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IMPACT OF COVID-19 ON AGRICULTURAL ECONOMY OF INDIA

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Abstract
Agriculture is fundamental for ensuring food security of the nation. It influences the growth of secondary and tertiary sector of the economy through its forward and backward linkages. Since its initial outbreak in Wuhan, China, in December 2019, corona virus disease (COVID-19) has killed more than 6 million people globally. In addition, more than 100million people are estimated to have 'long COVID' globally, with the highest rates of long COVID reported in Asia. Agriculture is a state subject in Indian subcontinent whereas agricultural policies vary from state to state. First lockdown most than further extensions. Complete lockdown restricted the movement of farm labors, farmers, and vehicular traffic including farm machineries, and as result negatively affected farm economy.
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Keywords: Covid-19, Export, Import, Agriculture and Allied Sectors, Employment.

Introduction

The agricultural & allied sector plays an important role in the Indian economy. Agriculture is a key sector of Indian economy considering its contribution towards employment and GDP.India is the largest producer of spices, pulses and milk in the world and is the second-largest producer of vegetables, fruit, tea, cotton, wheat, rice, cotton. Since the initial outbreak of corona, supply chain disruptions arising from lockdowns and border closures were being observed. The lockdown restricted the movement of farm labors, farmers, and vehicular traffic including farm machineries, and as result negatively affected farm economy. The economic effect of the Corona virus have brought the agricultural sector into focus and increased its responsibility to ensure the livelihoods of most of the population. Main focus of this paper is to analyze the impact of Covid-19 on Indian agriculture and allied sector. The specific objectives of the study were the status of exports of various Agricultural commodities, Gross value added and the contribution of agriculture and allied sector in total GVA of the country and Foreign direct investment (FDI) inflows in agricultural and allied sector, Wholesale and retail price of major essential commodities and Market arrivals of some major agricultural commodities during lockdown and employments in agricultural sector..

Methodology

Study is based on secondary data including books, journals, articles, newspaper reports, reports of concerned committees and institutions. The data is collected from National Statistical Office (NSO), M/o Statistics & PI .Data is also collected from Department for promotion of industry and internal trade (Dpiit). report of ICAR and AGMARKNET from website of PIB from Handbook of Agricultural Statistics at a Glance,reports of Ministry of Agriculture & Farmers Welfare, Directorate of Economics & Statistics, Pocket Book of Agricultural Statistics, Directorate of Economics & Statistics and various websites such as agricoop.gov.in and Indiastat.com. The data thus collected from various sources are combined together and then compared to see the impact of so called pandemic for a particular change. The simple average and tabular analysis were used to meet thr objective of the study.

Result and Discussion

Table: 1-India's export of food product (from 2018-19 to 2021-22)
(Values in US $ Million)

COMMODITY	2018-19	2019-20	2020-21	2021-22	%CHANGE	
MEAT AND EDIBLE MEAT OFFAL.	3722.5	3300.7	3223.3	3376.68	-9.28	
FISH AND CRUSTACEANS, MOLLUSCS AND OTHER AQUATIC INVERTABRATES	6256.9	6159.2	5235.4	6902.95	+10.32	
DAIRY PRODUCE; BIRDS' EGGS; NATURAL HONEY; EDIBLE PROD. OF ANIMAL ORIGIN	538.7	353.6	351.85	619.66	+15.02	
EDIBLE FRUIT AND NUTS; PEEL OR CITRUS FRUIT OR MELONS	1617.42	1490.75	1352.89	1536.50	-5.003	
LAC; GUMS, RESINS AND OTHER VEGETABLE SAPS AND EXTRACTS	1056.91	822.93	727.34	943.85	-10.69	
COCOA AND COCOA PREPARATIONS	192.69	180.10	149.77	153.68	-20.24	
PROCESSED FRUITS AND JUICES	299.22	298.57	321.88	370.12	23.69	
PROCESSEDVEGETABLE	150.83	152.54	213.87	213.77	41.72	

Source: DGCI&S, Department of Commerce

Table 1 depicts that corona virus pandemic has slashed shipments of Indian meat because of reduces order placement from other countries due to restrictions imposed by various countries related to transport and shipments, further decrease in consumption of meat because fear of COVID spread. Processed fruits and fruit juices, processed vegetables showed an increase in the export as fresh fruits and vegetables were not available in the market because of their perishable nature.

Table: 2-Percentage growth in GVA sector wise

	2018-19	2019-20	2020-21
All India	10.77	6.87	-1.62
Manufacturing	9.58	-3.84	0.15
Agriculture forestry & fishing	7.03	10.86	7.47

Source: central statistics office (CSO), Ministry of Statistics and Programme implementation (MOSPI); PRS.

Table 2 shows that Percentage growth in GVA of India in the year 2020 overall became negative as the result of pandemic affecting various sectors. In case of agriculture sector growth remained positive with slight decrease in growth percentage as agriculture came out as the least affected sectors of economy during covid-19.

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Table 3: Share of Agriculture and Allied Sectors in Gross Value Added (GVA) of the Country During the last three years at current prices is given below.

Year	Percentage Share of GVA of Agriculture and Allied sector to Total Economy(in percent)
2018-19	17.6
2019-20	18.4
2020-21	20.2

Source: National Statistical Office (NSO), M/o Statistics & PI

Table 3 refers that Percentage share of agriculture and allied sector in GVA is continuously increasing through the years , it can be because agriculture and allied sector showed less to no loss as compared to other sector of economy which were drastically affected during this pandemic.

Table: 4 - FDI inflows in Agriculture sector in India

YEAR	AMOUNT ($Million)	%CHANGE
2017-18	127.4	-
2018-19	93.9	-26.29
2019-20	148.04	57.64
2020-21	266.84	80.27
2021-22(up to sep 21)	57.95	-78.28

Source: Department for promotion of industry and internal trade (DPIIT)

Table 4 shows, FDI inflow in agriculture is increasing even during the pandemic can be because during pandemic various sectors of economy were in a loss and agriculture sector was the least affected sector when compared to other sectors, thus gaining the faith and confidence of investors.

Table: 5-Wholesale and retail prices during lockdown{Change present in wholesale and retail price of essential food items in the post lockdown over pre lockdown period .Change in post lockdown week (5-11 April2020)over pre lockdown week(15-21 march 2020).

CENTRE	PRICES	WHEAT	WHEAT FLOUR	GRAM DAL	TUR DAL	POTATO	ONION
CHENNAI	WHOLESALE	5.0	0.0	10.8	15.1	29.7	-0.2
CHENNAI	RETAIL	6.1	0.0	10.3	8.8	30.0	10.0
DELHI	WHOLESALE	0.0	2.9	0.7	8.6	10.4	-27.0
DELHI	RETAIL	0.0	6.5	13.2	2.4	14.1	-0.4
KOLKATA	WHOLESALE	-	5.7	11.0	2.1	36.9	0.0
KOLKATA	RETAIL	-	9.6	9.2	2.3	30.8	0.0
MUMBAI	WHOLESALE	-4.0	0.0	16.7	13.7	10.5	-13.4
MUMBAI	RETAIL	0.0	-2.4	18.3	12.9	20.3	13.2

Source: ICAR

Table 5 shows the change in price potato, gram dal, and tur dal shows positive change meaning increase in price, post lockdown period than pre lockdown, which can be attributed to disrupted supply chain, absence of transport facilities,and closure of several mandis because of lockdown.Onion on the other hand shows decrease in price post lockdown ,as for several weeks farmers were unable to take their produce to the markets and traders were unable to go to villages to buy the produce and producers were forced into distress sales to whoever they could selltheir produce within the villages.

Table: 6- Market arrivals for major states during 1st march to 10th April, (value in 1ooo tonnes)

CROPS	2019	2020	%CHANGE
WHEAT	2543	1031	-59.45
PADDY	1035	851	-17.77
POTATO	1494	837	-43.97
ARHAR	96	79	-17.70
LENTIL	104	91	-12.5
BENGAL GRAM	591	128	-78.34
URAD	51	24	-52.94
GREEN GRAM	31	12	-61.29

Source: AGMARKNET

No preparations were made to ensure continuation of agricultural marketing or to ensure safety of food supply chains before the lockdown was announced which affected agricultural supply chain. Nation-wide complete lockdown restricted the movement of people as well as vehicles between states, districts and even local areas.

Table: 7– Raw Silk Production, Import, Export, Consumption

YEAR	PROD (MTs)	%CHANG E	IMPORT (MTs)	%CHANGE	CONSUMPTION(MTs)	%CHANGE	EXPORT(Mn. US$)	%CHANGE
2018-19	35,468	-	2,785	-	38,253	-	291	-
2019-20	35,820	-0.99	3,315	19	39,135	2	247	-15.12
2020-21	33,770	-5.72	1,804	-46	35,574	-9	198	-19.83
2021-22	26,587	-21.27	1,377	-24	31,620	-11	211	+6.5

Source: PIB

Table no 7 explains that Sericulture sector was adversely affected due to covid-19 and lockdown in both production and export of silk. The major problems faced by the silkworm rearers during the lockdown and post lockdown periods were non-availability of the inputs, crash in the cocoon prices, cocoon transportation problem, and fewer cocoon purchasers or reelers in the market.

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Table :8-Production and export of honey in India

YEAR	PRODUCTION (MTs)	% GROWTH	EXPORT(MTs)	%CHANGE
2011-12	68.87	5.00	-	-
2012-13	72.30	5.00	-	-
2013-14	76.15	5.33	28,378.42	-
2014-15	80.53	5.75	-	-
2015-16	88.90	10.39	-	-
2017-18	94.50	6.30	-	-
2018-19	105.00	11.11	-	-
2019-20	117.60	12	59536.74	-
2020-21	135.24	15	73601	+23.62
2021-22	-	-	74,413	+1.10

Source: National Bee Board and Press Information Bureau (PIB).

In table 8 we can observe that the honey production during the pandemic in the year 2020-21 is increased as compared to previous year of 2019-20, decrease in the air and noise pollution due to lockdown and pesticide-free atmosphere which kept honeybees busier can be one of the reasons responsible for this change. Export of natural honey increases continuously without being affected during pandemic because of latest food consumption trends, particularly after the increased COVID-19 spread honey was proved to be an immunity booster product.

Table: 9–People employed across agricultural sector in India (FY2017 to FY 2021)

YEAR	EMPLOYEES(MILLIONS)	%CHANGE
2017	145.66	-
2018	143.84	-1.24
2019	143.40	-0.30
2020	145.88	1.72
2021	151.79	4.05

Source: STATISTICA

Table: 10-Share of employment of major sectors in total employment in India (in percent).

YEAR	AGRICULTURE	MANUFACTURING	CONSTRUCTION
2017-18	35.3	_	_
2018-19	36.1	_	_
2019-20	38	9.4	13.5
2020-21	39.4	7.3	15.9

Source: Consumer Pyramids Household Survey (CPHS), by Centre for Monitoring Indian Economy (CMIE)

From table no 9 and 10 we can say that employment in agriculture sector has been decreasing over the years till 2019 .From the year 2020 employment in agriculture sector started increase, this was the time when COVID hit India .During COVID, labour from manufacturing and construction sector

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industries have migrated to agriculture sector during distress, despite low wages because agriculture sector was the least affected sector when compared to other sectors during pandemic.

Conclusion and Suggestions

Export of major agriculture and allied commodities was reduced during the year in focus that is 2020-21. Processed food products were preferred more than fresh vegetables, fruits. Export of processed vegetable increased by 41 percent. Gross value added of the agriculture sector has increased, along with the increased contribution in total GVA: 20 percent, which shows stable and comparatively positive growth in agriculture and allied sector than other sectors. It may be observed that the share of the livestock and fishing & aquaculture in total agricultural GVA has been improving during the period. FDI inflow in agriculture also increased by 80 percent than previous year. Sericulture observed setback regarding both production and export. Export of raw silk reduced by 20 percent and production fell by 6 percent than the previous year figures. Apiculture sector was positively affected. Export of natural honey saw an increase by 24 percent as compared to previous year, along with increased production by 15 percent than the previous year production. On the whole, at the national level the impact of COVID-19 and the resultant lockdown had been quite harsh on majority of allied sector along with the adverse effect on perishables.

Some of the innovative measures should be taken by the government in order to maintain the supply chain of the commodities across the market and properly implicating various existing policies along with new policy to maintain supply- demand balance. In order to decrease the spread of such diseases in future automated machine should be developed for various steps in marketing channel like packaging, sorting and grading.

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