

STATE WISE AGRICULTURAL EXPORTS OF INDIA DURING COVID 19 WITH SPECIAL REFERENCE TO PUNJAB

Dr. Meenu*

ABSTRACT

Lockdown due to COVID-19 influenced not only different sectors of Indian economy adversely but different States of India also witnessed sudden shock. agriculture sector was one of the sectors which suffered due to lockdown started on 22nd March 2020. The issues such as delay in the harvesting of the wheat, hurdles in the supply of vegetables and milk towards the urban area created unrest among the people which disrupted Punjab economy as well. The present paper analyze State wise agriculture exports with special reference to Punjab by considering exports of 17 products taken from The Agricultural and Processed Food Products Export Development Authority (APEDA) for the years 2019 and 2020 (i.e. April, May, June, July and August). In value terms, Indian agriculture exports were at higher level in April 2019 as compared to the same month in 2020 but after the lockdown period, India recorded agriculture exports in August 2020 at higher level as compared to same month for the year 2019. In quantity terms, Indian agriculture exports were at higher level in the months of April and August 2020 as compared to the same months in 2019. In India's exports, States of Gujrat and Maharashtra recorded the highest shares (of more than 20%) for the years 2019-20 and 2020-21. On the one hand, Punjab's agriculture exports (i.e. 17 products) were 230.78 crores for the April 2019 while it was 449.29 crore for the April 2020 (i.e. during lockdown month). On the other hand, Punjab agriculture exports were 1912.57 crore for the August 2020 (i.e. after lockdown) as compared to 1130.53 crore in August 2019. In quantity terms, agriculture exports of the Punjab were 30016.25 MT in April 2019 and 52960.25 MT in April 2020 while 244096.24 MT were exported from Punjab for the month August 2020 as compared to 138296.68 MT for the same month in 2019. Punjab agriculture exports recorded 3.86 % share in India's agriculture exports in April 2019 than 7.99 % for the same month in 2020. Also, Punjab recorded 4.02% share in India's agriculture exports for the month August in 2019 as compared to 5.36% over the same month in 2020. The paper analyzed the growth rates of Punjab's agricultural exports and compared these month-wise for the lockdown and after lock down period of the years 2019 and 2020. In value terms, 6 products (out of 16 products) registered negative growth rates in 2020 for the months of April to August over the same months in 2019.

Keywords: Exports, Punjab, Agriculture Products, India, Lockdown, Covid-19.

Introduction

COVID 19 had a major impact on world economy and on India with the lockdown in the month of March 2020, extended in four different phases from 25th March to 31st May, 2020, and an unlock period thereafter. Due to Lockdown, various economic activities get stopped and different sectors of the economy suffered. As per Economic Times, (September 2, 2020), the coronavirus pandemic has accelerated and accentuated the inevitable crisis, so the need for export-led growth becomes more pertinent than ever. Even for a country as large as India that possesses an expansive domestic market, high growth can only be sustained with an export-oriented policy focus. Agriculture was one of the sectors that came to a halt because of shortage of migrant workers. In India, Agriculture sector is the most important sector which feeds the entire nation and its produce exported to the other countries as well.

* Assistant Professor, Department of Economics, Panjab University, Chandigarh, India.

Agriculture sector contributed towards the food and nutritional requirements of 1.3 billion Indians in terms of production, employment and demand generation through various Forward and Backward Linkages (Biogenorganics).

During lockdown, domestic and international restrictions created shortage in home market and shortage of foreign reserves. The harvesting season which should get start in mid-April gets delayed and further it leads to breakdown of supply chains which affected small and marginal farmers in Punjab.

The Present paper is devoted to the analysis of State wise total exports and agricultural exports with special reference to Punjab. It is divided into three sections. Section -I provides data source and research Methodology. Section-II provides the analysis of total exports and agricultural exports. Section – III provides lockdown month wise comparison of quantity and value of agricultural exports from Punjab. Section IV gives policy measures by the government and conclusion.

Section –I

Database and Methodology

To analyze the state wise agricultural exports and impact of COVID on agriculture exports of Punjab and its economy, data are collected from Agricultural and Processed Food Products Export Development Authority (**APEDA**). The paper considered the major APEDA Exports (i.e.17 products) from Punjab for the months of the years 2019 and 2020.

The major APEDA Agriculture exports of Punjab considered in the study (as per data Availability) are as follows:

- Fruits and Vegetable Seeds.
- Other Fresh Vegetables.
- Walnuts.
- Other Fresh Fruits.
- Processed Vegetables.
- Mango Pulp.
- Processed Fruits, juices and nuts.
- Pulses.
- Dairy products.
- Natural Honey.
- Cocoa Products.
- Cereal Preparations.
- Milled Products.
- Alcoholic Beverages.
- Basmati Rice.
- Non-Basmati Rice.
- Other Cereals

State wise exports are analyzed for the years 2019-20 and 2020-21 by calculating State wise agricultural exports share in total state exports and share of total state agricultural exports in India's total exports.

For Punjab's agricultural exports, simple growth rates are computed for month wise comparison of the years 2019 and 2020. The data of Punjab Exports is divided into quantity (MT) and value (in rupee crores). Also, the percentage shares of Punjab's agriculture exports in India's agriculture exports are computed for the considered months of the time period.

Section- II

State Wise Total Exports and Agricultural Exports

As per table 1 in India's exports, States of Gujrat and Maharashtra recorded the highest shares (of more than 20%) for the years 2019-20 and 2020-21. The states which registered more than 5% share in India's total exports during 2019-20 and 2020-21 are TN, Karnataka, AP (in 2020-21 only) and UP. The twelve States/UTs registered less than 1 % share and Nine States/UTs recorded near to zero share in

India's Exports during 2019-20 and 2020-21. The States/UTs of Odisha, Haryana, WB, Telangana, Rajasthan, MP, Delhi, Punjab and Kerala witnessed share between 1.70% to 4% for two considered years.

The high positive percentage change in 2020-21 over 2019-20 in exports is registered by Odisha (60.28), Chattisgarh (89.68) Goa (20.70), Jharkhand (45.56), HP (24.60), Podicherry (20.11), Tripura (560.4) and Andaman & Nicobar (51.91). The negative percentage change was observed by 17 States/UTs, out of which Kerala, Meghalaya and Arunachal Pradesh registered more than -50 percentage change. Punjab also experienced negative percentage change but it was only -1.39.

Table 1: Statewise Exports Data (Value in Rs. Crore)

S. No	States	2019-20	% share in 2019-20	2020-21	% share in 2020-21	% change in 2020-21 over 2019-20	2020-21 (April-June)	2021-22 (April-June)	% share in 2021-22 (April-June)	% change in 2021-22 (April-June) over 2020-21 (April-June)
1	Gujarat	449990.49	20.27	448299.49	20.83	-0.38	89352.65	205946.22	29.22	130.49
2	Maharashtra	459637.81	20.71	431699.85	20.06	-6.08	67971.85	130195.00	18.47	91.54
3	Tamil Nadu	212661.04	9.58	193331.48	8.98	-9.09	27499.91	54081.54	7.67	96.66
4	Karnataka	117901.84	5.31	112081.61	5.21	-4.94	22293.56	40161.47	5.70	80.15
5	Andhra Pradesh	104828.84	4.72	124744.46	5.80	19.00	27412.03	39978.80	5.67	45.84
6	Uttar Pradesh	120356.34	5.42	121139.96	5.63	0.65	15928.25	32901.64	4.67	106.56
7	Odisha	47242.28	2.13	75718.33	3.52	60.28	15354.79	30244.11	4.29	96.97
8	Haryana	85385.66	3.85	85732.72	3.98	0.41	14077.43	25926.47	3.68	84.17
9	West Bengal	67244.41	3.03	66012.21	3.07	-1.83	8595.27	22546.68	3.20	162.32
10	Telangana	52170.42	2.35	64539.42	3.00	23.71	14108.10	19986.12	2.84	41.66
11	Rajasthan	47034.87	2.12	49230.73	2.29	4.67	7516.34	15920.45	2.26	111.81
12	Madhya Pradesh	37692.69	1.70	47959.40	2.23	27.24	9223.11	13437.81	1.91	45.70
13	Delhi	73462.44	3.31	56236.48	2.61	-23.45	10442.99	12692.89	1.80	21.54
14	Punjab	39781.57	1.79	39230.54	1.82	-1.39	7141.31	11949.84	1.70	67.33
15	Kerala	71865.07	3.24	29156.50	1.36	-59.43	5629.13	7057.67	1.00	25.38
16	Dadra & Nagar Haveli	15429.47	0.70	19547.03	0.91	26.69	2869.58	6934.42	0.98	141.65
17	Unspecified	131979.43	5.95	88492.38	4.11	-32.95	20170.99	6084.41	0.86	-69.84
18	Chattisgarh	9067.92	0.41	17199.98	0.80	89.68	4188.86	5667.87	0.80	35.31
19	Goa	14162.98	0.64	17095.36	0.79	20.70	3961.64	4621.91	0.66	16.67
20	Jharkhand	8290.70	0.37	12067.56	0.56	45.56	3672.63	4206.56	0.60	14.54
21	Bihar	11764.09	0.53	11189.49	0.52	-4.88	1475.80	3750.69	0.53	154.15
22	Uttaranchal	16085.26	0.72	15915.54	0.74	-1.06	5941.89	3636.27	0.52	-38.80
23	Himachal Pradesh	9882.09	0.45	12313.52	0.57	24.60	2552.32	3528.11	0.50	38.23
24	Daman & Diu	7863.39	0.35	4600.33	0.21	-41.50	1370.58	1243.88	0.18	-9.24
25	Pondicherry	2595.76	0.12	3117.64	0.14	20.11	508.81	859.73	0.12	68.97
26	Assam	3099.47	0.14	3075.20	0.14	-0.78	492.72	643.99	0.09	30.70
27	Jammu & Kashmir	1331.30	0.06	1180.19	0.05	-11.35	164.90	395.49	0.06	139.83
28	Chandigarh	542.11	0.02	558.90	0.03	3.10	76.25	153.11	0.02	100.80
29	Sikkim	70.05	0.00	69.56	0.00	-0.69	17.99	35.84	0.01	99.19
30	Meghalaya	332.38	0.01	78.00	0.00	-76.53	3.38	9.81	0.00	190.60
31	Arunachal Pradesh	10.98	0.00	3.68	0.00	-66.43	0.36	8.03	0.00	
32	Tripura	12.57	0.00	83.01	0.00	560.40	0.36	3.35	0.00	840.79
33	Nagaland	40.39	0.00	44.67	0.00	10.61	8.29	2.66	0.00	-67.92
34	Manipur	6.63	0.00	7.00	0.00	5.53	0.25	1.42	0.00	
35	Lakshadweep	18.19	0.00	1.20	0.00	-93.42	0.83	1.02	0.00	22.40
36	Andaman & Nicobar	9.18	0.00	13.95	0.00	51.91	1.41	0.99	0.00	-29.75
37	Mizoram	4.09	0.00	3.27	0.00	-20.17	0.04	0.21	0.00	
38	Ladakh							0.07	0.00	

Source: Commerce.gov.in

Table 2 gives the State wise agricultural exports share for the years 2019-20 and 2020-21. The percentage share of total states agricultural exports in India's agricultural exports was 5.37 % and it increased to 7.07% in the year 2020-21. The states of Gujarat, Maharashtra and UP have contributed

around 63% share in 2019-20, which declined to around 56% during 2020-2021. The highest share was recorded by Gujarat (higher than 25%) followed by Maharashtra (higher than 18%) and UP (higher than 11%) during both the years, although the shares during 2020-21 are lower than during 2019-20. The shares of AP and WB have doubled and marginal increase is experienced by the states of Haryana, Bihar, MP and Odisha during 2020-21 as compared to 2019-20. The contribution of TN, Kerala, Punjab and Karnataka has declined marginally during 2020-21 as compared to 2019-20. The States of Chattisgarh, Goa, Uttarakhand, Assam and Sikkim contributed less than 0.01 % and all other states have recorded zero contribution.

Table 2: State Wise Agricultural Exports share in all states Exports (value in Rs. Crores)

State	2019-20	2020-21
Gujarat	29.57	25.85
Maharashtra	20.06	18.45
Uttar Pradesh	13.32	11.59
Andhra Pradesh	4.55	9.02
West Bengal	4.13	8.45
Haryana	7.06	7.80
Tamil Nadu	6.80	6.10
Kerala	3.05	2.26
Punjab	2.69	2.19
Karnataka	2.23	2.18
Bihar	1.71	1.88
Rajasthan	1.40	1.06
Telangana	1.04	0.99
Madhya Pradesh	0.74	0.85
Delhi	1.22	0.78
Odisha	0.19	0.29
Chhattisgarh	0.06	0.07
Goa	0.09	0.06
Uttarakhand	0.07	0.06
Assam	0.03	0.05
Sikkim	0.00	0.02
Himachal Pradesh	0.00	0.00
Chennai	0.00	0.00
Tripura	0.00	0.00
Meghalaya	0.00	0.00
Jammu & Kashmir		
Percentage share total states Agriculture exports in India's total exports	5.37	7.07

Author's Calculation
Source: APEDA

Section –III

Share of Punjab in India's Agricultural Exports

Table 3 shows share of Punjab's agriculture exports of considered categories in India's total agriculture exports. It is revealed that Punjab has recorded 7.99% share (in value terms) in India's total agriculture exports for the month April 2020 as compared to 3.87% share over the same month in 2019. In unlock period (i.e. August 2020), Punjab has registered 5.36% share as compared to 4.02% share in corresponding month of the year 2019. It is noticeable here that during strict lockdown months (April and May) the share of Punjab in India's Agricultural Exports was recorded at higher level as compared to unlock down months. Also, the share remained higher during the all the considered months of 2020 as compared to 2019, but share declined continuously during all the months of (April to August) 2020. Commodity Wise Analyses of agriculture exports of Punjab revealed that Basmati Rice exports of Punjab has registered more than 2% share in India's agriculture exports for the months April to August in the year 2019 and 2020. Also, Basmati Rice has recorded higher share in India's agriculture exports for the considered months of the year 2020 as compared to the corresponding months of the year 2019. The other agriculture exports of Punjab recorded less than 0.5% share in India's agriculture exports for the considered months of the time period.

Table 3: Share of Punjab's Exports in India's Total Agriculture Exports (in percentage)

Products	Apr -19	Apr-20	May-19	May-20	Jun-19	Jun-20	Jul-19	Jul-20	Aug-19	Aug-20
Fruits & Vegetables Seeds	0.08	0.00	0.07	0.00	0.07	0.00	0.08	0.01	0.09	0.02
Other Fresh Vegetables	0.00	0.05	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.02
Walnuts	0.05	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00
Other Fresh Fruits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Processed Vegetables	0.03	0.01	0.03	0.02	0.03	0.06	0.04	0.07	0.04	0.07
Mango Pulp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Processed Fruits, Juices & Nuts	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Pulses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dairy Products	0.03	0.02	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03
Natural Honey	0.09	0.19	0.15	0.19	0.14	0.19	0.14	0.20	0.13	0.21
Cocoa Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cereal Preparations	0.43	0.23	0.42	0.31	0.44	0.29	0.46	0.28	0.48	0.28
Milled Products	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Alcoholic Beverages	0.08	0.04	0.09	0.16	0.10	0.24	0.10	0.29	0.12	0.31
Basmati Rice	2.78	7.26	3.08	6.33	2.89	5.43	2.78	4.76	2.85	4.23
Non-Basmati Rice	0.02	0.18	0.03	0.23	0.04	0.25	0.05	0.21	0.05	0.18
Other Cereals	0.27	0.00	0.31	0.00	0.29	0.00	0.23	0.00	0.19	0.00
Total Agriculture Exports	2.28	5.41	4.26	7.31	4.09	6.53	3.96	5.90	4.03	5.36

Covid and Punjab Agriculture Exports

Punjab as bread basket of India suffered during COVID-19 outbreak. Also, India's GDP turned to double digit negative growth i.e. (-24%) in the wake of pandemic. This disease leads to lockdown and it has created recession in Indian Economy which adversely affected Punjab economy as well. **Table 4** represents the growth of various agriculture exports of Punjab in quantity terms for the months April to August during 2019 and 2020. The total agriculture exports of Punjab showed positive and high growth in quantity terms (i.e. more than 70%) from April to August for year 2020 over the year 2019. Due to the nationwide lockdown, Cereals preparations, Other Fresh Fruits, Other Cereals, Fruits and Vegetable Seeds, walnuts, Processed fruits, juices and nuts and Cocoa products recorded negative growth whereas Basmati Rice, Non-Basmati Rice, Milled products, natural honey and dairy products(except for April 2020) registered maximum growth in quantity terms from April to August 2020.

Products	Table 4: Exports of Agriculture products from Punjab (MT)														
	Apr 2019	Apr-20	Growth %	May-19	May-20	Growth %	Jun-19	Jun-20	Growth %	Jul-19	Jul-20	Growth %	Aug-19	Aug-20	Growth %
Fruits & Vegetables Seeds	144.1	5.8	-95.97	374.67	5.8	-98.45	629.87	8.25	-98.69	1082.53	52.37	-95.16	1294.87	88.55	-93.16
Other Fresh Vegetables	0	106.27		17.8	106.27	497.02	56.15	264.17	370.47	56.49	264.17	367.64	73.49	264.17	259.46
Walnuts	93.59	0	100	136.19	16	-88.25	235.69	16	-93.21	293.63	16	-94.55	355.63	49	-86.22
Other Fresh Fruits	2.78	1	-64.02	5.04	1	-80.15	5.04	1.38	-72.61	5.73	1.78	-68.93	6.48	1.78	-72.53
Processed Vegetables	169.01	52.06	-69.19	405.81	313.17	-22.82	498.29	1498.92	200.81	611.97	2411.24	294.01	715.12	2625.95	267.2

Mango Pulp	0	0	0	0	0	0	0	0	0	0	0.31	0	0	0.31	0	0
Processed Fruits, Juices & Nuts	180.12	4.9	-97.27	375.09	7.19	-98.08	383.56	23.72	-93.81	417.45	38.4	-90.8	501.88	57.14	-88.61	
Pulses	5.93	3.58	-39.62	22.79	33.41	46.59	26.16	38.42	46.86	35.05	52.96	51.09	40.66	57.72	41.95	
Dairy Products	39.43	20.33	-48.44	74.25	78.02	5.07	108.92	138.5	27.15	144.99	225.07	55.23	182.66	249.14	36.39	
Natural Honey	437.29	936.78	114.22	1617.73	1949.75	20.52	2167.13	2904.89	34.04	2779.1	4506.64	62.16	3165.32	5795.54	83.09	
Cocoa Products	0	0	0	1.45	1.07	-26.2	1.45	1.07	-26.2	1.48	1.48	0	1.49	1.5	0.67	
Cereal Preparations	2593.48	1362.3	-47.47	5223.91	3931.48	-24.74	8010.58	5688.24	-28.99	10978.14	7466.17	-31.99	13503.04	8832.46	-34.58	
Milled Products	61.53	116.95	90.06	182.02	328.02	80.21	216.14	412.72	90.59	258.54	609.15	135.61	321.76	695.44	116.13	
Alcoholic Beverages	712.68	306.16	-57.04	1680.69	2904.66	72.82	2733.36	7163.58	162.07	3553.6	12755.45	258.94	4632.27	17204.21	271.39	
Basmati Rice	20140.73	47917.98	137.91	46914.05	101266	115.85	64141.79	140270.9	118.68	78642.04	173382.48	120.47	96023.55	193761.4	101.78	
Non-Basmati Rice	309	2030.15	557	909	6496.67	614.7	1769.61	11389.68	543.58	2670.61	13285.28	397.46	3380.64	14295.74	322.87	
other Cereals	5126.58	96.3	-98.11	11064.31	96.3	-99.12	13861.55	97.72	-99.29	14033.14	106.98	-99.23	14097.51	116.5	-99.17	
Total	30016.25	52960.56	76.44	69004.80	117534.81	70.34	94845.29	169918.17	79.15	115564.80	215175.62	86.19	138296.68	244096.24	76.5	

Table 5 depicts the total agriculture exports of Punjab in value terms. It shows that total agriculture exports grew by more than 70% from April to July during 2019 and 2020 except for the month August 2020 over the same month of 2019. In value terms, Fruits and vegetable seeds, walnuts, other fresh fruits, Mango Pulp, Pulses, cereal preparations and other cereals registered negative growth for the months April to August in the year 2020 over the same months in 2019. Non-Basmati Rice, Basmati Rice, Milled Products, Dairy products and Natural Honey registered maximum growth for the considered months of the study period. Alcoholic Beverages and Processed vegetables recorded high growth except for the months April 2020 and May 2020 respectively.

Table 5: Exports of Agriculture products from Punjab (Rs.Crores)

Products	Apr-19	Apr-20	Growth%	May-19	May-20	Growth%	Jun-19	Jun-20	Growth%	Jul-19	Jul-20	Growth%	Aug-19	Aug-20	Growth%
Fruits & Vegetables Seeds	4.51	0.2	-95.56	9.00	0.2	-97.77	12.41	0.41	-96.69	18.99	3.57	-81.2	23.89	6.98	-70.78
Other Fresh Vegetables	0	2.78	-	0.25	2.78	1012	0.86	6.17	617.44	0.87	6.17	609.19	1.08	6.17	471.29
Walnuts	3.15	0	-100	4.64	0.5	-89.22	7.08	0.5	-92.93	8.98	0.5	-94.43	10.74	1.76	-83.61
Other Fresh Fruits	0.04	0.03	-99.97	0.08	0.03	-62.5	0.08	0.04	-50	0.1	0.04	-60	0.11	0.04	-63.63
Processed Vegetables	1.73	0.54	68.78	3.66	3.21	-12.29	6.23	11.97	92.13	8.54	20.2	136.53	10.95	24.37	122.55
Mango Pulp	0	0	0	0	0	0	0	0	0	0.01	0	-100	0.01	0	-100
Processed Fruits, Juices & Nuts	0.76	0.07	-90.78	1.68	0.3	-82.14	1.83	0.44	-75.95	2.05	0.71	-65.36	2.48	1.03	-58.46
Pulses	0.05	0.03	-40	0.21	0.19	-9.52	0.29	0.24	17.24	0.35	0.35	0	0.39	0.4	2.56
Dairy Products	1.57	1.05	33.12	2.34	3.7	58.11	3.67	5.79	57.76	5.02	9.46	88.44	6.49	10.47	61.32
Natural Honey	5.28	10.51	99.05	18.74	25.15	34.2	25.59	38.13	49	32.74	58.16	77.64	37.42	75.52	101.81
Cocoa Products	0	0		0.01	0.04	300	0.01	0.04	300	0.01	0.06	500	0.01	0.06	500
Cereal Preparations	25.37	12.91	-49.11	51.88	40.11	-22.68	78.92	58.96	-25.29	107.77	80.63	-25.18	134.42	99.25	-26.16
Milled Products	0.19	0.46	142	0.59	1.25	111.86	0.71	1.6	125.35	0.87	2.46	182.75	1.09	2.79	155.96
Alcoholic Beverages	4.6	2.36	-48.69	11.22	20.03	78.52	18.25	48.99	168.43	24.41	83.5	242.07	33.24	111.06	234.11
Basmati Rice	165.96	407.87	145.76	380.8	817.43	114.66	519.76	1101.59	111.94	648.19	1354.23	108.92	800.7	1509.11	88.47
Non-Basmati Rice	1.23	10.29	736.58	3.88	29.26	654.12	7.7	49.87	547.66	11.4	58.49	413.07	14.27	63.2	342.88

Other Cereals	16.34	0.19	-98.83	38.33	0.19	-99.5	52.3	0.2	-99.61	53	0.33	-99.37	53.24	0.36	-99.32
Total	230.78	449.29	94.68	527.31	944.37	79.09	735.69	1324.94	80.09	923.3	1678.86	81.83	1130.53	1912.57	69.17

The major reason behind rise in basmati and non-basmati rice exports can be the use of direct seeding of rice (DSR) machines. This method allows farmers to increase yield by about one third and slash costs on workers and water. As Punjab along with Haryana is grainbowl states of India, farmers of these states have been forced by the coronavirus to mechanize planting.

The results are also supported by the Export Preparedness Index, 2020, estimated by NITI Aayog, which shows that out of four broad pillars (policy, business ecosystem, export ecosystem and export performance) identified Punjab is overperforming in case of Export Performance only. Further out of the sub pillars of export performance (growth and orientation and Export diversification), the export diversification recorded strong position.

Section -IV

Government Initiatives

There are not many measures directly taken by Punjab Govt. to enhance its agricultural exports but the overall measures taken for the agricultural sector as a whole surely impacted agricultural exports positively. India's major food provider 'Punjab' faced an uncertain situation which affected small and marginal farmers and the laborers. Despite the unrest, agriculture exports grew positively. On April 15, 2020, Union Agriculture ministry has made statement that exports of all major products i.e. rice, groundnut, processed food, meat, poultry, dairy and organic products has started due to the Agricultural and Processed Food Products Export Development Authority (APEDA) efforts. Also, issues related to transportation, curfew passes, and packaging units, get resolved for smooth functioning of Exports(The Economic Times). Government made different ways to tackle the spread of COVID-19 such as:

- A Rs. 20 lakh crore relief package was announced by finance minister to strengthen the farm sector during lockdown. Also, Rs. 1 lakh crore announced as agriculture investment fund.
- Under Operation Green, Rs. 500 crore setup for fruits and vegetables for better price to farmers.
- Punjab Government approved subsidies for the purchase of machinery up to 50% for the farmers during the lockdown.
- Punjab Government formulated food grain procurement management committee who had made all arrangement for the procurement of food grains and management of market yards.
- Punjab government provided the responsibility of procurement of fruits and vegetables to the agriculture and mandi department.
- Despite COVID-19, the government procured 127.67 LMT of wheat during lockdown period. Arthiya Kisan e-passes issued for easy procurement of wheat by the Punjab Government.
- Government of Punjab Introduced Agriculture produce market rules 2020 in which electronic payments are ensured by arthiya within 48 hours of purchase and to farmers.

Conclusion

The nationwide lockdown in India created many bottlenecks in the operation of economic activities among different states of India. Punjab also faced restrictions which affected its economy as well. The present paper revealed export pattern of different agriculture exports for the lockdown period and unlock period in the year 2020 as compared to the same months in the year 2019. The results are showing positive and enhanced performance of Agricultural exports of Punjab during April-August months of 2020 as compared to same months of 2019.

- In value and quantity terms, Basmati Rice, Non-Basmati Rice, Milled Products and Dairy products recorded maximum growth in 2020 over the same month of 2019.
- The Basmati Rice registered higher share in India's Agriculture exports from April to August in the year 2020 as compared to the corresponding months in the year 2019. It shows that despite the worldwide lockdown, Punjab prove to be the food bowl of India as well as of world.

- Basmati Rice exports high growth might be due to high MSP, subsidized supply of water and fertilizers from Centre and state and also because of mechanization with the help of Direct Seeding of Rice.
- Also, processed vegetables recorded positive growth except the lockdown months (i.e. April and May) in the year 2020. It also gives an idea about Punjab's shift to the other remunerative exports as well.
- Natural Honey also emerged with high and positive growth during lockdown period and unlock period in the year 2020 than over the same months in the year 2019.

The Punjab's Agricultural exports were doing better even during the pandemic. Further with the improvement in the pillars of Export Preparedness Index (specifically Policy, Business Ecosystem and Export Ecosystem) by making policies favorable and business environment conducive, Punjab's exports can be enhanced and diversified to achieve required ecosystem.

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