Committee (SGPC)-run gurdwaras received during the same period, the Sri Guru Ram Das langar in the Golden Temple, Amritsar, got 3,650 tonne in charity against 1,600 tonne last year.(HT Photo)

Updated: Jun 03, 2020 23:32 IST

Source: HT

Despite rainfall and various constraints, total procurement in the state went down by just 2% in comparison with last year.

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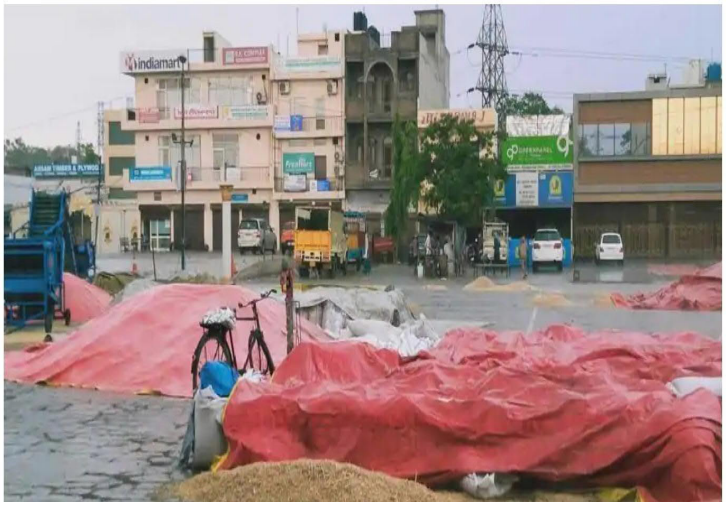
Rain adds to Punjab farmers' woes amid Covid-19 crisis

Already grappling with acute labour shortage, farmers suffer as rain damages their standing crop as well as produce kept in the grain market.

CITIES Updated: Apr 20, 2020 19:54 IST



Source: HT

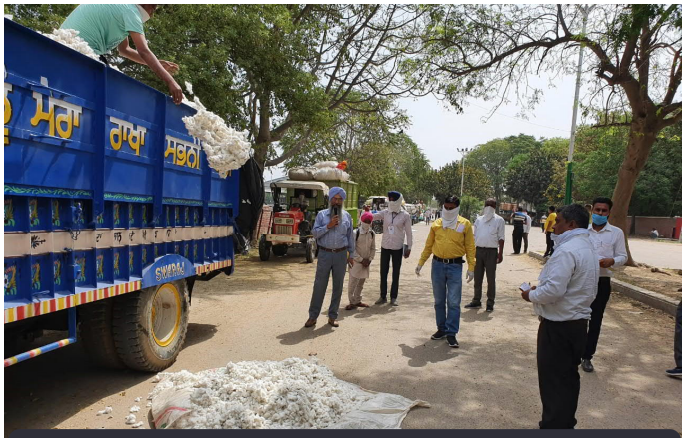
5. Procurement of cotton, and sale/ purchase of vegetables & fruits in wholesale mandis

Despite the struggles of pandemic and the challenging RMS 2020-21 wheat procurement, the government during this procurement period ensured that sale/purchase in mandis of other agricultural products continued smoothly.

During the wheat procurement season PMB was able to successfully undertake the procurement of optimal quantities of cotton in the mandis, and sale/ purchase of vegetables & fruits in the wholesale mandis of the State

Cotton procurement during wheat procurement season

- Cotton arrival and procurement was carried out in 9 mandis across 4 districts in the State
- Quantity transacted/procured: 5.70 LMT (value: INR 307.80 crore)



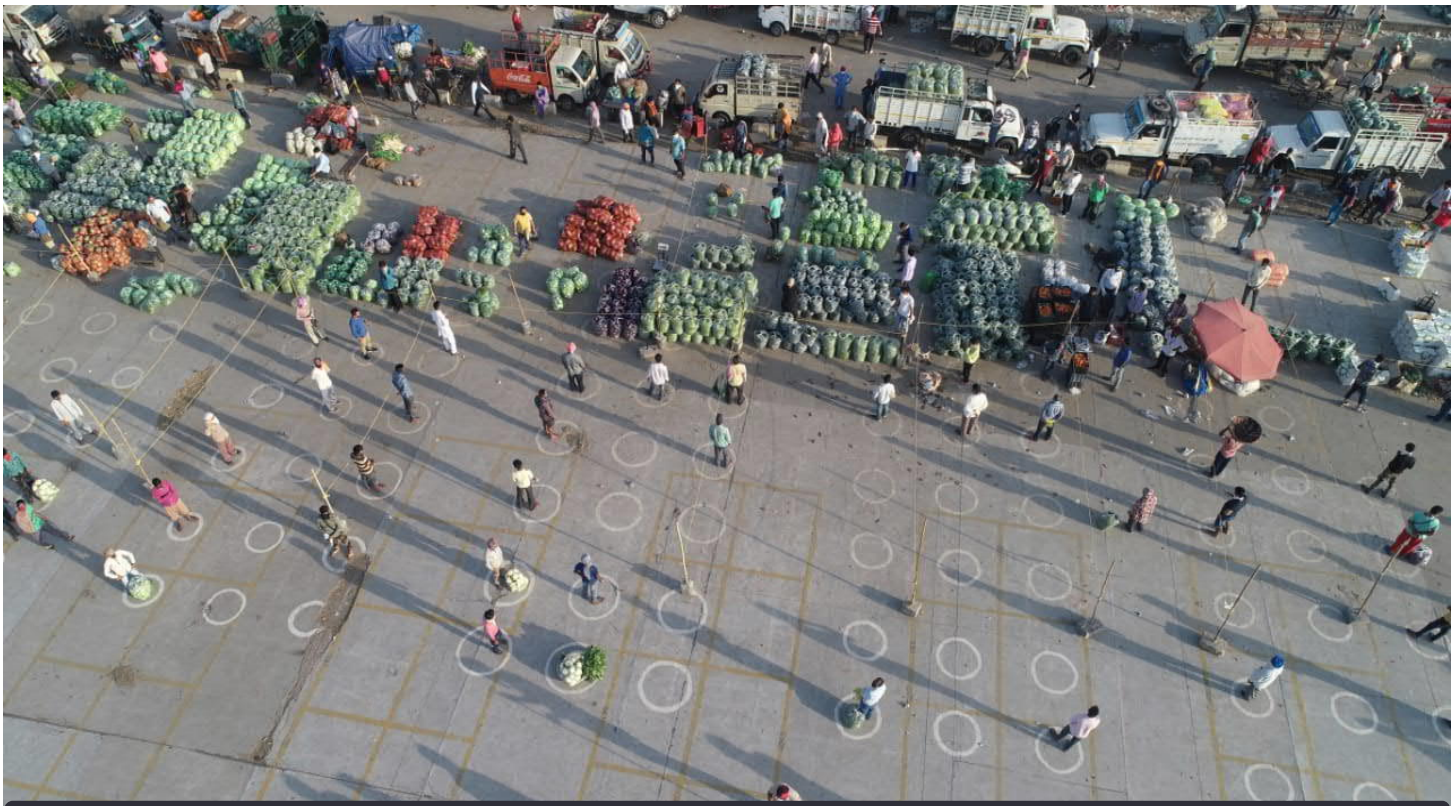
Officials supervising the procurement of cotton at a cotton mandi

Sale/ purchase of vegetables & fruits during wheat procurement season

There are 115 Fruit & Vegetable Wholesale mandis, which are the lifeline for farmers to sell their produce as well as for urban centres, to ensure uninterrupted supply of vegetables and fruits. These mandis had been operating without a break during the lockdown and continued throughout the wheat procurement season. PMB was assisting the local administration in door to door delivery of fruits & vegetables during the lockdown period. With the same staff as available for procurement, it was able to transact the following business through these mandis:

Of the total 34,34,815 quintal procurement of fruits and vegetables done across the state between 22nd March – 31st May'20, over 50% was accounted from the districts - Jalandhar, Ludhiana, Sangrur, Hoshiarpur and Amritsar, as can be seen from the table below.

District	Procurement (Qtl.)
Jalandhar	5,51,131
Ludhiana	3,79,194
Sangrur	3,55,037
Hoshiarpur	2,51,671
Amritsar	2,47,951



An aerial view of the vegetable mandi, where buyers adhered to social distancing protocols

6. Safety and sanitization protocols

Snapshot of protocols implemented:

Fumigation and sanitization of mandis

Providing sanitizer at entry of mandis

Provision of masks

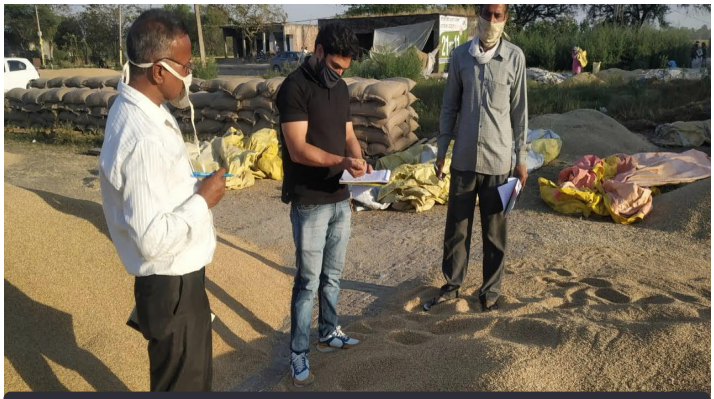
Foot-operated handwash station

Social distancing marking in all fruit and vegetable mandis

Snapshot of protocols implemented:

Access to essential amenities (drinking water)

Thermal screenings at mandis



Social distancing being practiced during auction

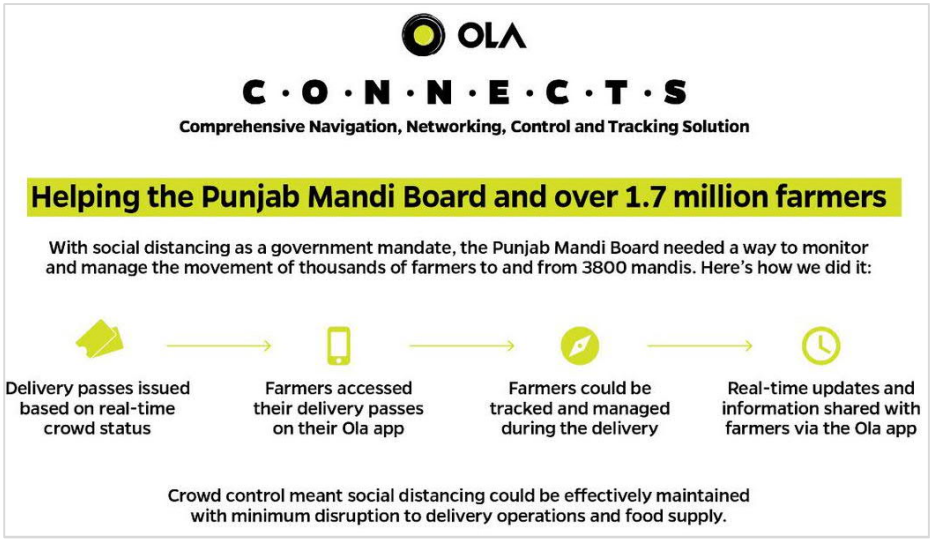
PMB issued protocols for minimizing transmission of COVID-19 vide orders dated 6.4.2020 and 11.4.2020, wherein following guidelines, in addition to the ones depicted in the previous slide were laid:

- Restricted access to mandis/ premises/ shops to only those involved in the mandi operation
- Employees/ contractors/ workers exhibiting dry cough/ respiratory symptoms/ fever were not permitted entry into the mandi
- High risk employees (aged/pregnant/medically conditioned) were not exposed to front-line work that required public interaction
- Unnecessary touch points (table clothes/covers/ decorations) were removed

These safety protocols were designed towards minimizing health risk to all stakeholders involved, and minimize the risk of mandi yards and related premises (Arthiya shops, storage points, sleeping areas, banks, eating places in mandis) from becoming nodes of transmission for COVID-19.

Click on the above play tab to view the reference video

7. Other digital interventions



Trolley tracking and monitoring

PMB successfully tested a Trolley Tracking & Monitoring Software on a pilot basis – to track the movement of farmer's tractor trolley to the mandis. During the pilot, it was seen that the dashboard helped regulate trolleys and vehicular movement in the mandis. The app, installed on farmers' mobiles, sent alerts to the farmers on rush spots at mandi gates.

COVA App

The COVA app was developed for effective tracking of harvesters to ensure efficient screening and monitoring of operators entering the borders. Officers posted at the Punjab border were responsible for monitoring the entry of harvesters and ensuring effective usage of the app by farmers to regulate the tracking.

E-PMB App

In a bid to make Rabi Management System 2020-21 paperless, the PMB launched e-PMB, a mobile application and Integrated Management System (IMS) to provide real time information on procurement to the farmers.

It empowers Arthiyas and the public with online licensing and providing availability of actual rates of fruits and vegetables in 'Apni Mandis' from various locations within Punjab. It also enables farmers to sell their produce at real time rates.

8. Champions of Punjab: additional factors

Police and volunteers

The Department of Agriculture and PMB adopted GoP's two-pronged approach for ensuring the safety of all people at the mandi. As per strategy, the officials, police and volunteers, as the first unit, regulated the coordination between all departments in the mandis. The second unit consisting of on-ground officials, police and volunteers, were at the front line. They assisted farmers, labourers and others to abide by the norms. The volunteers included many citizens from local villages and cities across the state.

Guardians of Governance (GoGs)

The PMB solicited the services of 3195 ex-servicemen in order to support the State in monitoring the operational activities of the mandis. The GoGs were also assigned the responsibility of monitoring and enforcing safety and sanitization protocols, with special focus on social distancing and maintaining a hygienic environment in all the mandis. The GoGs provided dedicated and consistent service to the State in the implementation and regulation of the lockdown protocols.

Government machinery – the District Administration

Procurement has always been coordinated by the district level administration under the control of Deputy Commissioners who are assisted by the Sub-Divisional Magistrates, Tehsildars, Block Development Officers.

District level Procurement Committee (DLPC):
In the RMS 2020-21, the DLPC with Deputy Commissioner (DC) as Chairman and District Food and Supplies Controller, District Managers of Procurement Agencies and District Mandi Officer as members was set up. The DLPC supervised day to day procurement operations, staggering of arrivals, intra-district bales movement and enforcing COVID-19 precautionary measures.

District Control Room: DCs established a unified Control Room at the district.

9. Reflections and learnings

Stakeholder meetings

It was extremely critical to involve all stakeholders in planning the new initiatives for the procurement of wheat. Several remote press conferences, detailed discussions and briefings to the representatives of the Arthiyas and farmers took place, which were intimated through advertisements and via social media. With limited time at hand, Departments of Agriculture and Food and the Procurement agencies discussed the initiatives with departmental staff and all relevant stakeholders, with primary focus on the Arthiyas and farmers.

Digitization of data and HR issues

The PMB manuscript procurement records of RMS and KMS 2019-20 across 154 MCs needed to be digitized as they formed the basis on which the Arthiya Capacity was to be calculated for the generation of passes. Given the limited IT proficiency of the staff and short time, substantial effort was put to ensure credibility of the digitized data by undertaking checking and re-checking of data at various levels. The importance of data digitisation was realised as data of previous year's procurement numbers had to be manually uploaded overnight into the software. After this year's procurement drive, importance of accessible and consistent data on digital platforms for analysis and research has been a key learning.

Software development and using IT Infrastructure for handholding

As time was of essence, calls and video conferences between the software teams of PMB and DGR resulted in a software that was simple to understand and implement. It was a model based on a fair and just logic that delivered a transparent system that very few people complained about. The first passes were generated on 12th April for use on 15th April (72 hours in advance). COVID protocols and curfew restrictions integrated the usage of existing IT infrastructure to conduct meetings, trainings and handholding activities through video conferencing. Ability to working remotely was a key learning.

Integrating software changes basis on-ground analysis

The number of passes to be issued was restricted by mandi capacity, due to which all Arthiyas in a mandi could not get passes every day. During the first few days of procurement, passes were generated based on Arthiya capacity, and were directly proportional to business undertaken in RMS/KMS 2019-20. As apprehension of the new system was in the air, some Arthiyas who undertook very little business in yesteryears became restless as they did not get passes. Therefore, system adjustments were made to ensure passes to Arthiyas irrespective of Arthiya capacity. However, equal passes to all was not fair and sustainable, and eventually a hybrid logic was implemented - 5 days a week passes were issued on the basis of Arthiya capacity and 2 days passes were issued to the smaller Arthiyas, i.e. those who hadn't received passes during the first 5 days of the week. This ensured work for all based on their capacities – which was half the battle won! The learning from this experience was to adapt to changes basis real-time situations and integrate required changes in technology being used.

Ensuring hassle free procurement of wheat through new interventions

New interventions were key as the online Arthiya-Kissan pass distribution helped in regulating arrivals in mandis, and ensuring social distancing. This intervention resulted in hassle free procurement of wheat.

SOP-1: Guidelines for wheat harvesting in Punjab[12]

In case of manual field operations of harvesting/ picking, the farmer should complete the operation in 4-5 feet spaced strips assigning one strip to one person so as to ensure an adequate spacing between the engaged labours.

Farmers must stagger field operations wherever possible and avoid engaging more number of persons on the same day.

In case someone is diagnosed as a close contact of a COVID-19 patient, one should report the incidence to the helpline No. 104/ State Control Room No. 01722920074/08872090029, detailing the exact nature of exposure.

The collection of the produce at the farms should be done in small heaps spaced at 3-4 feet and field level cleaning/processing should be assigned to 1-2 persons per heap to avoid crowding.

Indoor areas including the inside of the combine harvester, seats, gears should be cleaned every evening and early in the morning before the combine is occupied.

The Combine Harvesters entering the State from other States shall be compulsorily cleaned/ sanitized at the entry barriers as per the procedure prescribed.

SOP-2: Seamless procurement of wheat in Punjab[12]

Market Committees and Procurement Agencies (as the case maybe) should ensure all mandis /storage facilities have toilets, handwashing stations, adequate clean drinking water, masks and sanitizers for all officials. There were announcements at regular intervals/ display of banners imploring all to follow social distancing norm.

Market Committees and Procurement Agencies (as the case may be) have to ensure all mandis / storage facilities have medical teams for testing of Covid-19 in case any person shows symptoms of the disease

Social distancing of at least 1 mt is to be maintained during mandi/storage operations and mandi operations for one heap of wheat be conducted in the block of 30 ft x 30 ft

Removal of unnecessary touch points like tables/clothes/covers from the common areas etc. and to ensure no contact with shared items

In case someone develops coughing/sneezing/fever/ difficulty in breathing, or is diagnosed as a high risk contact of a COVID-19 patient, one should report it to Helpline No. 104/ State Control Room No. 01722920074 / 08872090029, detailing the exact nature of exposure

Arthiya must ensure adequate drinking water, clean toilets, masks, sanitizers are available at their premises for the use of their labour and farmers

Arthiya is to ensure that the sleeping area for his labour is well ventilated and has adequate space so that the requirement of social distancing of at least 1 metre is met. The Arthiya should make sure that such place is regularly cleaned and disinfected

SOP-2: Continued

Each transport contractor should deploy dedicated vehicles only for transportation of wheat from one mandi to a storage point. He should also ensure sanitization of drivers and vehicles from time to time. Procurement agencies to ensure that the authorized trucks ferry on a particular route to the designated mandi by checking their passes; intermingling of vehicles / drivers plying across different mandis was not allowed

The Arthiyas shall ensure labour arrangements/rosters provided for the labour to work in one mandi or at the most work in close by mandis

The Arthiya Kisan Passes (issued by Market Committees) are to be issued and distributed, as far as reasonably possible, for a particular date to farmers from a single village i.e. specific date coupons must preferably go to farmers of the same village.

District Control Room: The Mandi Board Headquarters established a specific control room (allocation one person for each district)

Village level check-points set up to ensure/allow only one farmer/his representative on the tractor trolley with valid coupon to bring produce on the specified day and to the specified Mandi. The check point shall also ensure that if such person is showing visible signs of dry cough/respiratory symptoms/fever then he shall not be allowed to travel further and must approach the nearest health authorities

In case of COVID-19 related lockdown of a mandi, security of the mandi and the produce stored therein was the responsibility of the local police authorities and DLPC. DLPC was to make alternative arrangements to accommodate wheat arrivals.

Additional Challenges

Box 3: Insufficient storage space

The Dept of Food and Civil Supplies in coordination with FCI was able to create storage space by facilitating a record movement of goods, despite labour crunch.

By Rail: 1771 rakes were moved out of Punjab (536 wheat rakes – quantity 15LMT and 1235 rice rakes –quantity 33LMT moved to Consumer States facing shortages)

By road: more than 1.9LMT of wheat and rice was sent to Jammu and Kashmir and more than 1.3LMT of wheat and rice was sent to Himachal Pradesh

Requisite labour was also arranged to facilitate this movement. Arranging the labour was a mammoth task considering that labourers required for one rail-rake is 50-200

Box 4 : Gunny Bales (bags) and stock articles

- While orders for gunny bales and stock articles were placed well in advance, the COVID-19 lockdown and curfew in the country disrupted supply chains.
- The jute mills in the east were closed and were not able to supply bales after 24th March 2020. By early April 2020, the availability of bales was sufficient only for procurement and storage of ~ 65 LMT (against State Procurement Agencies' share of ~ 114.76 LMT), while FCI, for its share of 20.24 LMT, had made its arrangements of bales.
- 20,000 bales manufactured were lying in the jute mills of West Bengal, awaiting transportation to Punjab by rail. In order to resolve the issue, Hon'ble CM of Punjab spoke with his counterpart in West Bengal to facilitate their movement.
- For the remaining bales, the Dept. of Food and Civil Supplies successfully sought permission from GoI for the use of HDPE/PP* and B-Class jute bags**.
- Despite the challenges, required bags were transported and made available for procurement in a timely manner

State Procurement Agencies Wheat Procurement Share (in LMT)		Expected Bales Required	Bales used		
			Jute	HDPE/PP*	B-Class**
Central Pool (50kg)	106.06	4,24,240	3,23,839	70,717	19,572
DCP – 30 Kg	8.7	58,000		56,429	

*High Density Polypropylene bags II **Once used Jute bag

Stock articles too, were difficult to source and procure during this time. The items purchased and transported, by Dept of Food and Civil Supplies for use are as follows:

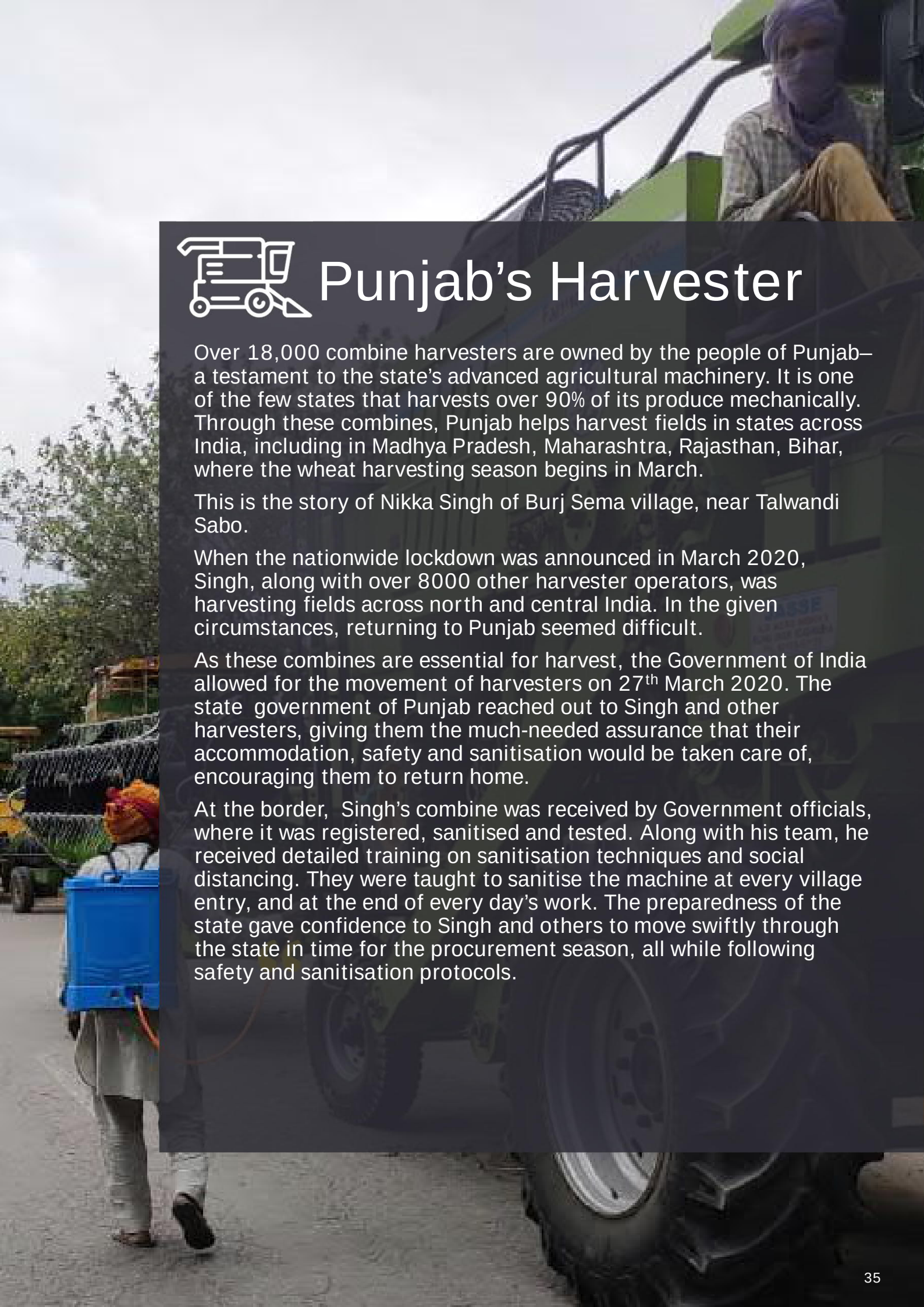
Wooden Crates	Polythene Covers	Mesh-Nets
11,68,784	47,600	24,000

The Spirit of Punjab

Box 5: Frugal innovation by Punjab

As one pass was valid for carrying only one trolley, farmers innovatively tried to increase the size of the trolley to overcome this barrier.

Generally trolley capacity is around 40-80qtls. To make optimum use of a pass, some farmers brought wheat in tippers, trucks and a few in trolleys with capacity of 240Qtl (large enough to carry produce of 10-12 acres).



Punjab's Harvester

Over 18,000 combine harvesters are owned by the people of Punjab– a testament to the state's advanced agricultural machinery. It is one of the few states that harvests over 90% of its produce mechanically. Through these combines, Punjab helps harvest fields in states across India, including in Madhya Pradesh, Maharashtra, Rajasthan, Bihar, where the wheat harvesting season begins in March.

This is the story of Nikka Singh of Burj Sema village, near Talwandi Sabo.

When the nationwide lockdown was announced in March 2020, Singh, along with over 8000 other harvester operators, was harvesting fields across north and central India. In the given circumstances, returning to Punjab seemed difficult.

As these combines are essential for harvest, the Government of India allowed for the movement of harvesters on 27th March 2020. The state government of Punjab reached out to Singh and other harvesters, giving them the much-needed assurance that their accommodation, safety and sanitisation would be taken care of, encouraging them to return home.

At the border, Singh's combine was received by Government officials, where it was registered, sanitised and tested. Along with his team, he received detailed training on sanitisation techniques and social distancing. They were taught to sanitise the machine at every village entry, and at the end of every day's work. The preparedness of the state gave confidence to Singh and others to move swiftly through the state in time for the procurement season, all while following safety and sanitisation protocols.

Report From The Field

Rashpal Singh, is a farmer from Barwala mandi in Fatehgarh Sahib district of Punjab. He was able to sell around 250 quintals of wheat in 2 – 3 days at a good rate during the April procurement season, despite the ongoing COVID pandemic.

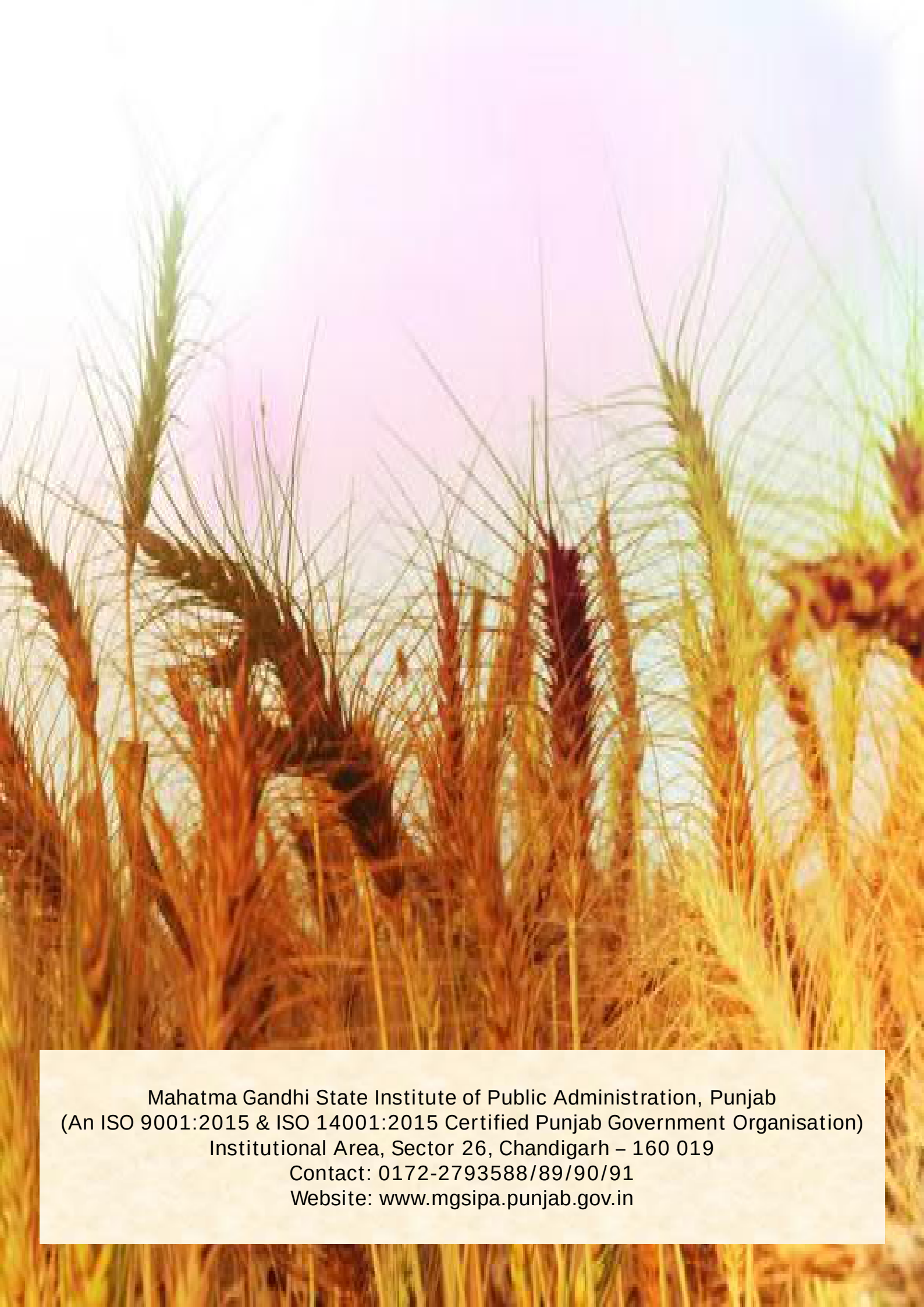
He praised the new system implemented by the government of Punjab According to him, the pass system worked efficiently; he received his pass the evening before the mandi arrival date from his Arthiya, and did not have to travel far to get it. Moreover, all farmers arrived on the time provided to them, and everyone was asked to bring only dry wheat with them. As a result, he was free from his work by early evening on most days, unlike past procurement seasons where they would even have to spend 2 nights in the mandi due to the rush.

Sanitizers were in ample supply.Even drinking water, clean toilets were available, however, people preferred to bring their own water and tea to the mandi. He also praised the system of allowing only one trolley per pass, as this saved the trouble of having to stay for longer hours at the mandi and prevented crowding. For him, visiting on multiple days was more convenient. However, he didn't use the Ola App intended for tracking trolleys.

Image Source: Business Standard

Endnotes

1. MHA Order dated 24.03.2020
2. See Press Release "Punjab govt led by Capt. Amarinder sets up 4 committees to deal with various aspects of covid-19 containment"
3. Hindustan Times, 02.04.2020. "Punjab mulls use of rice mills' premises for wheat procurement"
4. Nation News, 07.04.2020. "30 member mandi board control room to coordinate harvesting procurement season in Punjab"
5. See Press Release "Agriculture deptt issues directions regarding harvesting"
6. See Press Release "Punjab govt ties up with ola to launch automated techology app to issue e-passes to farmers based on historical data"
7. See Guidelines "Advisory on Safe Farming operations (Procurement and Marketing) in wake of COVID-19 pandemic."
8. See Press Release "Direct payment to farmers"
9. The Tribune, 28.01.2020. "Rules amended, direct payment to Punjab farmers"
10. Hindustan Times, 31.03.2020. "Wheat storage: Need FCI guarantee for rent of unused silos, Punjab tells Centre"
11. Hindustan Times, 31.03.2020. "Farmers worried as combine harvesters from Punjab stuck in other states"
12. DoHFW Advisory dated 22.04.2020 "Advisory on safe farming operations (procurement and marketing)



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