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Artha Beekshan, Volume 30, No. 4, March 2022

Publication of ***Artha Beekshan***, the quarterly referred journal of Bangiya Arthaniti Parishad, that is, the Bengal Economic Association, is one of the most important academic activities of the Association. The present volume, **Volume 30, No. 4** of the Journal, is published containing the selected papers contributed by scholars. We are thankful to the authors and members who have helped in one way or other in the preparation of this volume.

The publication of this issue of Artha Beekshan is helped by grant from ICSSR.

I would like to extend my whole-hearted thanks to the Editorial team, the Publisher, and all who have helped in the publication process, and especially the office bearers of Bangiya Athaniti Parishad for their kind endeavours to make this issue of **Artha Beekshan** viable and Kolkata Mudran for bringing out the present issue.

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Macroeconomic Impact of Covid-19 Pandemic on India and the Global Economy

Dr. Rajib Bhattacharyya[1]

Abstract

Over the last one and half years from the beginning of 2020, the entire world has been confronting and passing through the largest disaster of the century in the form of Covid-19 pandemic. It started with the health catastrophe in its first phase but gradually transformed into a severe socio-economic shock. The already fragile global economy was struck by a devastating blow of the corona pandemic and after infecting millions at an alarming rate, it created recessionary situation which brought economies to a near standstill situation. It is apprehended to leave long- lasting scars on the economy in the form of lower investment, erosion of human capital through lost work, fragmentation of world trade and disruptions in supply networks and on the demand side through lack of purchasing power due to millions of job loss worldwide. Irrespective of developed, developing or emerging markets it has affected the labour productivity and growth potential in the long run. Nations which are heavily dependent on foreign trade, tourism and remittances from abroad are more severely hit by the crisis. But the overall macroeconomic impact on a nation varied greatly depending on its shock absorption capacity, health and socio-economic infrastructure, monetary base of the government and implementation of appropriate revival policy and other related factors. In this present paper, we broadly focus on the various aspects of the macroeconomic impact of the Covid-19 pandemic on India and the world. It seeks to examine the differential impact on real GDP growth in various nations of the world, effect on Covid-19 Stringency Index, impact on labour market, trade, inflation rate, changes in consumer sentiments and finally the effect on education, in general. It also attempt to throw some light on the Government of India's Atmanirbhar Bharat Package and other revival policies.

Keywords: Covid-19 pandemic; GDP growth; Inflation; Labour Market; International Trade; Impact on Education; Revival Policy.

JEL Code :C54, E53, F16, O47.

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I. Introduction

If we look back at history, we will observe that since the beginning of the 21st century there were recurring outbreaks of pandemics- like the SARS outbreak in 2003, H1N1 influenza in 2009, MERS corona virus in 2021, Ebola in 2014-16, mosquito borne Zika virus in 2016. The latest addition to this record has been the Covid-19 pandemic in 2020. This Covid-19 pandemic has already proved itself more fatal than devastations of War as it resulted in miseries, distress, impoverishment, deprivation particularly to lower income daily wage earners and informal sector workers. It has in fact thrown the biggest challenge to mankind- “Life, Livelihood or both”. It has also brought about significant structural transformation in various segments of socio- economic life- production, consumption, work pattern and social relations.

It started with the health catastrophe in its first phase but gradually transformed into a severe socio-economic shock. The already fragile global economy was struck by a devastating blow of the corona pandemic and after infecting millions at an alarming rate, it created recessionary situation which brought economies to a near standstill situation. It is apprehended to leave long- lasting scars on the economy in the form of lower investment, erosion of human capital through lost work, fragmentation of world trade and disruptions in supply networks and on the demand side through lack of purchasing power due to millions of job loss worldwide. Irrespective of developed, developing or emerging markets it has affected the labour productivity and growth potential in the long run. Nations which are heavily dependent on foreign trade, tourism and remittances from abroad are more severely hit by the crisis. But the overall macroeconomic impact on a nation varied greatly depending on its shock absorption capacity, health and socio- economic infrastructure, monetary base of the government and implementation of appropriate revival policy and other related factors.

The first wave of the Covid-19 pandemic started with the identification of the coronavirus disease in Wuhan, China, in early December 2019. The cause of this disease is severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). But the first case of COVID-19 in India was reported on 30 January 2020. Lockdowns were announced in Kerala on 23 March, and in the rest of the country on 25 March, 2020. Daily cases peaked mid-September with over 90,000 cases reported per-day and then gradually dropping to below 15,000 in January 2021. A second wave, beginning in March 2021 was much severe than the first, with shortages of vaccines, hospital beds, oxygen cylinders and other medicines in parts of the country. On 30 April 2021, India became the first country to report over 400,000 new cases in a 24-hour period. As of 12 June 2021, India had the 2nd highest number of confirmed cases in the world (after the US) with 29.3 million reported cases of COVID-19 infection and the 3rd highest number of COVID-19 deaths (after the US and Brazil) at 367,081 deaths.

The second wave of Covid-19 has exhibited a downward trend in India since July 2021. A study by IIT Kanpur (Prof. Rajesh Ranjan and Prof. Mahendra Verma) says that the third wave of Covid-19 is expected by September to October this year. The third wave might hit India much more severely if people stop wearing masks, avoid social distancing and ignore other Covid- appropriate behaviours, AIIMS Director Randeep Guleria warned. There are also apprehensions that this third wave may affect children below 18 years comparatively more since the vaccination of this section has yet to be done in many countries like India.

II. Objective of the Study and Methodology

In this present paper, we broadly focus on the various aspects of the macroeconomic impact of the Covid-19 pandemic on India and the world. It seeks to examine the differential impact on real GDP growth in various nations of the world, effect on Covid-19 Stringency Index, impact on labour market, trade, inflation rate, changes in consumer sentiments and finally the effect on education, in general. It also attempt to throw some light on the Government of India's Atmanirbhar Bharat Package and other revival policies. It is based on secondary time series data available from various global data base like Oxford Corona Virus Government Response Tracker (OxCGRT) database, Global Economic Prospects (World Bank), World Economic Outlook (IMF), International Labour Organization (ILO), United Nations Conference on Trade and Development (UNCTAD) and World Trade Organization (WTO), UNESCO and in case India from Ministry of Statistics and Program Implementation (MoSPI) Government of India, Reserve Bank of India (RBI), Centre for Monitoring of Indian Economy (CMIE), Ministry of Commerce and Industry, Department of Commerce, Economic Division, Government of India and other such reports.

The Covid-19 Stringency Index

Before looking at the impact of this corona pandemic on India and the world economy, let us have a brief review of the various levels of lockdown restrictions imposed in some selected countries of the world along with India. The Covid-19 Stringency Index or the Oxford Corona Virus Government Response Tracker (OxCGRT) is a composite index based on nine response indicators including school closures; workplace closures; cancellation of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls. It has been scaled to a value from 0 to 100 (100 = strictest). Depending on the types of restrictions imposed there has been large variations in this index from time to time. Table-1 clearly shows that the stringency measures were much stricter in India (other than China in July) compared to many advanced countries of the world.

Table-1: The Covid-19 Stringency Index

Country	Stringency Index
India	70.83
China*	79.17*
Brazil	51.39
Italy	50.00
UK	43.98
US	56.02
Russia	52.31

[Source: Oxford Corona Virus Government Response Tracker (OxCGRT) database]

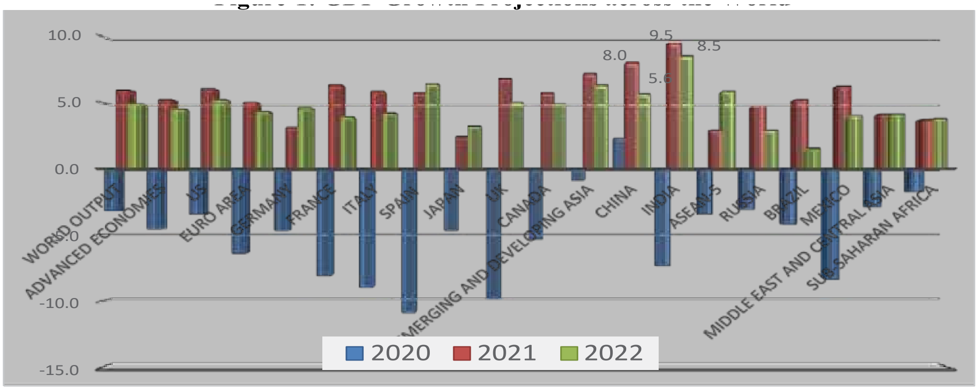
[Note: All figures are stated as on 23rd August 2021(except china); * in case of China the latest figures are on 19th July 2021]

As per the Global Economic Prospects (June 2021, Report) - "Following last year's collapse, the global economy is experiencing an exceptionally strong but uneven recovery. While advanced economies are re- bounding, many of the world's poorest countries are being left behind, and much remains to be done to reverse the pandemic's staggering human and economic costs." Moreover, the recovery is not assured: the possibility remains that additional COVID-19 waves, further vaccination delays, mounting debt levels, or rising inflationary pressures deliver setbacks." The resumption of growth cannot make up for the misery that the pandemic has inflicted on the poorest and its disproportionate impact on vulnerable groups, including women, school-age children, and informal and unskilled workers, which has widened inequality. First and foremost, expanding vaccine distribution and deployment, especially to developing countries, is a precondition to economic recovery. The pandemic, which spurred an unprecedented buildup in government debt in many economies, has highlighted the issue of debt financing.

a. Impact on Global and India's GDP

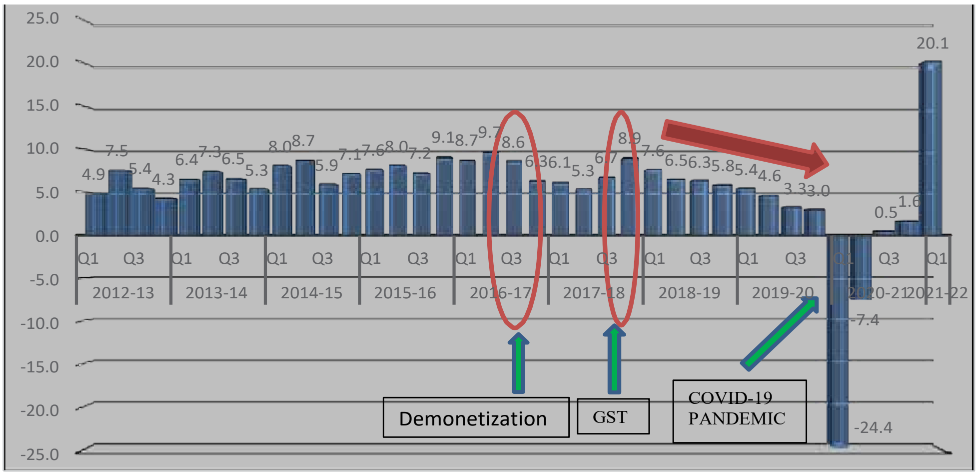
According to the latest published report of the IMF (World Economic Outlook, October, 2021), except China (2.3 percent) all countries of the world had registered a negative growth rate of GDP in the year 2020. But the growth projections in 2021 and 2022 are positive, but with varying degrees depending on the post-covid recovery situation. But it is interesting to note that among all such projections the growth rate is predicted to be the highest in India in 2021 (9.5percent) and 2022 (8.5 percent), ahead of China and other advanced and other emerging economies (Figure-1).

Figure-1: GDP Growth Projections across the World



[Author's Construction based on the World Economic Outlook, October, 2021]

Figure-2: Quarterly Estimates of GDP Growth Rate in India

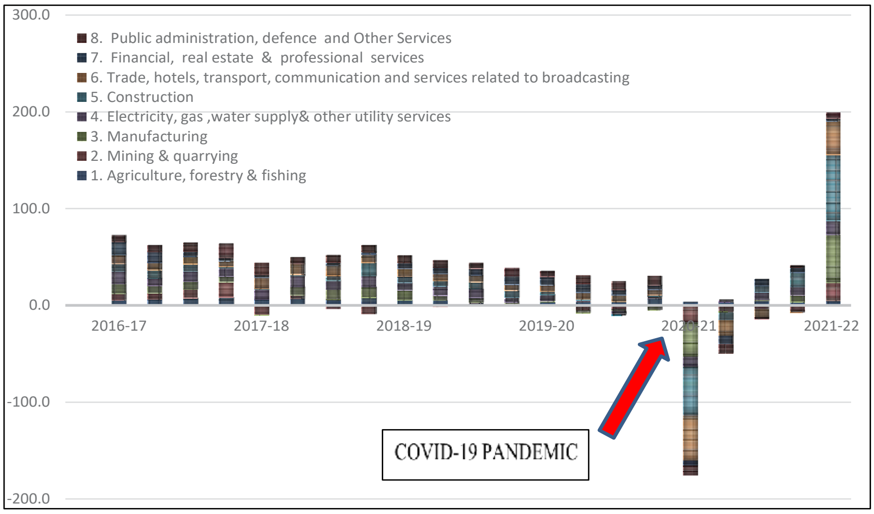


[Source: Author's Construction based on Ministry of Statistics and Programme Implementation, Govt. of India]

As per the official data released by the Ministry of Statistics and Program Implementation (MoSPI) Government of India, the Indian economy contracted by 7.3 percent in the April-June quarter of the fiscal year 2020-21. This is the worst decline ever observed since the ministry had started compiling GDP stats quarterly in 1996. In the third quarter of 2016-17 the Indian economy was faced with the challenge of demonetization and then in the next year the implementation of the Goods and Services Tax (GST). Since the first quarter of 2018-19 till the last quarter of 2019-20 (figure-2), there was a steady decline in the growth rate in line with the global slowdown.

Except for the mining and quarrying, the other subsectors has registered a positive value-added since 2017-18 till 2019-20. But during the first two quarters of 2020-21almost all the sectors (except agriculture) registered a negative GVA (Figure-3). The second wave of Covid-19 has brutally exposed and worsened existing vulnerabilities in the Indian economy. India's $2.9 trillion economy remains shuttered during the lockdown period, except for some essential services and activities. As shops, eateries, factories, transport services, business establishments were shuttered, the lockdown had a devastating impact on slowing down the economy. The informal sectors of the economy have been worst hit by the global epidemic.

Figure-3: Gross Value Added (GVA) of Various Sectors in India



[Source: Author's Construction based on Ministry of Statistics and Programme Implementation, Govt. of India]

Table-2 shows the RBI forecasts for the 70th round survey. As per this survey, real gross domestic product (GDP) growth projection for the current year 2021-22 has been revised down from the last survey round to 9.8 per cent; it is expected to grow by 6.5 per cent in 2022-23. Real private final consumption expenditure (PFCE) is expected to grow by 10.8 per cent during 2021-22 and by 6.9 per cent in 2022-23 .Real gross fixed capital formation (GFCF) is projected to record a growth of 11.4 per cent in 2021-22 and then by 7.1 per cent in 2022-23. Real gross value added (GVA) is expected to grow by 9.0 per cent in 2021-22, with a sharp pick-up in industrial and services activities; it is likely to record 6.1 per cent growth in 2022-23.

Table-2: RBI- Survey of Professional Forecasters on Macroeconomic Indicators – Results of the 70th Round (June 4th, 2021)

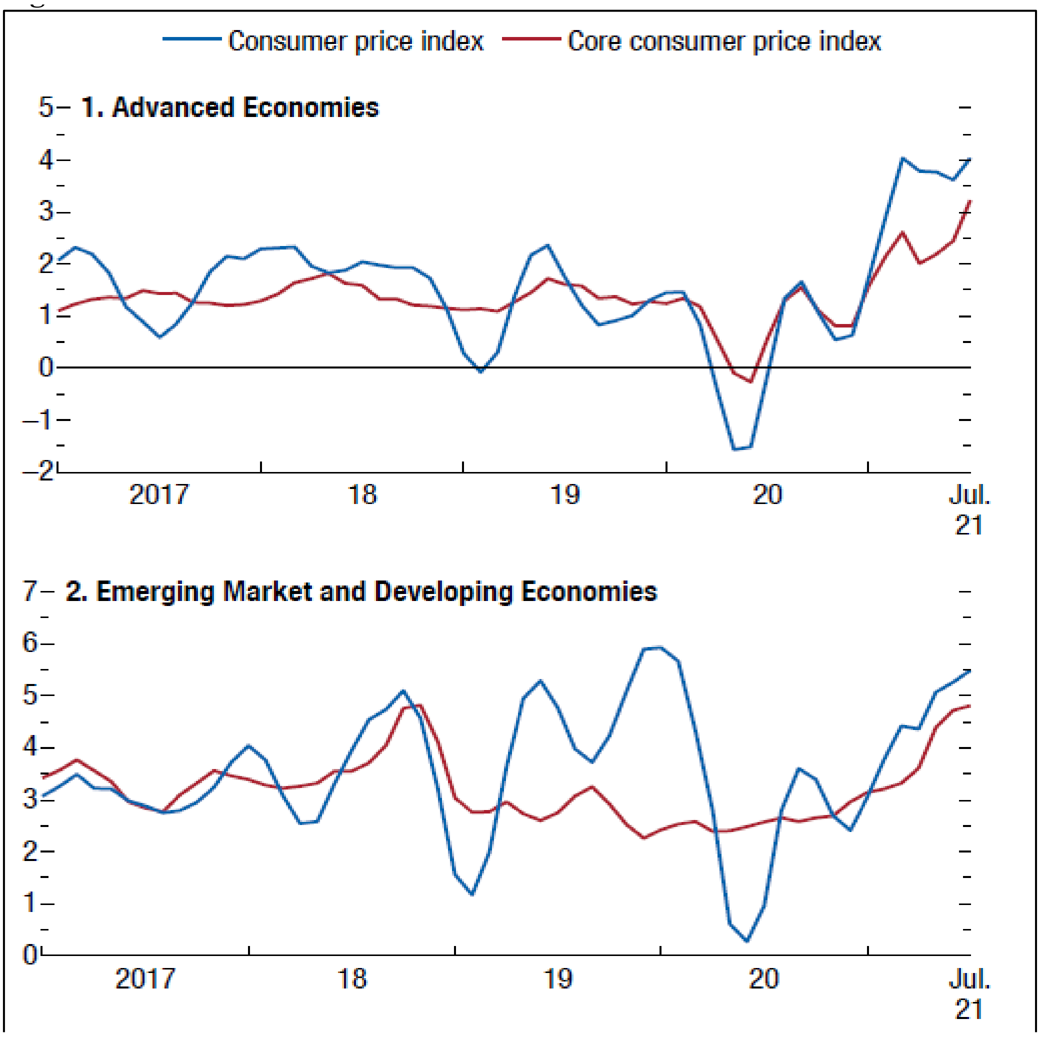
Median Forecast of Growth in GDP, GVA and components (in per cent)		
	2021-22	2022-23
Real GDP	9.8 (-1.2)	6.5
a. Real PFCE	10.8 (-1.2)	6.9
b. Real GFCF	11.4 (-2.0)	7.1
Nominal PFCE	15.0 (-1.3)	11.1
Real GVA	9.0 (-1.0)	6.1
a. Agriculture and Allied Activities	3.0 (0.0)	3.1
b. Industry	10.9 (-1.4)	5.9
c. Services	9.7 (-1.7)	7.3
Gross Saving Rate [per cent of gross national disposable income] (GNDI)]	28.9 (-0.7)	29.3
Gross Capital Formation (GCF) Rate [per cent of GDP at current market prices]	29.8 (-0.3)	30.2

Note: The figures in parentheses indicate the extent of revision in median forecasts (percentage points) relative to the previous SPF round (applicable for all Tables). [Source: www.rbi.org.in]

b. Impact on Inflation

Although there are differences on the extent of price rise across countries, but headline inflation rate has been increasing very rapidly in many advanced countries and emerging and developing nations. In some countries in sub-Saharan Africa and the Middle East and Central Asia, food prices have increased significantly amid local shortages and the rise in global food prices. To a large degree, the increase in inflation reflects a combination of pandemic-induced supply- demand mismatches, rising commodity prices, and policy-related developments.

Figure-4: Global Trends in Inflation



[Source: World Economic Outlook, October, 2021]

Table-3: Inflationary Trends in India

All India Inflation rates (%) based on CPI (General) and CFPI

Indices	Jul. 2021 (Prov.)			Jun. 2021 (Final)			Jul. 2020		
	Rural	Urban	Combd.	Rural	Urban	Combd.	Rural	Urban	Comb
I (General)	5.49	5.82	5.59	6.16	6.37	6.26	6.76	6.70	6.73
PI	3.55	4.56	3.96	5.02	5.42	5.15	9.47	8.99	9.27

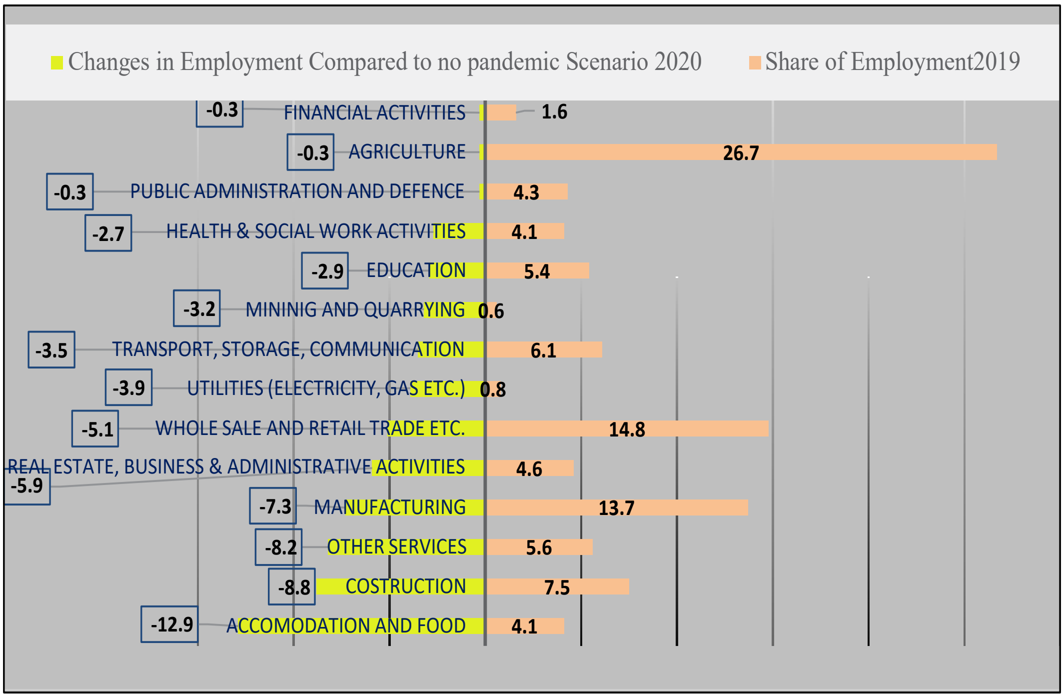
[Press Release as on 12th August 2021, Ministry of Statistics and Programme Implementation, GOI]

The National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI) has released the latest figures of "All India Consumer Price Index (CPI) on Base 2012=100 and corresponding Consumer Food Price Index (CFPI) for Rural (R), Urban (U) and Combined (C) for the month of July 2021 (Provisional)". All India Inflation rates are calculated on point to point basis i.e. current month over same month of last year, i.e. July 2021over July 2020, based on General Indices and CFPIs. It clearly shows that compared to June 2020 and 2021, there been downward trend in inflation rates in rural, urban and combined in July 2021 (table-3). For food and beverages the inflation rate is 4.46 percent; for pan, tobacco and intoxicants it is 4.41 percent; clothing and foot wear 6.46 percent; housing 3.86 percent; fuel and light 12.38 percent (the highest); miscellaneous 6.71 percent (Press Release MoSPI, 12th August, GOI).

c. Impact on Labour Market

Labour market has been the worst hit due to the pandemic in 2020. As per the latest report of the International Labour Organization (ILO), though the labour market is showing some signs of recovery, but the pace is uneven.

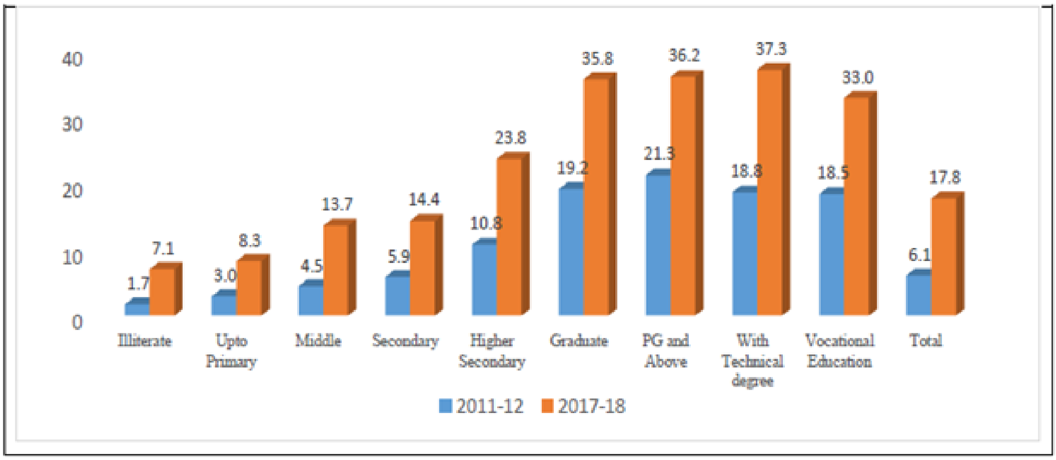
Figure-5: Changes in Global Employment Compared to no pandemic and sector-wise share



[Source: Author's Construction based on ILO-STAT, ILO modelled estimates April, 2021]

Employment around the world remains below its pre-pandemic levels, reflecting a mix of negative output gaps, worker fears of on-the-job infection in contact-intensive occupations and labor demand changes as automation picks up in some sectors. The employment losses of some sectors have been ruinous, whereas others have been less affected, or even experienced growth. Sectors where workers whose jobs require interaction with the public, have been confronting exposure to COVID-19 on a daily basis. This includes- (1) Enterprises (2) Healthcare sector (3) Retail trade. Worldwide, employment in the accommodation and food services sector is estimated to have been the worst affected by the crisis. The tourism industry as a whole includes the airline industry, which employs over 10 million workers around the world & 144 million workers engaged worldwide in the accommodation and food services sector. The wholesale and retail trade sector were also heavily impacted, with a 5.1 per cent decrease in employment as a result of the crisis. Manufacturing and construction are estimated to have incurred a significant decline in employment as a result of the crisis. Agriculture is estimated to have suffered a relatively small impact in terms of total job loss.

Figure-6: India's Employment Scenario, prior to Corona



[Source: Author's construction based on the work by Mehrotra & Parida, Oct, 2019]

If we consider the India's employment scenario prior to Corona, we will observe that the Indian economy had already been passing through an unprecedented decline in employment from 2011- 12 to 2017-18 (Mehrotra & Parida, Oct, 2019). Due to a decline of employment in agriculture and manufacturing and slow growth of construction jobs, the process of structural transformation, which had gained momentum post-2004-5, has stalled since 2012. Mounting educated youth unemployment, and lack of quality non-farm jobs have resulted in an increase of the disheartened labour force. For each level of education, the unemployment rate increased by 2017-18 : among illiterates to 7.1 % to 8.3 % for youth having up to primary education, 13.7 % with middle education, 14.4 % with secondary, 24 % with higher secondary education, 35.8 % for graduates and 36.2 for post graduates. Moreover, for the graduates with technical education degree the unemployment rate was the highest (37.3 %).

Table-4: Monthly Unemployment Rates during Corona (Sept. 2020 to August 2021)

Month	Unemployment Rate (%)		
	India	Urban	Rural
Sep 2020	6.68	8.45	5.88
Oct 2020	7.02	7.18	6.95
Nov 2020	6.50	7.07	6.24
Dec 2020	9.06	8.84	9.15
Jan 2021	6.52	8.09	5.81
Feb 2021	6.89	6.99	6.85

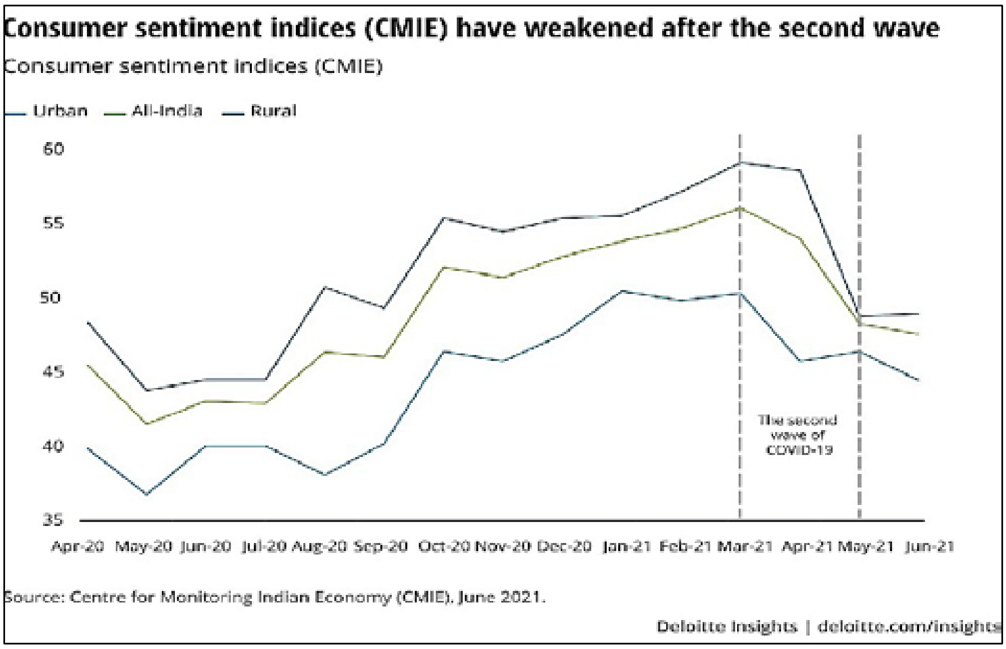
	India	Urban	Rural
Mar 2021	6.50	7.27	6.15
Apr 2021	7.97	9.78	7.13
May 2021	11.84	14.72	10.55
Jun 2021	9.17	10.08	8.75
Jul 2021	6.96	8.32	6.34
Aug 2021	8.32	9.78	7.64

[Source: Centre for Monitoring Indian Economy as on 3rd September, 2021]

In May 2021, India's labour participation rate at 40 per cent was the same as it was in April 2021. But, the unemployment rate shot up to 11.9 per cent from 8 per cent in April, 2021 (table-4). A stable labour participation rate combined with a higher unemployment rate implies a loss of jobs and a fall in the employment rate. The employment rate fell to 35.3 per cent in May 2021 from 36.8 per cent in April 2021. Over 15 million jobs were lost during May 2021. Employment fell from 390.8 million in April 2021 to 375.5 million in May 2021. This translates into a loss of 15.3 million jobs, or a 3.9 per cent fall in employment in the month. April and May 2021 witnessed a particularly severe fall in employment (22.7 million of the 25.3 million job losses in the past four months). This is the period of the severe second wave of Covid-19 (due to varying degrees of lockdown and disruption in economic activities). The real estate and construction industry took the biggest hit in employment during April-May 2021 (shrink by 8.8 million). Most of the employment in this industry is informal. Manufacturing industries took a hit of 4.2 million jobs. Hotels and tourism took a hit of 4 million. Wholesale and retail trade saw employment fall by 3.6 million. These industries are also employers of large numbers of informally engaged labour.

d. Impact on Consumer Sentiments

Figure-7: Changes in Consumer Sentiments (April 2020 to June 2021)



[Source: Deloitte Insights Article July 2021]

The impact of the second wave on human health and lives has been far more severe than the first wave. The fear and uncertainties associated with the virus, which has proven to be more indomitable than previously assumed. It has shaken consumer sentiment yet again, with the index reporting a consistent decline since March 2021, cumulatively dropping by a substantial 15.4% between March and June, 2021 (figure-7). According to Deloitte's Survey of Consumer Behavior, consumers' spending intent, which was recovering after the first lockdown, reversed after the second wave. The inclination to spend on essentials such as groceries, household goods, and medicine rose sharply in June 2021 compared to early March 2021.

e. Impact on Industry

For the month of July 2021, the Quick Estimates of Index of Industrial Production (IIP) with base 2011-12 stands at 131.4. The Indices of Industrial Production for the Mining, Manufacturing and Electricity sectors for the month of July 2021 stand at 104.6, 130.9 and 184.7 respectively. Except in case of mining, in all other cases- manufacturing, electricity and in general, there has been improvement in IIP as table-5 suggests.

Table-5: Index of Industrial Production (IIP), India

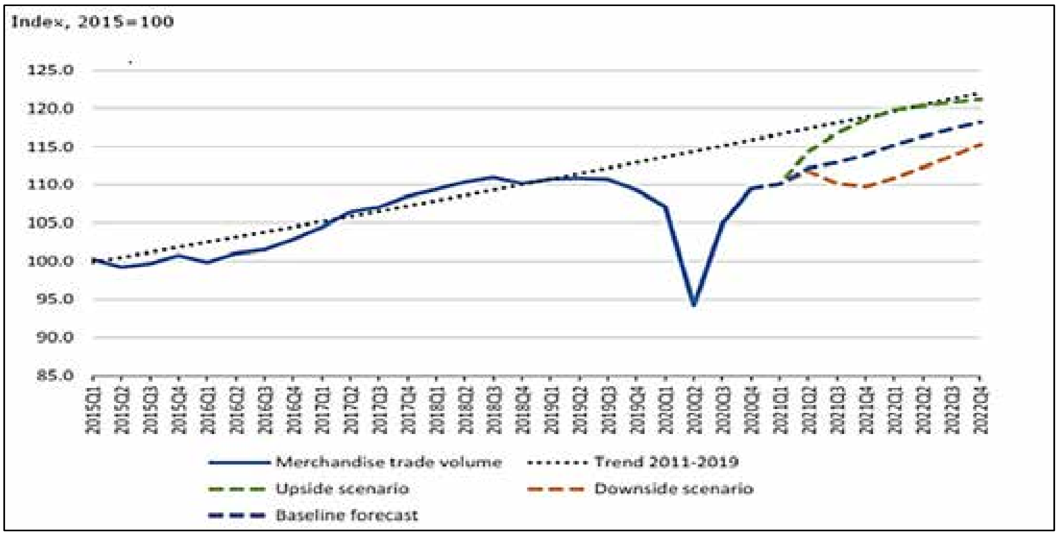
	Mining		Manufacturing		Electricity		General	
Month	2020	2021	2020	2021	2020	2021	2020	2021
April	78.8	107.6	42.1	124.6	125.6	174	54	126.1
May	87.6	108	84.4	112.7	150.6	161.9	90.2	116
June	85.7	105.5	107.1	121	156.2	169.1	107.9	122.6
July	87.5	104.6	118.5	130.9	166.3	184.7	117.9	131.4

[Source: Ministry of Statistics & Programme Implementation- Estimates of Index of Industrial Production for the month of July, 2021 (Base 2011-12=100)] [Note: Base: 2011-12 = 100]

f. Impact on Foreign Trade

As per the statement of the WTO Director-General "The strong rebound in global trade since the middle of last years has helped soften the blow of the pandemic for people, businesses, and economies. Keeping international markets open will be essential for economies to recover from this crisis and a rapid, global and equitable vaccine roll-out is a prerequisite for the strong and sustained recovery".

Figure-8: Changes in the World Merchandise Trade Volume (Q1 2015 to Q4 2022)



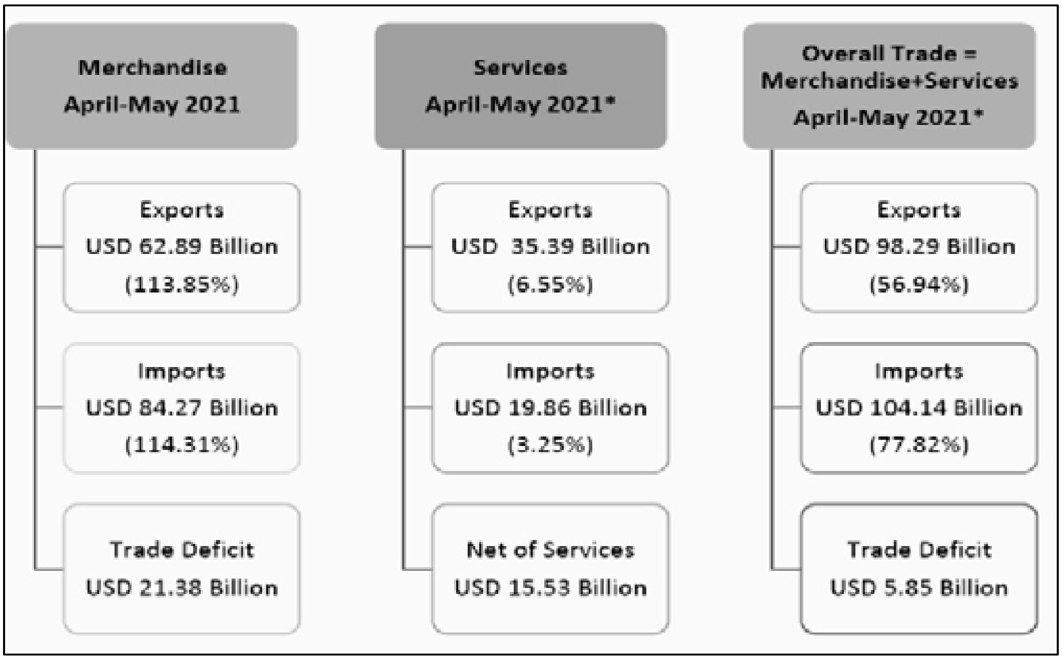
[Source: WTO and UNCTAD for Trade Volume data; WTO for Forecast]

World merchandise trade volume is expected to increase by 8.0 percent in 2021 after falling 5.3 percent in 2020, a smaller decline than previously estimated. Trade growth will likely slow to 4.0 percent in 2022, volume of global trade remaining below the pre-pandemic trend. Falling oil prices led to a 35 percent contraction in trade in fuels in 2020.

Travel services were down 63 percent in 2020 and are not expected to fully recover until the pandemic wanes. In the upside scenario, vaccine production and dissemination would accelerate, allowing containment measures to be relaxed sooner. In the downside scenario vaccine production does not keep up with demand and/or new variants of the virus emerge against which vaccines are less effective.

India's overall exports (Merchandise and Services combined) in April-May 2021 are estimated to be $ 98.29 billion, a positive growth of 56.94 percent over the same period last year. Overall imports are estimated to be $ 104.14 billion, a positive growth of 77.82 percent over the same period last year (Merchandise Trade Deficit = $ 21.38billion. Services Trade Surplus =$15.53 billion. Overall trade deficit= $5.85 billion).

Figure-9: India's Foreign Trade (as on May 2021)



[Source: Ministry of Commerce and Industry, Department of Commerce, Economic Division, Government of India]

g. Impact on Education

Due to lockdown, social distancing and various containment measures the future of the school and higher education is facing tremendous uncertainty. It has raised the issue of "traditional vs online education" – which one is more effective as well safe from health point of view. In Traditional form of education, due to very high student teacher ratio, in most cases the social distancing could not be guaranteed due to lack of adequate infrastructure. There are greater chances of Community spreading by means of the student community. In case of E-learning we first need a reorientation of teachers, students, parents and other staff related to the education sector. We also require a major re-structuring of the physical and technological infrastructure in this sector. Affordability of Digital education -access to internet or smart mobile phone- is a major issue in many backward and rural areas+ issues related to connectivity The Indian National Commission for Cooperation with UNESCO (INCCU) & the Ministry of HRD are promoting digital education through online educational platforms and through the mediums of TV and radio. E.g. e- PATHSHALA, SWAYAM, DIKSHA, SWAYAM PRABHA, NATIONAL DIGITAL LIBRARY, NATIONAL REPOSITORY OF OPEN EDUCATIONAL RESOURCES (NROER) – are commonly used digital platforms.

Table-6: Impact of Covid-19 on School Education

Country	Duration of FULL closures from Mar-Aug 20 (in weeks)	Duration of FULL closures from Sep 20 - Aug 21 (in weeks)
India	18	7
China	14	0
Brazil	21	17
UK	9	7
Spain	10	0
Nigeria	15	3
Mexico	17	36
Japan	3	0
Italy	13	0
France	6	1
Egypt	14	2
Canada	13	0
USA	0	0
Russian Federation	0	0
Australia	0	0

[Source: UNESCO global dataset on the duration of school closures (as on 30th September, 2021]

Table-6 provides an overview of the impact of Corona pandemic on school education across the world. But it is interesting to note that there has been a wide variation (as far as full closures of school are concerned) across the globe. Countries like Brazil, Mexico, India are hard hit where as USA, Russia, Australia have not gone for full closure of school during the period under consideration.

Policy Measures and Strategies for Revival

In order to recover from the disastrous economic and social effects of the pandemic various countries have already adopted different kinds of revival strategies. But they can be broadly divided into three categories:

(a) Demand Management Policies-

They basically include the fiscal and monetary stimulus package. In India the Prime Minister had announced the "Atmanirbhar Bharat" package on 13th May 2020 Rs. 20 lakh crore plus 50,000 crores for MSMEs. Earlier the Govt. had announced Rs. 1.7 lakh crore (March 26, 2020). This calls for self-reliant India with its five important pillars- Economy, Infrastructure, System, Vibrant Demography and Demand. It also suggested to become vocal for our local products and make them global. It was announced by the finance minister for different sections of the population on five consecutive days. The latest announcement came on 30th June, when Rs.6.29-lakh crore relief package was declared for the pandemic-hit economy. Rs.1.5 lakh crore of additional credit for small and medium businesses, more funds for the healthcare sector, loans to tourism agencies and guides, and waiver of visa fee for foreign tourists. The finance minister provided Rs.23,220 crore of additional funding to set up children and paediatric care at hospitals to prepare healthcare infrastructure to deal with any emergency. Other announcements included an additional Rs.19,041 crore to provide broadband internet cover to all village panchayats. Besides this we also have the Cash transfers, Unemployment insurance and PDS or food rationing. Extension of tax and debt payments on loans and EMIs and reduction in interest (as investment incentive). This are targeted to boost aggregate demand in the economy.

(b) Removal of Supply Bottlenecks Strategy-

This includes- (i) Developing its own supply chain and reduce dependence of foreign imported parts and inputs. (Strategy of self- reliance). (ii) Producing for the export market (cheap and qualitatively better) depending on new areas of comparative advantage and product diversification (Make-in India strategy). (iii) Lowering of trade barriers on intermediate inputs for boosting domestic production and exports to reduce economy-wide costs. (c) Other Sector Specific Measures- (i) Protecting workers in the work place, stimulating the labour demand and supporting employment and incomes are essential (ILO). (ii) Stress on expanding MGNERGA jobs for temporary absorption of informal sector workers. (iii) Access & use of digital platforms and e-resources and continue their knowledge up gradation. (iv) More investment in building strong health infrastructure and R&D to combat health pandemics. (v) Formulate strategic plans for industrializations with massive investments in infrastructure.

III. Conclusions

There is no doubt that Covid-19 pandemic has shaken the whole world with its deep-rooted health catastrophe and macroeconomic slowdown. It has brought life to standstill of a large section of the population, particularly the workers of the informal sector and migrant labourers. Sectors like food and accommodation, tourism and travel are worst hit by the pandemic. It has also nakedly exposed the condition of health infrastructure and the need for social security and insurance of the poorer sections of the society. It has re-emphasized the necessity of investing more on developing public health infrastructure to combat this kind of health pandemics in future. This has also raised the issue of financing the govt's budget deficit which has really been a concern as additional expenditure has to be incurred due to the pandemic and the tax collection has fallen to a great extent. Moreover, due to various restrictions on movements the foreign trade volume has been greatly reduced. Inflationary pressure has also been an important concern both globally as well as in India. The world of education is facing its biggest challenge in the process of converting from the physical mode to the digital mode. Besides this the pandemic has also brought about a change in the social relation and culture.

Though debates have raised regarding what should be the optimal strategy for revival. One school of thought believes that "direct income transfer" would be a better alternative to boost up aggregate demand, but definitely in the short run. The other school lay more emphasis on building long term infrastructure to generate more employment as well as removing supply bottlenecks. But in most countries of the world a combination of the two has been adopted as the optimal strategy. Along with this sector specific measures needs to taken up to save the livelihood of those related to those sectors that are hit hard by the crisis. Above all what is needed is a globally integrated cooperative effort to fight against this deadly pandemic.

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A Survey on the Economic Impact of Lockdown in Haryana in 2020

Surajit Das[1] and Kiran Lamba[2]

Abstract

Based on primary survey of households in Haryana, the paper reports the effect of lockdown on the income and expenditure, the status of the indebtedness and the degree of vulnerability of the displaced workers belonging to the informal sector.

Keywords : Income and expenditure pattern , impact of Lockdown, indebtedness, vulnerability of displaced workers.

JEL Code:R23,Z31, J62, I 13.

I.Introduction

A telephonic survey was conducted in the last quarter of 2020 (i.e. during the months of October-December) in Haryana in order to understand the economic impact of Covid-19 induced lockdown on the people of Haryana. In absence of any reliable data on this during the lockdown, this survey throws some light on the ground level situation. The sample size was 202households comprising of 1040 family members. Telephonic surveys have their own limitations however, it is a close substitute of field-based survey.It was difficult and risky to go for a direct primary survey under the Covid situation during the fourth quarter of 2020. The survey was anonymous and the sample households were chosen based on the available phone numbers. The sample households were selected from Alipur, Bahadurgarh, Barsola, Bashariya, Bhiwani, Butana, Dani Sanchia, Faridabad, Fatehabad, Frain Kalan, Gamri, Ganaur, Ghronda, Gohana, Gudda, Gurgaon, Hisar, Manesar, Israna, Jalalpur Khurd, Jauli, Jind, Jhajjar, Kaith, Kaithal, Karnal, Khanpur Kalan, Kharkhoda, Kundali, Kukranwali, Kurukshetra, Lajwana, Lohchab, Madina, Mandi, Manoli, Meham, Mohali, Moi Mazri, Murthal, Nabha, Naguran, Naira, Narela, Narwana, Panipat, Rai, Ratia, Rohtak, Rewari, Sahravan, Samalkha, Shamri, Sonipat, Towhana, Uchana,Waseretc.

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II.The Questionnaire

The survey questionnaire covered the following questions. The respondents were asked about their age, sex, educational attainment, religion, caste category, occupation and place of employment. Along with these, to understand the impact of lockdown on the income and expenditure of people, the respondents were asked about their individual and family income and expenditure before and after the lockdown. Gender-wise number of family members and earning members were also asked for calculating per capita income and expenditures. Whether the (direct) indebtedness of the surveyed families has increased due to the lockdown was also enquired. To understand the income vulnerability, a question was asked about the expected monthly income in next six months from the time of the survey. As part of the Atmanirbhar Bharat Abhiyan scheme (and previously the PM Garib Kalyan Yojana) free food-grains, free gas cylinder and some direct benefit transfer in the Jan-Dhan account of people were promised by the Union government. We enquired about the implementation of these schemes during the lockdown months in Haryana in this survey. Peoples' opinion was sought regarding the need of having an urban employment guarantee scheme. We also requested people to give other policy suggestions to overcome the crisis.

III.Sample Characteristics

The respondents were aged between 18 to 70 years from diverse occupational backgrounds. There were Anganwadi and Asha workers, Bankers, businessmen, bus and car drivers, catering worker, clerk, commission agent, dairy farmer, dentists, doctors, domestic help, engineer, farmers, fruit and vegetable sellers, government employees, house wives, mechanic, labourers, lecturer, managers, mess worker, mistri, MNREGS worker, nurse, photographer, police, dhaba owner, private sector employees, property dealer, retired person, salesman, self-employed people, beautician, travel agent, shopkeepers of various kinds of shops, educator, students, tailors, teachers, transporter, tutor, unemployed people, workers, soldiers, yoga trainers and so on.Out of total 202, 55 respondents were female and 147 were male respondents. There were 196 Hindu families, 2 Sikh, 2 Muslim, 1 Christian and 1 Jain families in the sample. There were 153 families from unreserved category, 29 from other backward caste (OBC) category and 20 families from scheduled caste (SC) backgrounds. As far as the educational background of the respondents are concerned, 28 of theme were with post-graduation (14%) and above qualification, 56 respondents (28%) have completed graduation, 50 with 12^{th} standard education (24.5%), 34 with 10^{th} standard education (17%), 14 illiterate (7%) and 20 school dropout respondents(10%) in our sample.

As far as the class composition of the sample is concerned, the per capita average monthly family income of 51 families (25%) were between Rs.1000 to Rs. 3000. There were 42 families (21%) with per capita average pre-lockdown monthly income between Rs.3070 to Rs. 4750. There were 59 families (29%) with pre-lockdown per capita income between Rs. 5000 to Rs.9167 per month and 50 families (25%) with Rs. 10 thousand and above. There were only 4 families in our sample with more than Rs. 50000 and above per capita monthly income before the lockdown.The family size varied widely from single member family to as many as 15 members in a joint family.

IV.The Results

Out of total 202 families, 34 families (17%) have reported absolutely zero income during the lockdown in Haryana. However, 54 families (27%) have reported that there was no reduction in the monthly income due to the lockdown. If we look at the average fall in income of all 202 families during the lockdown period as compared to their pre-lockdown income, we see that there has been a fall by more than 38%, on an average. However, the fall has been sharper for the poorer 46% households (by 40%-45%) than the relatively richer 29% households (by 36%) and particularly so as compared to the households of the per capita income category of Rs.10 thousand or above per month (by 31%) in our sample (see table 1 below).

Table 1: Fall in Household Income & Expenditure of Different Income Classes

Income Category	No. of Households	% of Households	% Fall in Income	% Fall in Expenditure
Rs.1000 to Rs.3000	51	25	42.36	-4.51
Rs.3070 to Rs.4750	42	21	44.64	-4.35
Rs.5000 to Rs.9167	59	29	35.65	-10.90
Rs.10000 andabove	50	25	31.08	7.13
All Categories	202	100	38.08	-3.46

Source: Calculated from the survey data.

As far as the pre-lockdown and during lockdown monthly expenditures of these families are concerned, it came down only for the households belonging to the income class of Rs.10 thousand per head per month or above income strata. This went up for all other income categories in our sample during the lockdown as the essential commodities became scarcer and relatively more expensive during the lockdown period. The richer section of the population could cut down on the non-essentials or could postpone some of their consumption decisions on the face of income fall.Undoubtedly, the income strata with less than Rs.10 thousand per capita monthly income suffered more during the lockdown as compared to this income class (top 25%). Their income came down more sharply and expenditure went up during the lockdown (see Table 1 above).Despite fall in income, as many as 72 families out of 202 households (36%) have reported absolutely unchanged monthly expenditure during the lockdown as compared to their pre-lockdown expenditures.

Some of the families could manage with their past savings and the others had to borrow to run their family during the lockdown. As many as 78 families (39%) in our sample have reported an increase in the indebtedness during the lockdown and the remaining 61% families could somehow manage with their past savings.Out of total 202 respondents, 45 (22%) respondents have said that they would not stay in the same business or job after the lockdown and the rest 78% (157) have said that they would continue to be there in the same profession as before. As high as 20% respondents (40 out of 202) have reported to lose their jobs in the recent past due to the lockdown in Haryana. In fact 59% of the respondents from the urban areas have opined that there is an urgent need of expanding the employment guarantee programme (along with the rural regions) in the urban areas as well.

As far as the implementation of PM Garib Kalyan Yojana in Haryana is concerned, it was extremely disappointing to find out only 41 families (20%) have got free ration during the lockdown and 80% of the families have said that they have not received any free ration during the lockdown months in Haryana. Only 25 families (12%) have received some money in their Jan-Dhan accounts and the rest 88% either did not have Jan-Dhan account or they have not received any money in those accounts till the month of October 2000. Only 10 families (i.e.5%) have acknowledged the receipt of the free cylinder of cooking gas during the lockdown from the government and 95% of the households have said that they have not got any such free gas cylinder during the lockdown period in Haryana. Our sample may not be a representative sample for the entire population of the state, however, it definitely throws some light on the ground level situation vis-à-vis implementation of the all India level schemes in the State of Haryana under a humanitarian crisis such as Covid-19 lockdown in 2000.

There was some illness other than Covid-19 in as many as 40 families (20%) in our sample. More than 50% of these families (22 out of 40) faced various difficulties in their medical treatment under the Covid situation. Out of 202 respondents 55 (27%) respondents were hoping that they would be able to earn the same monthly income as they used to earn before lockdown and 30 of them (15%) were expecting their income would rise in the next six months. The rest 58% respondents were either uncertain (14 respondents) of their future income or they were expecting their income to come down (for 102 respondents) in the next six months, during the time of the survey, as compared to their pre-lockdown income. More than 50% respondents were expecting their expected monthly income to be lower by 48% (i.e. almost half) on an average, as compared to their pre-lockdown income. As high as 85% respondents were suffering from uncertainty about the future regarding income, jobs, children's education and so on and so forth. Out of 202 respondents 37 have said that staying at home was not comfortable for them, however, it was comfortable for the rest 82% respondents. But, there was extreme uncertainty and sense of vulnerability in the minds of the most of the people we have talked to during the course of this telephonic survey in Haryana.

V.Policy Suggestions

The respondents were requested to give their suggestions about the government policy and to express their expectations from the government under this crisis. The main demand that is coming out from the ground is one of creation of employment opportunities. Filling up the vacant positions in the government jobs are important. The examinations for government jobs for the qualified youth should be conducted in time. The government policies should be directed towards creation of job opportunities in the private sector as well. Many people have opined that employment should be provided to the entire youth population according to their qualifications. The employment of last resort schemes in both in rural and urban areas is the need of the hour. Many people have suggested to increase vaccination and opening up of all the sectors in the economy sooner than the later (during the survey period of last quarter of 2020). The income vulnerability and lack of social security is one of the major concerns in the private sector jobs. Many are of the opinion that the government must have some interventions vis-à-vis these because maximum people are working in the unorganised or informal private sectors of the economy. The job uncertainty particularly of the poorer section of population should be reduced through government policies. It was suggested that the government should start some skill development programmes and create better job opportunities both in the public and private sectors along with generating employment of last resort through the MGNREGS.

The second set of suggestions came about enhancing the wages or salaries or incomes, in general. According to many of the respondents, the Government must take steps against wage cuts or provide employment according to the minimum wage norms. The wages of the Anganwadi and ASHA workers must be enhanced. Also, the income of farmers and the self-employed people should be increased through the government policies. The minimum support prices (MSP) for agricultural crops should be increased according to many. There should be agricultural policy to ensure better price for the agricultural products and to increase profitability of the farm. Government should take steps to increase the wage rates in all the sectors under inflationary situation. Fair and actual implementation of various existing government schemes is also one of the prominent demands. Financial support in terms of direct benefit transfer to the poor and vulnerable was one of the demands at the ground level.Availability of loans for the self-employed people, for the small enterprises and for the farmers was one of the important demands. Reduction in the inflation rate of the necessities was one of the policy suggestions.

The third set of demands and suggestions is related to health and nutrition. There is a need of more ration supply as it was absolutely inadequate relative to the need. The fair and efficient public distribution system with wider coverage is one of the main demands that is coming out from the field of our study. Apart from the food grains, some more essential commodities should be distributed through the fair price shops in the public distribution system (PDS). The demand for more vaccination was very prominent during the period of our survey in the last quarter of 2020. Promoting government health facilities was one of the main policy suggestions as the private healthcare system was exorbitantly expensive and was not affordable to many.Providing proper treatment to all the needy people in the government hospitals and health centres was one of the main concerns expressed by some of the respondents. Number of doctors and nurses in the public healthcare system was felt to be grossly inadequate – the ratio of doctors and nurses to population are to be increased. The overall improvement of the health department was one of the major suggestions. Improving medical facilities in the rural areas was one of the extremely important policy expectations from the government. One of the suggestions was that the government should ensure at least 2-times meal for the poor citizens. Improvement in health infrastructure and making them accessible and affordable to all was one of the main demands.

The following other suggestions have also come during the course of our telephonic survey. Safety for women in Haryana was one of the major concerns.Demands for free water supply and free electricity supply were prominent.People have spoken against the ongoing process of privatisation of various public sector units.There is a need for separate welfare schemes for the migrant workers. There was a demand for opening up the educational institutions with proper safety measures in the state. Also, the quality of education in government schools should be improved. There was a demand regarding opening the train service as the bus fare was very high. Also, there was a demand for reducing the fares in public transports. There was a demand for opening the tourism sector and places like temples, amusement parks and other tourist spots. There was a demand for public investment in handloom and leather industries. Restructuring of the tax policy in favour of more progressive taxation system was one of the suggestions. Reducing indirect tax rates on important goods (like petroleum, diesel, medicines etc.) was also suggested by some of the respondents. Also, there was suggestion regarding doing away with the ongoing contractionary fiscal policy led by fiscal conservatism. There was a strong demand for unlocking everything in the last quarter of 2020 in Haryana.

VI.Conclusion

From the above discussion it is clear that the Covid-19 induced lockdown has led to huge unemployment problem and extreme income vulnerability. Maximum people are engaged in the private unorganised and informal sectors like agriculture and small-scale industries or they are mostly self-employed in different service sectors. Many have become heavily indebted and past savings of many households have been decumulated substantially during the lockdown. Universal employment guarantee programme with state-specific minimum wage rate is absolutely necessary but, that alone would not be able to solve the problem, given the scale of the crisis. Along with filling up the vacant positions in government jobs, the government needs to boost the demand at aggregate level in order to create employment opportunities and income opportunities for the farmers, small-scale businesses and that for the self-employed people. The social sector gaps like that in education and health has become glaring particularly after the lockdown. The government needs to incur substantial expenditures for the overall developments of these sectors. As we have seen that the poorer section of population has been economically affected relatively more severely, the inequality is expected to rise in the society because of the lockdown in an extremely unequal society. In order to reduce the degree of inequality, the more progressive and less regressive tax policy by reducing the indirect taxes and by increasing the direct taxes from the very rich needs to be implemented. The government should enhance the efficiency of its activities and reduce leakages along with increasing expenditures, as per the need, in order to boost the economy, as soon as possible. The ongoing fiscal conservatism would aggravate the crisis and prolong the process of recovery. In terms of per capita income, Haryana is the richest state in the country after Goa and the survey brings out such precarious situation even in a state like Haryana. Large number of people are suffering badly on the ground;the government must try to fulfil the expectations of people in India, as much as possible, under the ongoing crisis, in this largest democracy of the World.

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Impact of COVID -19 on Indian Agriculture with Special Reference to Farmers' Income

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Abstract

COVID-19 pandemic has created havoc throughout the world. The economic shock of the pandemic has affected India even more severely as the economy was already going slow since the pre-COVID -19 period. The lockdown consequent upon the pandemic hit the informal workers including the agricultural labourers, migrant workers most. The paper has discussed the effect of COVID-19 on agricultural activities in the country putting emphasis on the supply chains of agriculture. It also attempts to discuss the effect of COVID-19 on farmers' income in terms of cost of cultivation. The study observed that the cost of cultivation in West Bengal has increased by 21.05 – 41.46 percent against the previous year due to input price rise during the pandemic situation. The cost of cultivation has gone up at every stage of production for all crops. The study also noticed that the output prices of all agricultural commodities have decreased except ginger. Since the input prices have increased with declining output price, the Indian farmers have incurred loss during the ongoing pandemic situation.

Key Words: Agricultural Labour, COVID-19, Farmers' Income, Supply Chain, Migrant Worker

JEL Codes :J24, Q12, R10.

Introduction

The ongoing health crisis due to COVID-19 has affected human lives and living throughout the world. The pandemic has stopped the normal economic activities globally. It has also affected the economic growth of different countries. The impact of COVID -19 onvarious sectors of the economy has differed from sector to sector as well as among countries. Different countries havehandled the COVID related situations in their own ways.India, being a part of the world economy, could not escape from the ongoing health crises.The pandemic has affected especially the poor and marginalized people. The Government of India declared a nation-wide lockdown till 31st May,2020, with phased relaxation up to 31st October in the name of 'Unlock' to achieve satisfactory containment

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of the virus spread. Some of the important sectors of the economy are not functioning normally till date. This abnormality has created an economic crisis and terrible misery for the poor with massive job losses and rising food insecurity.

The economic shock arising out of the pandemic has affected India even more severely due to the slowdown of the economy ever since the pre-COVID-19 period. The economy had already been shattered with the problems of unemployment, low incomes, rural distress, malnutrition, and widespread inequality. Along with these, the Indian economy had a large vulnerable informal sector. During 2017-18, 422 million out of the national total of 465 million workers belonged to the informal sector. Lacking regular incomes, these agricultural labourers, migrant, and other informal workers are the hardest-hit during the lockdown period (S. Mahendra Dev, 2020).

It is necessary to understand the relationship between health and the economic growth in order to explain the impact of a pandemic on an economy. In the fifties, the impact of health - more specifically of endemic or parasitological diseases on growth or development was considered as ascertained. Before World War II, malaria, a parasitological disease, causing mortality and morbidity in Europe, Latina America, and North Africa, was considered a root cause affecting economic development and was given priority in public health policy. In 1955, the World Health Organization claimed that malaria was an economic disease. Consequently, the financing of malaria control programs drastically increased, contributing to undertaking large scale vector control and preventive treatment distribution (Delacollette and Rietveld, 2006).However, for malaria, the true relationship between this disease and development could not really be established mainly for two reasons. First, as Gunnar Myrdal pointed out in the early 1950s, economists had paid little attention to health as an economic variable (Packard, 2001). Second, a very few studies had demonstrated that disease control over the population or reduction in disease prevalence would generate economic growth through higher worker productivity.

The international interest for poverty reduction and the proclamation of millennium development goals contributed to a re-emergence of studies focusing on the links between health, welfare, and development. In 2001, the Commission on Macroeconomics and Health (WHO, 2001) concluded in its report that diseases are a barrier to economic growth. Different cross-country macroeconomic studies suggest that health positively affects growth. The study of Barro (1996) highlighted that an increase in life expectancy from 50 to 70 years (a 40 percent increase) would raise the growth rate by 1.4 percentage points per year. Another study of Gallup and Sachs (2000) has shown that a 10 percent decrease in malaria is associated with increased annual growth rate of 1.3 percent. There are also several microeconomic studies that show a direct impact of adult health on productivity and income (http://origin.who.int/entity/macrohealth/action/sintesis15novingles.pdf).

During the epidemic/pandemic, every economy faces situations of growing concerns regarding food security, demand, and supply shocks in the agricultural sector. The matter became even more worrisome during the beginning of the COVID-19 outbreak given the uncertainty arising out of the impact of lockdown on the agricultural sector. Therefore, at the time of the epidemic/pandemic, the policy-makers must put the greatest emphasis on the agriculture sector since this sector is the supplier of food for the entire economy. Apart from this, the agricultural sector plays a crucial role in economic growth and development.Hence the impact of diseases on the growth of agriculture is to be considered with extreme priority. If the farmers fall ill due the epidemic/pandemic, it has a negative impact on farming. The health crises of farmers have both direct and indirect costs. Direct costs involve the financial cost, including curative and preventive care allowing catastrophic costs for the poorest and pushing them into poverty. Indirect cost is the economic cost, connected to a decrease in productivity, production, or income as a consequence of the illness (Martine Audibert, 2011.)

The experiences in China following the SARS outbreak showed that there was a sever disruption in agricultural production due labour supply shortage during the harvesting season. Moreover, there was a rise in transportation costs making agricultural operations unprofitable. Many farmers in China opined that they would have lost less money if they chose to let the crops rot in the fields. In West Africa during Ebola outbreak, FAO reports indicated that farmers faced difficulties in selling their products or sold it at a loss. Input prices increased due to transportation restrictions. For staple crops, countries registered an average reduction in the volume of production by 12 percent. Farmers' decisions regarding the land areas to be sown depend on their economic capacity, their confidence in being able to mobilize collective labor when required, and guarantees that their produce will be marketed at favorable prices.In addition, exchange rate fluctuations are expected to occur which may affect the competitiveness of export value chains (FAO, Incentives, and expenditure, Measures to incentivize agricultural production).

The Indian Agricultural sector plays an important role in the development of the Indian economy. It has contributed 17.62 percent to the total GDP and it generates about 60 percent of employment to the total Indian population. The people engaged in agriculture are mostly (86 percent) small and marginal farmers. Immediately after the nation-wide lockdown was announced, the Indian Finance Minister declared an INR 1.7 trillion package, mostly to protect the vulnerable sections (including farmers) from any adverse impacts of the Corona pandemic. The Government of India transferred Rs. 2000 in the bank accounts of each and every farmer in advance as income support under the PM-KISAN scheme. The Indian Council of Agricultural Research (ICAR) issued state-wise guidelines for farmers to be followed during the lockdown period. The advisory mentioned specific practices during harvest and threshing of various rabi (winter-sown) crops as well as post-harvest, storage, and marketing of the farm produce. According to a senior ICAR official, the Indian Council of Agricultural Research is assessing the impact of Covid-19 lockdown on agriculture and allied sectors and taking measures to minimize the impact on country's food security" (PTI, 2020).

In spite of all these measures, therestrictions on movements of people and vehicular traffic during lockdown and post lockdown phase raised concern regarding the negative implications of the COVID-19 pandemic on the farm economy. Field surveys under taken by FAO in countries already affected by other crises indicate that small-scale producers face mounting challenges accessing inputs including seeds and fertilizers due to their rising prices, severe reduction of household incomes and supply shortage of the farm inputs in markets. On the basis of the above discussion the study attempts to analyse the effects of Covid-19 on Indian agriculture. To be more precise, the objectives of the present study are as follows:

II. Objective, Material and Methods

1. To estimate the impact of Covid-19 on agricultural activities of the country as a whole.
2. To analyse the effect of COVID -19 on farmers' income assessed in terms of the cost of cultivation with special reference to farmers of west Bengal.

Material and Methods:

To analyse the first objective, the studyhas relied on news reports and discussions already published.However, the second objectivehas been discussed using information gathered directly from the farmers. However, considering the present situation, data have been collected from the respondents through telephonic interviews. The sample of questionnaire of these interviews are presented in appendix (appendix table 2).The selected areas are Kotulpur block of Bankura district and Arambag block of Hooghly district in West Bengal. The interviews were conducted during 31.08.2020 to 15.09.2020.

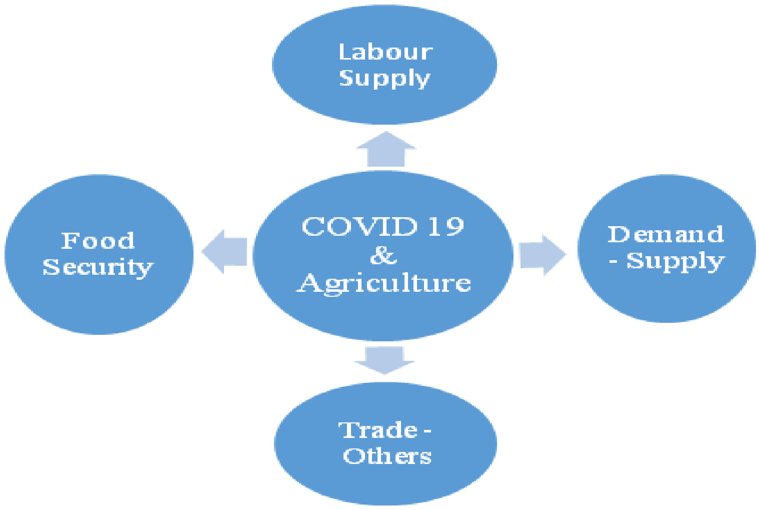
III.Results and Discussion

Part A:The effects of Covid-19 on agriculture activities

It is important to assess the effect of recent pandemic on the agricultural sector and food security as it primarily involves the sustainability of human life and secondarily involves that of the economy. The pandemic protocols and provisions interfere with the supply chain of the market with impaired production and distribution accompanied by deficiency in labour supply as well as the supply of inputs. It impacts production of livestock, horticultural crops, vegetables, poultry, fishery as well as dairy products.

The food supply chain is a complex web that involves producers, consumers, agricultural inputs, output processing and storage, transportation and marketing, etc. In this section, the study has attempted to see the effectsof COVID- 19 on the supply chain, as well as on the other parts of the agricultural economy.

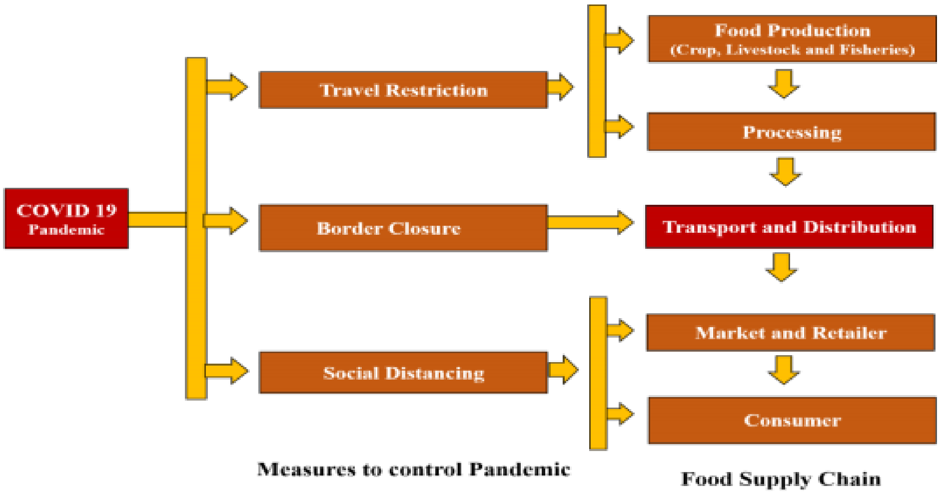
Figure:1, Impact of COVID-19 on Indian Agriculture



Supply and Demand

Agricultural supply chain not only depends on the availability of staple food but also on many other factors. By now it is evident that the continuing lockdowns across the country affected labor supply and input availability for agricultural operations. All these coupled with the stoppage of transport networks have seriously affected food supplies. The lockdown period was the specific time during which the farm harvests were to reach the mandis (market yards) for assured procurement operations by designated government agencies. Due to corona's fear and lockdown, farmers could not bring their crops to mandis. Unlike staple food, the supply of commodities likely fruits-vegetables, eggs- meat-fish, milk, and sugar have faced major problems. Disruptions in the supply chain during lockdown affected the agricultural sector adversely. The figure 2 (Niranjan et al., 2020) indicates that the way of supply chain disruption.

Figure: 2, The way of Supply Chain Disruption



Marketing of watermelons, muskmelons, mangoes, and marigold flower suffered due to the stoppage of transport networks and closure of cold storages and mandis. The closure of restaurants and street food outlets removed a key market for many producers and processors who produce a temporary glut in the fish and meat sectors. In some developing countries, urban supply and demand for fresh produce including fish meat and milk declined due to restrictions and aversive behavior of traders and consumers. Sugar and milk consumption fell furtherdue to the closure of hotels, restaurants, roadside tea stalls. eateriesand stoppage of demand from bulk consumers. The demand for Poultry products plummeted due to the rumour that poultry birds are carrier of COVID-19.

The migration of workers from a few parts of the country to their native places impacted the agricultural sector badly. These workers play an important role both for harvesting operations and post-harvest handling of produce in storage and marketing centers. Preliminary reports show that the non-availability of migrant labor interrupted some harvesting activities, particularly in northwest India where wheat and pulses were harvested. There were disruptions in supply chains because of transportation problems and other issues arising out of the pandemic induced lockdown.

Turning to the demand side, incomes of farmers of perishable crops and poultry products fell much lower due to crop losses, storage problems, and halt of transportation networks. The fall in prices due to lack of demand further aggravated these problems. The farm labourershad much smaller earnings, if any at all, due to the movement restrictions and lowered agricultural activities. Also, the complete halt in the construction sector, which absorbs the majority of rural labor, further aggravated the crisis. This huge negative impact on rural incomes hit the economy hard, which was already reeling with demand contraction from time before the crisis.

Food security and Safety

One of the most serious impacts of COVID 19 is expected to be on food security. As per FAO, United Nations, the four pillars of food security are availability, access, stability, and utilization. These indicate the physical availability of food; economic access to food; stability of the availability & access; and absorptive capacity (health status). Availability and access become extremely important in the present context.

As for the availability of staple food grains in India, the second advanced estimates of crop production (Small Area Estimate) measured the wheat output as 106.21 million tons and 15.53 million tons of rabi rice. The crop outlook for the subsequent Kharif season was also positive since rainfall was normal as expected along with brisk sowing in all the states and good uptake of fertilizers and seeds. Thus, the physical availability (production plus stocks) of staple cereals and the distribution of the same to the states appeared satisfactory.

Agricultural Employment

According to estimates by the Economic Survey (2016-17), at least nine million people migrate annually within the country, mostly from Bihar, Uttar Pradesh, Bengal, and Assam. The top destination for migrants are Delhi and Mumbai. Recently the migrant workers have become frequent movers to the southern states in search of jobs. During the onset of the lockdown, India witnessed the migrant labourers coming back to their native places. Some of these laborers, who worked in the agricultural sector in Punjab and Haryana, created a strong labor shortage in these states. As a result, farms were relying on domestic labor and family labor as a substitute. On the other hand, laborers from West Bengal, Odisha, Uttar Pradesh, and Bihar, who were preparing to travel to the farms for the next cropping season were stuck amidst lockdown. The reverse migration struck the rural employment structure. The migrant laborers returning to their villages led to some labor displacement in the already existing agricultural labor population in the state they belonged to (Sabina Yasmin, 2020).

Adding to this situation, the restriction of movement, health shocks, decreased demand, and food system disruptions had important impacts on rural employment and labor supply. ILO estimated a significant rise in unemployment and underemployment as a result of the crisis. The particular impacts fell on non-formal workers, small scale producers, fishermen, women,teenagers, migrants, and people with disabilities which further exacerbated their current vulnerable situation. Access to contributory social security schemes and decent work entitlements were a major challenge for those depending on agriculture or natural resource management for their livelihoods. The agriculture and natural resource sectors are not always part of the formal labor legislation and people depending on these sectors face significant barriers to access decent work benefits and entitlements. These challenges are further exacerbated in times of crisis when benefits are paid or expanded but seldom reach rural, non-formal, seasonal, or migrant workers. (FAO Social protection systems, Access to decent employment guarantees, social security for workers in non-formal sectors and rural areas).

Trade and others

The farm exports dipped 10.61 percent in value terms to Rs 28,910 crores in the first quarter of the financial year 2019-20. The country had exported agricultural commodities worth Rs 32,341 crore in the same period during the previous financial year. According to data from APEDA (Agricultural and Processed Food Products Export Development Authority), the nodal agency for the promotion of Agri exports, the shipments of basmati rice from Indian shores have shown a slight dip from 1.17 million tonnes in the first quarter of 2018-19 to 1.15 million tonnes during the same period in 2019-20. The major drop in exports, however, was in non-basmati rice and pulses which went down by around 50 percent. As against 2.1 million tonnes of exports of non-basmati rice in 2018-19, India exported 1.2 million tonnes in 2019-20. Similarly, the exports of pulses dipped drastically from 1.01 lakh tonnes in 2018-19 to 45,344 tonnesin 2019-20.

In addition to this, the agricultural ministry of the Indian government temporarily stopped the health checkup scheme for land due to corona. The farmers had no scope to get the soil health-cardfor their land after soil testing. The soil health card helps the farmers to know about the fertility of their plot of land and the required dose of fertilizer to be applied. This card is very effective for the farmer to increase their production through the proper application of fertilizers. In west Bengal, 13 numbers of soil health check-up centers have already been closed which left 133 employees jobless.

Part B:The impact of COVID -19 on Input and Output Prices

The farmers' net income is the difference between the revenue of the farmers' produces and the cost of cultivation. While outputprice is the major component of revenue, cost is determined by the input prices. If farmers get larger price for output over the cost of inputs, farming yields profit. During the pandemic and ensuing lockdown, Indian farmers faced the opposite situation.Asinput prices increased with declining output prices, farmers suffered loss. A primary survey conducted in two separate blocks in two districts of West Bengal focuses on the fact that that the cost of cultivation in the state has increased by 21.05 to 41.46 percent (table 1)in the post lockdown phase in 2020 as compared to thesame time in the previous year due to input price riseduring the lockdown period. According to farmers' experience, the cost of cultivation went up at every stage of production for all crops.

It is seen from table 1 the cost of making soil for cultivation of different crops have risen by 28.57- 40 percent in 2020 in comparison with 2019 due to the increased hourly cost of the power tillers.The cost of making soil for the sesame was the highest as it increased by 40.00 percent. Similarly, the expenditures on fertilizer and pesticidesincreased manifold. It increased the most for paddy (50 percent) while the rise was the least for moong(7 percent). In the same way, costs of procuring seedsincreased by 20 to 50 percent. While the price of moong seeds went upthe maximum by 50 per cent,for paddy the rise wasthe least (20 percent).

Table 1: Changes of Input and Output Price of Current Year over PreviousYear

Cost	Boro Paddy	Sesame	Aman Paddy	Moong	Brinjle	Ginger
Last Yr. Power Tiller	11959.84	7474.90	11959.84	8969.92	20929.80	20929.80
Current Yr. Power Tiller	16444.78	10464.86	16444.78	11959.89	26909.75	26909.75
Cost Increase Over Last yr.	**37.50**	**40.00**	**37.50**	**33.33**	**28.57**	**28.57**
Last Yr. Fertilizer & Pesticide	14949.80	7474.90	14949.80	41859.61	94333.62	27358.24
Current Yr. Fertilizer & Pesticide	22424.70	10464.86	22424.70	44849.58	114814.92	36477.66
Cost Increase Over Last yr.	**50.00**	**40.00**	**50.00**	**7.14**	**21.71**	**33.33**
Last Yr. Seeds	3737.45	1494.98	3737.45	5979.94	2989.97	71759.33
Current Yr. Seeds	4484.94	1868.73	4484.94	8969.92	3886.96	95679.10
Cost Increase Over Last yr.	20.00	25.00	20.00	50.00	30.00	33.33
Last Yr. Total	30647.09	16444.78	30647.09	56809.47	118253.39	120047.38
Current Yr. Total	43354.42	22798.45	43354.42	68769.36	145611.64	159066.51
Cost Increase Over Last yr.	**41.46**	**38.64**	**41.46**	**21.05**	**23.14**	**32.50**
Last Yr. output price per Qt.	1900.00	7000.00	1600.00	6000.00	4000.00	7000.00
Current Yr. Output price per Qt.	1700.00	4500.00	1450.00	5000.00	3500.00	10000.00

Output prices decreaseOver Last yr.	**(-)10.53 (-) 35.71**	**(-)9.30 (-)16.67**	**(-) 12.50**	**42.86**

SOURCE: Authors' Calculation

The prices of almost all the agricultural commodities remained low in March 2020. The prices of the important agricultural commodities both at the wholesale and retail levels declined during the pandemic phase as the farmers were forced to sale their output at a much lower price coupled with low demand from the consumers who buy agricultural goods in bulk due to disruption in supply chains during lockdown.

The study observes that the output prices of all agricultural commodities decreased except ginger. Price of Sesame declined sharply by 35.71 percent in post lockdown phase 2020and wasless than the previous year's price. Even if there was minimum support price for paddy, the farmers were forced to sell their paddy at a price lower than previous year's price.

IV. Conclusion

The Covid 19 pandemic left a very severe impact on Indian agricultural sector.On the one hand, there was a sharp decline in demand due to the country wide lockdown almost for a period of three months and a subsequent staggered unlocking, there were also supply bottlenecks once again due to lockdown and closure of all kinds of production units, transport network, markets and maintenance of social distancing.People, both in formal and informal sectors either lost their jobsor had a salary/wage cut leading to a lower demand for agricultural commodities even after the lockdown was over.Therfore it can be concluded that the Government must take active steps to boost up demand for agricultural goods as well to take care of the exorbitant cost of cultivation through providing supportive measures to the farmers.A one time cash transfer to farmers'account is not a solution to the problem.Rather a continuous and sustained support to the agricultural sector, both to generate demand and to overcome supply constraints, atleast for some period of time, can help Indian farmers to come out of the adverse impact of Covid 19 pandemic.

Policy Suggestions:

1. Prices have declined for all crops, yet consumers are often paying more. Urgent action is needed to smoothen the supply chains and help these farmers.
2. In order to make farming more attractive to the farmers, the attractive minimum support price should be declared by government.
3. To keep the public distribution system running, the government should procure crops directly from farmers at a profitable price.

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Appendix :

Rate of different inputs last year and current year

Item	Last year	Current year
Power tiller (Rs per hour)	960	1320
Fertilizer(Rs per Quintal)	2050	2400
Pesticide 1 (Rs. per single unit)	250	350
Pesticide 2(Rs per Single unit)	900	1200
Ginger seeds(Rs Per Kg)*	60	100
Brinjal seeds (Rs Per kata)	20	30

*paddy, sesame, moong are homemade

Short Questionnaire for Telephonic interview

নাম - ফোন-

ঠিকানা -

		ট্র্যাক্টর খরচ (টাকায়)		সারের খরচ (টাকায়)		ওষুধের খরচ (টাকায়)		বীজেরখরচ (টাকায়)		ফসলেরদাম (কুইন্টালপ্রতি)	
ফসলেরনাম	কতবিঘে/ কাটাচাষ	গতবছর	এ বছর	গতবছর	এবছর	গতবছর	এবছর	গতবছর	এবছর	গতবছর	এবছর
বোরো											
তিল											
আমন											
ডাল											
সব্জি ১											
সব্জি২											

Artha Beekshan, Volume 30, No. 4, March 2022

Did the farm laws need to be more inclusive

Kasturi Bhadra Ray

Abstract

Agricultural goods, perhaps, have the longest chain of middlemen. There are a number of intermediaries in the market like the wholesalers, brokers, commission agents, retailers, millers, at different stages of the supply chain.Intermediaries are known to be persons or organisations that act as a link between the supplier and the end user.

Price of the agricultural produce is not something decided by the farmer. It is only the intermediaries who determine the final price in marketing agricultural goods. The grower, in fact, is not sure of his revenue also.As it passes through each stage, the price increases. So, it is only the consumer who is finally made to bear the burden, and the high price paid by the consumer does not reach the grower. It is pocketed only by the market intermediaries.

In the light of this, the Indian Parliament passed three agriculture acts—Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, Farmers (Empowerment and Protection) Agreement of Price Assurance, Farm Services Act, 2020, and the Essential Commodities (Amendment) Act, 2020, The government hoped the new laws will provide farmers with more choices, with competition leading to ushering in a surge of private investment in agricultural marketing processing and infrastructure.

However things didn't pan out as expected . There were ferocious protests from the farmers mainly spearheaded by the farmers unions in Punjab and Haryana who felt that that with virtual disbanding of the Intermediaries, the arhthiyas or Commission agents who also pitch in with loans, will be out of business gradually leading to the deterioration and ultimately end of the systemthus "leaving farmers at the mercy of corporates" and loss of state income .The actual crux of the problem was however the fear that the centre would dismantle the minimum support price system and procurement by the Government.

The paper traces the history of why and how theMSP system came into being and why the farmer unions were desperate not to let go of it, leading to the ultimate repeal of the farm laws and why there is need for a more consultative and interactive approach to improve the plight of farmers in India.

Key words:Farm laws, farmer protests, Minimum support price.

JEL codes:K53, N55, O13,Q13,Q28.

I.Introduction

Agriculture, with its allied sectors, is the largest source of livelihoods in India, with 82 percent of farmers being small and marginal, owning less than two hectares of land.Average size of operational holdings has considerably reduced from 2.28 hectares in 197071 to 1.15 hectares in 2010-11 and 1.08 in 2015-16. The top 10% of the households are now cultivating almost 50% of India's total cultivable land whereas the bottom 50% are cultivating less than only 0.5%. The decline in the India's bottom 50% land holdings has been steady. This overwhelming majority of farmers are vulnerable to product and market risks, lack market intelligence, possess insufficient storage facilities for the largely perishable agricultural produce, coupled with inadequate infrastructure facilities available to them to carry their produce to proper market places. Most of the villages in India do not have proper roads. The farmers, as a result, have to rely mainly on bullock carts and such other conventional mode to transport their agricultural goods. This leads to delay in the produce reaching the market.Although trucks are increasingly used in transporting perishables, the cost of transportation is generally very high.

The report of the Committee for doubling farmers' income, 2018 found Indian farmers incur Rs 92651 crore per year in post-harvest losses, the primary causes of which are poor storage and transportation. Hence farmers are forced to sell away whatever meagre surplus produce they have, to the village moneylenders and traders at a very low price.

Despite penetration of institutional credit, small farmers continue to rely mainly on moneylenders or non-institutional sources of credit for productive and non-productive purposes at exorbitantly high rates of interest.Subsequently and irreversibly they come under the clutches of moneylenders and sometimes even before the crop ripens, the small farmers have to sell their produce to the moneylenders at unfavourable terms and at extremely low prices, leaving them with very low or even no profit.

The traders and money lenders to whom the small and marginal farmers sell, take the produce to the Mandis located in various small and large towns. The mandi is basically a market place operated as per the regulations of APMC or Agricultural Produce Market Committee (APMC) which is a marketing board established by state governments in India to ensure farmers are safeguarded from exploitation by large retailers, as well as ensuring the farm to retail price spread does not reach excessively high levels. The sale is facilitated by the adithis (commission agents, middlemen) at the mandi, who hold license and are allotted a shop in the market.They in turn sell the farm produce to the mills and factories and to the retailers, who in turn sell these goods to the consumers directly in the retail markets.

Agricultural goods, perhaps, have the longest chain of middlemen. There are a number of intermediaries in the market like the wholesalers, brokers, commission agents, retailers, millers, at different stages of the supply chain.Intermediaries are known to be persons or organisations that act as a link between the supplier and the end user.

Price of the agricultural produce is not something decided by the farmer. It is only the intermediaries who determine the final price in marketing agricultural goods. The grower, in fact, is not sure of his revenue also.

The agricultural goods pass through all these people before they reach the ultimate consumer. As it passes through each individual, the price increases. So, it is only the consumer who is finally made to bear the burden, and the high price paid by the consumer does not reach the grower. It is pocketed only by the market intermediaries.

As long as the farmer does not learn the system of marketing himself, he can never bargain better for his produce, calling for the need to establish regulated markets, extension and construction of additional storage and warehousing facilities for agricultural produce of the farmers, expansion of market yards and other allied facilities for the new and existing markets, provision for extending adequate amount of credit facilities to the farmers, timely supply of marketing informations, improvement and extension of road and transportation facilities for connecting the villages with mandis, provision for standardisation and grading of the produce for ensuring good quality to the consumers and better prices for the farmers.

Agricultural markets in India are mainly regulated by state Agriculture Produce Marketing Committee (APMC) laws. APMCs were set up with the objective of ensuring fair trade between buyers and sellers for effective price discovery of farmers' produce. APMCs regulate the trade of farmers' produce by providing licenses to buyers, commission agents, and private markets, levy market fees or any other charges on such trade, and provide necessary infrastructure within their markets to facilitate the trade.

The Standing Committee on Agriculture (2018-19) however observed that the APMC laws are not implemented in their true sense and need to be reformed urgently. Issues identified by the Committee included that most APMCs have a limited number of traders operating, which leads to cartelization and reduces competition, and undue deductions in the form of commission charges and market fees. Traders, commission agents, and other functionaries organise themselves into associations, which do not allow easy entry of new persons into market yards, stifling competition. The acts are highly restrictive in promotion of multiple channels of marketing (such as more buyers, private markets, direct sale to businesses and retail consumers, and online transactions) and competition in the system. The average area served by an APMC market is 496 sq. km., much higher than the 80 sq. km. recommended by the National Commission on Farmers chaired by Dr. M. S. Swaminathan in 2006.[1]

The Standing Committee (2018-19) noted that states have not implemented several of the reforms suggested in the model Acts. It recommended that the central government constitute a Committee of Agriculture Ministers of all states to arrive at a consensus and design a legal framework for agricultural marketing. The Standing Committee on Agriculture (2018-19) noted that availability of a transparent, easily accessible, and efficient marketing platform is a pre-requisite to ensure remunerative prices for farmers. It noted that small rural markets can emerge as a viable alternative for agricultural marketing if they are provided with adequate infrastructure facilities.

II.The Farm Laws

In the light of this, the Indian Parliament passed three agriculture acts—Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, Farmers (Empowerment and Protection) Agreement of PriceAssurance, Farm Services Act, 2020, and the Essential Commodities (Amendment) Act, 2020, during its monsoon session culminating in September 2020, essentially allowing farmers to engage in trade of their agricultural produce outside the physical markets notified under various state Agricultural Produce Marketing Committee laws (APMC acts). Also known as the 'APMC Bypass Bill', it was to override all the state-level APMC acts, with the view to promoting barrier-free intra-state and inter-state trade of farmer's produce.The Farmers' Produce Trade and Commerce Act (Promotion and Facilitation) , 2020 allowed intra-state and inter-state trade of farmers' produce beyond the physical premises of APMC markets. State governments were prohibited from levying any market fee, cess or levy outside APMC areas. The Farmers Agreement Act creates a framework for contract farming through an agreement between a farmer and a buyer prior to the production or rearing of any farm produce. It provides for a three-level dispute settlement mechanism: the conciliation board, Sub-Divisional Magistrate and Appellate Authority.The Essential Commodities (Amendment) Act, 2020 allows the central government to regulate the supply of certain food items only under extraordinary circumstances (such as war and famine). Stock limits may be imposed on agricultural produce only if there is a steep price rise.

The three Acts aimed to increase the availability of buyers for farmers' produce, by allowing them to trade freely without any license or stock limit, so that an increase in competition among them results in better prices for farmers. Such trade can be conducted in an 'outside trade area', i.e., any place of production, collection, and aggregation of farmers' produce including, farm gates, factory premises, warehouses, silos, and cold storage. Injecting competition by widening farm markets will benefit farmers which the three farm laws aim at.

The Act providing for a farming agreement between a farmer and a buyer prior to the production or rearing of any farm produce set the minimum period of an agreement to be one crop season, or one production cycle of livestock. The maximum period being five years, unless the production cycle is more than five years.The price to be paid for the purchase of a farming produce was to be mentioned in the agreement. In case of prices subjected to variations, the agreement was to include a guaranteed price to be paid for such produce, and a clear reference for any additional amount over and above the guaranteed price, including bonus or premium. The price references may be linked to the prevailing prices or any other suitable benchmark prices. The method of determining any prices including guaranteed prices and additional amount to be provided in the farming agreement. This will help small and marginal farmers transfer the risk of market unpredictability to the sponsor. The open-market structure also allows the farmers to sell their produce online, an important change in an increasingly digital universe.Farmers will get better prices and cost cutting on transportation. The liberalisation of the market will introduce corporate and private investments in the industry. These investments can strengthen infrastructure, improve tools and modernise the sector.

Thus, setting the markets right is crucial through the new laws.It was pre-empted that the Acts may result in increased competition, which may also make APMCs more efficient in providing cost-effective services for marketing. The government hopes the new laws will provide farmers with more choices , with competition leading to ushering in a surge of private investment in agricultural marketing processing and infrastructure (Aiyar S A, Times of India November 20, 2021) .

III. The backlash

However things didn't pan out as expected . After sporadic protests against the new farm laws, including a nationwide road blockade on November 3,2020, farmers' unions in Punjab and Haryana gave the call for a 'Delhi Chalo 'movement. The Delhi Police, however, rejected their request to march to the capital city citing Covid 19 protocols. On December 30, 2020**,** 6th round of talks between government and farm leaders saw some headway as the Centre agreed to exempt farmers from stubble burning penalty and drop changes in Electricity Amendment Bill, 2020. that allegedly threatened to undermine the supply of subsidised electricity for farming.

On Republic Day, January 26, 2021, thousands of protestors clashed with the police during the tractor parade called by farmer unions, demanding a repeal of the laws.One protester died in the chaos.

IV.What did the farmers fear in actuality?

The protests was mainly spearheaded by the farmers unions in Punjab and Haryana who felt that the laws enacted at the center will dismantle the minimum price support system . The food corporation of India which is the main state run grain procurement agency largely buys only paddy and wheat at these prices from Punjab and Haryana which they then sell at highly subsidised prices to the poor and is thereafter compensated by the government for its losses. More than 85% of the wheat and Paddy grown in Punjab and 75% in Haryana is bought by the government at MSP(minimum support price) rates. Farmers in these states fear that without MSPs market price will fall .These states are also most invested in APMC system with a strong Mandi network, a well oiled system of Arthiyas or Commission agents facilitating procurement and link roads connecting most villages to the notified markets And allowing farmers to easily bring their produce for procurement. The Punjab government charges 6% Mandi tax along with a 2.5% fee for handling central procurement and earns an annual revenue of about ₹3500 crores from these charges Jebaraj(2020).Punjab and Haryana farmers fear that with virtual disbanding of the Mandi system they will not get the assured price for their crop and the arhthiyas or Commission agents who also pitch in with loans, will be out of business gradually leading to the deterioration and ultimately end the mandi systemthus "leaving farmers at the mercy of corporates" and loss of state income .

The Government steadfastly maintained that nowhere in the Laws was it said that the APMCs would be totally scrapped. They were to exist side by side with farmers selling their produce outside the APMC markets, the prices prevailing in APMC markets serving as a benchmark price, helping in a better price discovery for farmers as well(Panagariya 2020).

Farmers were also angry with the clauses of the law that said that a farmer and trader could approach the Sub-Divisional Magistrate (SDM) to arrive at a solution through conciliation proceedings. While farmers said they are not powerful enough to access the SDM offices for dispute redressals, critics said this was akin to usurpation of judicial powers.Regarding this fear of disputes between the farmers and the corporates, Sunil Jain, the then managing editor of Financial Express,speaking to the Quint, pointed out however that disputes happen even today and there is a system in place to deal with them. Crops that are being sold today are being sold through the private parties and whenever there is a dispute and whatever mechanism they have today, they use that. So, it's not as though dispute resolution is something which will suddenly come up when the private sector comes in (Dahiya 2021).

All said and done, the actual crux of the problem was however regarding procurement by the Government.Speaking in a panel discussion on CNBCTV18 on September 21, 2020 Naresh Gujral, Rajya Sabha MP from the Shiromani Akali Dal, said that the main worry of the farmers (primarily from Punjab and Haryana) is that the procurement by the government will reduce once these bills are passed.

V.The Procurement Story

The procurement system was established in the 1960s as the northern states of Punjab and Haryana, and some regions in adjacent Uttar Pradesh, underwent an agricultural revolution. The revolution, which came to be known as the Green Revolution, increased efficiency and production. It was carried out not through farmers' initiative but by government fiat. It came with incentives for farmers to move away from traditional crops to grow more rice and wheat, and it is farmers in those same regions who are protesting today.

Prior to the Green Revolution, post-independence India faced acute food scarcity. The regions that produced most of its staples—rice and wheat—had gone to Pakistan during the 1947 Partition. Meanwhile, the country's population increased by nearly 40 percent between 1941 and 1961, and agriculture productivity had not kept pace. India was thus dependent on food aid from the United States under its Public Law 480 program(Agarwal 2021).

But after Indian criticism of U.S. bombings in Vietnam, the Johnson administration curtailed that aid. The cutback came on the backs of two successive droughts, after which India's agricultural output shrank by 20 percent and food inflation shot up by more than 20 percent. Memories of the 1940s Bengal famine, in which an estimated 3 million people died, were still fresh.

India was desperate to achieve food grain sufficiency. It turned to higher-yielding seeds—with technological assistance from U.S. agencies—combined with subsidies on fertilizers, pesticides, and electricity to pump groundwater for irrigation. As an incentive for farmers to produce more wheat and rice, minimum support prices (MSP), at which the government would buy produce if private players did not, were set. The aim was to achieve rapid increases in productivity.

The results were spectacular. Yields improved by more than 30 percent in Punjab (aided along by better monsoons). The Government procured huge quantities of wheat and rice at MSP and distributed the grains to India's poor at subsidized rates. Punjab and Haryana began to be referred to as India's breadbasket. Even today, they provide more than two-thirds of the food issued to 800 million Indians as part of the government's efforts toward food security(Agarwal 2021).

The Green Revolution also came at a huge ecological cost. Subsidized electricity meant that groundwater was pumped in large amounts to grow water-intensive rice and sugar cane in regions with limited rainfall. It takes more than twice the amount of water to produce a kilogram of rice in the northern state of Punjab than in its more natural habitat in the eastern state of West Bengal.

In turn, the Green Revolution states now face a particularly acute water crisis. Some regions in these states could run completely out of groundwater in the next 20 years. The apocalyptic air pollution seen in and around New Delhi in early winter is also partly a consequence of the Green Revolution. The overuse of fertilizers and pesticides has caused soil degradation and groundwater poisoning.

These environmental problems are already severe and will get worse with climate change. It is farmers themselves, meanwhile, who suffer the worst of the consequences. Punjab and Haryana have among the highest levels of arsenic poisoning of groundwater in India—the likely cause of high rates of cancer prevalence. The Green Revolution states also carry among the highest burden of premature deaths due to air pollution(WHO 2021).

The farmers of Punjab, Haryana, and western Uttar Pradesh have known for a while that a shift away from the Green Revolution crops is inevitable and will be in their own long-term interest. Several government committees, arguing that the cost of the MSP subsidy is unsustainable, have also recommended crop diversification. Prime Minister Modi himself has stressed the need to transition away from water-intensive crops in these regions. As of October 1, 2021, as per the food stocking norms, FCI needed to maintain a strategic and operational stock of rice and wheat amounting to 307.7 lakh tonnes(Kaul 2021). It had more than double at 721.8 lakh tonnes. Clearly, the government is already acquiring more rice and wheat than it needs to fulfil its obligations under food security and other laws, and doesn't know what to do with what's remaining. Also, eating habits have changed over the decades. As incomes have gone up, people have moved towards consuming lesser cereal per capita and more proteins and milk.

Yet farmers felt that the new laws provide the government with the perfect cover to jump-start this transition and push its costs onto them. Many believed that, under the new rules, private markets will emerge outside of state-operated markets. Once that happens, the government will take a back seat and move away from procuring rice and wheat under the MSP system. Since production of both is in excess of demand, left to the market, prices will crash. That is why they also seeked that MSP be made a legal guarantee(Pandey 2021).

To be sure, the new laws did not contain any provision that explicitly alters the government procurement system. Mr Modi and his ministers have time and again reassured farmers that the MSP regime will continue. But these promises did not convinced farmers.

The farmer unions were vociferous about a legal assurance that the MSP system will continue ideally through an amendment to the laws. They were pressing for the withdrawal of the proposed electricity amendment bill(2020) also fearing it will lead to an end to subsidised electricity. Farmers also demanded rules against stubble burning should not apply to them.

VI. The repeal, implications and way forward

Several rounds of talks, proposals and refusals between the government and the farmers' union leaders were inconclusive and finally on November 19th, 2021, Prime Minister Mr Narendra Modi announced the repeal of the farm laws .

While the protesting farmers celebrated, the saddest part of this U-turn was that India's agriculture was now been condemned to be crushed under the feet of wealthy farmers, traders and middlemen for another full generation (Chikermane 2021) Rich farmers, traders and middlemen will now demand greater returns, the hard-coding of minimum support price (MSP) into law, with an inflation-indexed or higher return assured for crops that would be far cheaper to the nation when imported.

Chadha (2021) commenting on the situation points out that there are no two views on the need for radical reforms for the overall good of the agricultural sector and the wellbeing of the farmers. However as Gulati (2021) observes, the most important lesson from the repeal of the farm laws is that the process of economic reforms has to be more consultative, more transparent and better communicated to the potential beneficiaries. Even those who defend the reforms agree that both their intent and purported benefits should have been explained better.

Agriculture falls in the State List as per the Seventh Schedule of the constitution. Thus, in principle, regulation of agriculture, including its marketing, falls in the State list. The Centre has a limited role restricted to enacting laws to facilitate interstate trading and commerce in agricultural commodities, if required.

The Center used the Union List provision to enact the three farm laws Whence it is obvious it over stepped. Chadha (2021) feels that the Centre would have done well to work with states ruled by BJP and its allies first. These state governments could work towards establishing a positive public opinion towards implementation of the new farm laws, introduce a few pilot projects, all the while maintaining transparency and building necessary safeguards to protect farmers' interests . It would also be prudent for the states-to discuss and share the progress and learn from each other's experiences.

Given that agriculturists (Times of India December 14,2020), economists (Dasgupta 2020, Roychowdhury 2020,The Hindu, January 27, 2021) and other experts are unanimous in their opinion about the need of such laws to modernize the agriculture sector, it would be fair to assume that such pilot projects will succeed. If that happens, it will pave the way for implementation of the laws in these states. RegardingStates like Punjab and Haryana, who have been at the forefront of the Farmers' protests(but where millions of small farmers continue to live in debt and poverty), if the new laws succeed in other states, it will not be long before these state governments too will be forced to act to protect the interests of the whole farmers community instead of pandering to the interests of a few rich farmers and the infelicitious interceptors.

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Occupational Structure and Economic Development in India– An Analytical Study

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Abstract

The occupational structure of a country refers to the distribution or division of its population in accordance with different occupations. Collin Clark, in his work, 'Conditions of Economic Progress(1940)' mentions that there is a close relationship between developments of an economy and occupational structure and economic progress is generally associated with certain distinct necessary and predictable changes in occupational structures. He writes, "A high average level of real income per head is always associated with a high proportion of the working population engaged in tertiary industries…low real income per head is always associated with a high proportion of the working population engaged in tertiary production and a high percentage in primary production."

*In the above backdrop, the paper deals with the pattern and trends of occupational status of India , connect*ed highly with the growth and development of the country.

Key words: GDP, manufacturing sector, Occupational structure, Primary sector, service sector,

Jel Code: J00, J21,N50, O13,P52,Q10.

I. Introduction

The occupational structure of a country refers to the distribution or division of its population in accordance with different occupations. Collin Clark, in his work, 'Conditions of Economic Progress(1940)' mentions that there is a close relationship between developments of an economy and occupational structure and economic progress is generally associated with certain distinct necessary and predictable changes in occupational structures He writes, "A high average level of real income per head is always associated with a high proportion of the working population engaged in tertiary industries…low real income per head is always associated with a high proportion of the working population engaged in tertiary production and a high percentage in primary production."

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Structural changes take place in economies as the process of economic development moves forward and take momentum. These structural changes cause changes in proportion in national product and also of labour force. The most common pattern of structural change takes the trend of sequence change in agriculture to industry and then to service sectors.

It requires finding out how structural shift in GDP share has an tangible effect upon employment trend or pattern and also correspondingly distribution of workforce in India. Data justify that the share of workforce engaged in agriculture came down from 74% in 1972 -73 to about 53. 2% in 2009-10. Along with this fall, the share of employment in industry increased from 11.2% in 1972-73 to 14.9% in 1993-94 which further increased to 21.5% in 2009-10. Also the share of service in total employment increased to 25.4% in 2009-10 from 14.6% in 1972-73.

A great similarity in the pattern of output and employment shares among the different selected countries is observed around the world. Firstly, share of agriculture in GDP is in between 1 to 2 % indicating that agriculture accounts for a very small share in total output. Similarly share of agriculture labour is below 5%. Also secondly share of industry in GDP is in the range being in between 22 to 28 %. Likewise share oin employment by industry is in range between 20 to 30%. Finally, the share of services in GDP is in between 68 to 81%. Also correspondingly it is observed that share of employment is in the range in between 71 to 79 % in service sector.

"In every progressive economy, there has been a steady shift of employment and investment from the essential primary activities to secondary activities of all kinds and to a still greater extent into tertiary production"

Shift in demand pattern is the result of differences in elasticity of demand. Shift in pattern of demand causes impact on transfer of labour force from agriculture to industry and subsequently to services.W.J. Baumol (1967), however, emphasizes that employment or shift in labour force is not the consequences of change in final demand, but is the result of differential productivity growth. Increasing share of labour force employed in services has, however, been attributed by most economists to low productivity in services as compared to manufacturing.

II. Economic Development and Occupational Distribution

Economic progress is generally associated with certain distinct necessary and predictable changes in occupational structures. An examination of Table – 1 as below shows that higher per capita income is inversely related with proportion of active population engaged in agriculture. The economically developed countries like U.S.A, U.K., Germany, Japan etc. with a low proportion active population being dependent on agriculture reveal higher per capita income. As against them, an underdeveloped country like India with a higher proportion of active population engaged in agriculture has a very low per capita income.

Secondly, as the level of per capita income improves over the years the proportion of labour force being dependent on agricultures reduces but these on industry and service sector increases. These changes support thesis of Colin Clark which states that greater economic development and growth in national income and per capita income causes a shift in occupational pattern from primary to secondary and from secondary to tertiary sector.

Table-1 : Per Capita Income and Distribution of Labour Force in Selected Countries

Country	Year	Per capita income in US$	Percentage of labour force in		
			Agriculture	Industry	Services
U.S.A.	1960	2,500	7	36	57
	2010	47,153	1.6	16.7	81.2
U.K.	1960	1,200	4	48	48
	2010	36,343	1.2	19.1	78.9
Germany	1960	1,220	1.4	48	38
	2010	40,115	1.6	28.4	70
Japan	1960	420	3.3	30	37
	2010	42,830	1.7	25.3	69.7
India	1960	70	74	11	15
	2010	1,410	51.4	22.4	26.5

Source: World Development Indicator 2012

III. Historical Experience of Structural Change in Developed Economies

Structural changes take place in economies as the process of economic development moves forward and take momentum. These structural changes cause changes in proportion in national product and also of labour force. The most common pattern of structural change takes the trend of sequence change in agriculture to industry and then to service sectors.

This viewpoint of Colin Clark support the logic that as income level increases, the proportion of income spent on food shows a reduction,and that on non-food items (or manufactures) shows a relatively higher increase. At still higher level of income, there is high proportion of income spent on services. In other words, low income elasticity of demand for agricultural product tends to shift the pattern of production in favour of manufacturers which have high income elasticity of demand.

Table 2: Output and Employment Shares in Selected Developed Economies (2010)

Country	Shares in output (%)			Share in employment (%)		
	Agriculture	Industry	Service	Agriculture	Industry	Services
United Kingdom	1	20	78	1.2	19.1	78.9
United States	1	22	79	1.6	16.7	81.2
France	2	19	79	2.9	22.2	74.5
Japan	1	27	72	3.7	25.3	69.1
Germany	1	28	71	1.6	28.4	70.0
Italy	2	25	73	3.8	28.8	67.5
Australia	2	20	78	3.3	21.9	75.5

Source: World Bank (2012), , World Development Indicator

Table 2 shows a great similarity in the pattern of output and employment shares among the selected seven countries. Firstly, share of agriculture in GDP is in between 1 to 2 % indicating that Agriculture accounts for a very small share in total output. Similarly share of agriculture labour is below 5%. Also secondly share of industry in GDP is in the range being in between 22 to 28 %. Likewise share on employment by industry is in range between 20 to 30%. Finally, the share of services in GDP is in between 68 to 81%. Also correspondingly it is observed that share of employment is in the range in between 71 to 79 % in service sector. From this analysis, it is observed that the general trend is that is that with shift in GDP from agriculture to industry, there emerges a nearly proportionate shift in employment. Similarly a rise in share of GDP in services is accompanied by proportionate rise in employment.

IV.Changing Profile of GDP and Employment in India

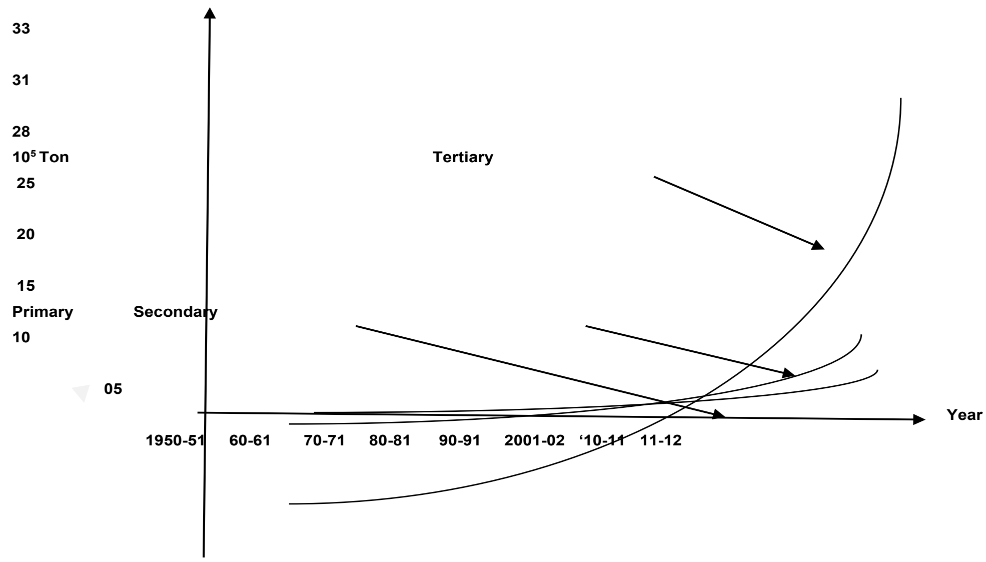
Changing profile of GDP in India during 1950 -51 and 2001 – 02 - over a period of 51 years is mentioned as below in Table 3. The data reveal that GDP from primary sector (agriculture, and allied entities like fishery and forestry) declined from 59% in 1950-51 to 46% in 1970-71 and after that sharply declined to 15.6% in 2012 -13. This was partly neutralized by an increase in the share of secondary sector from 13% to in 1950-51 to about 22% in 1970-71. And further increase to about 24.8% in 2012-13. But the largest rise in GDP had been in case of services from about 27% in 1950-51 to 32% in 1970-71 and thereafter to 59.6% in 2012-13. The emerging structural change in GDP shares witnessed a big fall in the share of agriculture , coupled with a minor rise in share of industries and much steeper rise in share of services which now account for the half of total GDP.

Table 4: GDP at Factor Cost by Industry of Origin (at 1993-94 prices) -- All India

Rs Crore

Year	Primary	**Secondary**	**Tertiary**	**Total**
1950-51	83,154 (59.2)	18,670 (13.3)	38,642 (27.5)	1,40,466 (100)
1960-61	1,12,848 (54.8)	34,239 (16.6)	59,016 (28.6)	2,06,103 (100)
1970-71	1,37,320 (46.3)	64,258 (21.6)	95,331 (32.1)	2,96,909 (100.0)
1980-81	1,59,293 (39.2)	95,055 (23.7)	1,46,753 (36.6)	4,01,128 (100.0)
1990-91	2,23,114 ((32.2)	1,88,601 (27.2)	2,81,115 (40.6)	6,92,871 (100.0)
2001-02	3,04,666 (24.0)	3,38,165 (26.7)	6,25,114 (49.3)	12,67,945 (100.0)
2010-11	8,22,415 (16.7)	12,84,941 (26.0)	28,29,650 (57.3)	49.37,096 (100.0)
2011-12	8,47,744 (16.2)	13.34,249 (25.4)	30,61,589 58.4)	52,43,582 (100.0)
2011-12	8,61,229 (15.6)	13,64,443 (24.8)	32,79,063 (59.9)	55,05,437 (100.0)

Source: Government of India, Economic Survey, (2011-12), and Central Statistical Organization as reported in RBI,, Hand book of Statistics on the Indian Economy (2010-11) CSO, Press Release, May 11, 2012.** Base year 2004-05.



For 1950-51 and 1960-61, Primary sector includes agriculture, forestry, fishery, mining and quarrying, however, for 1970-71, 1980-81, 1990-91 and 2001-02 include mines and quarrying in the secondary sector, instead of primary sector (Fig.above).

It is important to discuss whether the structural shift in GDP share has an impact on the employment pattern of distribution of workforce in India. Table 5 based on the various rounds of the National Sample Survey reveals that the share of workforce deployed in agriculture declined from 74 per cent in 1972-73 to 53.3 per cent in 2009-10. Along with this declines, the share of employment in industry increased from 11.2 per cent in 1972-73 to 14.9 per cent in 1993-94 and further to 21.5 per cent in 2009-10. Also the share of services in total employment increased from 14.6 percent in 1972-73 to 25.4 per cent in 2009-10.Thereafter it increased to 59.0% in 2011-12.

Table 5: Occupational Distribution of Working Force by Sectors in India (%)

Division of Sectors	1972-73	1983	1993-94	2009-10
Agriculture				
Agriculture, Forestry,Fishing and Hunting	74.0	68.1	63.9	53.2
Industry				
Mining and Quarrying	0.4	0.6	0.7	0.66
Manufacturing	8.8	10.7	10.6	11.0
Electricity, Gas and Water	0.2	0.3	0.4	0.30
Construction	1.8	2.3	3.2	9.6
Sub total	11.2	13.9	14.9	21.5
Services				
Wholesale and Retail trade and Restaurants and Hotels	5.0	6.9	7.6	10.8
Transportation, Storage and Communication	1.8	2.5	2.9	4.3
Other services	7.8	8.8	10.7	10.3
Sub total	14.6	18.2	21.2	25.4
Activities not Classified	0.2	0.4	-	-
Total	100.0	100.0	100.0	100.0

Source: National Sample Survey Organization, 27th, 32nd, 38th, 43rd, 46th48th, 50th and 66th Rounds with Reclassifications of share of agriculture, industry and services as given in IJMR, Manpower Profile in India (2004).

Note: Workforce covers those involved in gaingul activity regularly+ those involved in gainful activity occasionally.)

In Indian case, the acceleration of the growth in GDP has not been accompanied by a commensurate growth in employment. However, there has been some increased movement in the structural transformation of the employment process during the last three decades since 1983. 23.21 per cent of the workers shifted away from agriculture. This magnitude of shift is much higher as compared to what was achieved during the first 30 years after Independence wherein only 4.7 per cent of the wirkers could come out of agriculture. An increased number of agricultural workers are moving out of agriculture and joining the non-agricultural sector every decade. If this rate of transformation persists during the next three decades, then the share of agricultural labour may fall below 10 per cent, which is a feature akin to that of the developed countries.

Three concerns are raised here regarding this change.

1. It is the service sector that has absorbed more labour than the industrial sector.
2. The shift of labour has taken place from the informal agricultural sector to the informal non-agricultural sector.
3. There is a large number of self-enterprising workers within the non-agricultural sector.

V. GDP and Employment in India

In Table 6, below data is presented about GDP and employment rise in India for the period in between 1983-84 to 2011-12. This Table shows productivity per worker at 2004-5 price. It is observed that there is a rise in rise of productivity per worker by 2.55% in primary, 3.1% in secondary and 5.1% in tertiary sector.during the 28 year period as above.

Table 6 and Figure below shows a relationship between GDP and distribution of employment in India

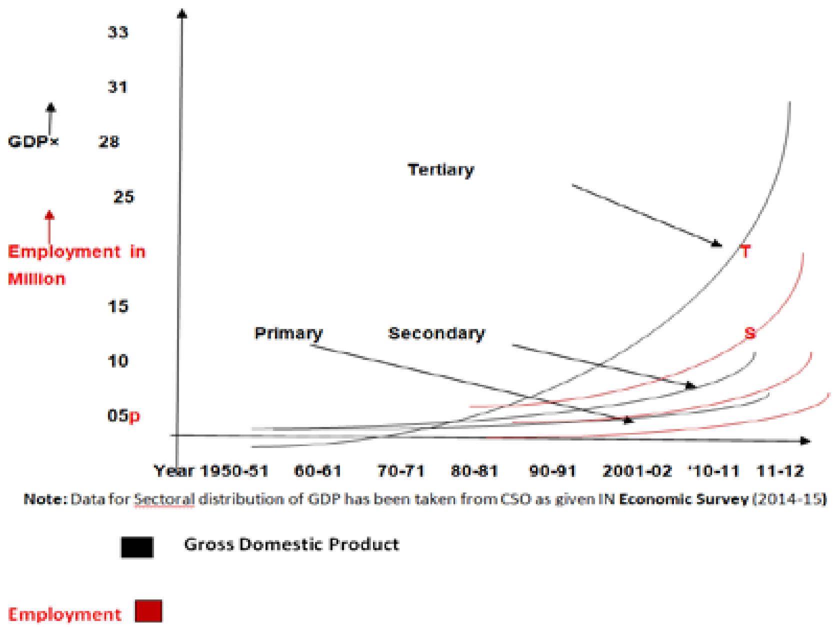
Table 6: Gross Domestic Product and Employment in India

Year	Gross Domestic Product (Rs in crore at 2004-05 Price)				Distribution of Employment (In millions)			
	Primary	Secondary	Tertiary	Total	Primary	Secondary	Tertiary	Total
1983-84	1,54,720 (37.9)	2,14,737 (22.9)	3,66,813 (39.2)	9.36,270 (100.0)	153,09	36.22	50.78	239.57
1993-94	4,79,592 (31.5)	3,57,237 (23.5)	6,85,515 (45.0)	15,22,344 (100.0)	193,26	47.45	75.11	315.84
1999-00	5,90,696 (26.3)	5,35,730 (23.8)	11,19,850 (49.9)	22,46,276 (100.0)	193,20	56.89	86.65	336.75
2009-10	7,64,817 (16.9)	11,73,079 (26..0)	25,78,175 (57.1)	45,16,071 (100.0)	215,2	83.8	83.8	400.80

2011-12	8,64,537 (16.5)	1,36,932 (26.1)	32,13,041 (57.4)	54,47,530 (100.0)	205.5	98.8	111.4	415.7

Note: CAGR refer to the compound annual growth rate.

Note: Gross Domestic Product (Rs in crore at 2004-05 Price) and
Distribution of Employment (In millions)



VI. Conclusion

In what follows is that the occupational structure in India has been divided broadly into three types: (i) Agriculture: animal husbandry, forestry, fishery etc., are collectively known as "primary" activities, (ii) Manufacturing industries: both small and large scale, are known as "secondary" activities, (iii) Tertiary activities: Transport, communications, banking and finance and services are "tertiary activities" in the country. The occupational structure of a country refers to the distribution or division of its population according to different occupations.

The ‘occupational structure’ in the context of Indian economy refers to the aggregate distribution of occupations in Indian society, classified according to skill level, economic function, or social status. The occupational structure is shaped by various factors: the structure of the economy, technology, the labour market and by status and prestige.

The structural transformation of the occupational process is a much-avowed outcome in the development process. It has begun to occur since 1983, after a long time in post-Independent India, and seems to have been quickened during the post reform periods. The structural transformation of employment should be shifting from a low productivity- low wage sector to a high-productivity- high wage sector (with reasonable social security) , which is, not in the offing.

Following suggestions from our end will go a long way in bringing change in the occupational structure:

(i) Agricultural productivity may be raised.

(ii) Effective measures may be taken to control population.

(iii) Much emphasis should be given on labour intensive industries specially cottage and small scale industries in rural regions.

(iv) Rural development schemes must yield benefits to weaker sections.

(v) Non-agricultural sector must be extended to absorb maximum new entrants of labour force.

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