



## Role of Agriculture in making India \$5 trillion Economy under Corona Pandemic Circumstance

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India is currently trying hard to get a status of \$5.0 trillion economy. Agriculture contributes \$400 billion to the Indian economy, which is 2<sup>nd</sup> after China. To achieve this mammoth national target, all sectors of economy viz., agriculture, industry and service have to perform outstanding. To achieve this target, total export should be of \$1.0 trillion annually and share of agriculture and the allied sector should be 10 %. To achieve \$100 million agri-export, smart agriculture is pivotal to sustain our products at international level. Agritech startup can play a vital role in this endeavour; however, the bottleneck should be removed with in the least possible time. If we succeed in this endeavour, this will not only lead to enhance per capita income from the current \$1800 to \$3600 but also double the income from farming systematically. Unfortunately, due to worldwide attack of global pandemic of Covid-2019 disease, every sphere of life has been severely paralysed. Agriculture sector was less affected as the food grain output was recorded highest ever (295.67MT) and sector growth 3.7 % in absolute term and 11.3% on the current price, during 2019-20. India will get rid off of such disasters relatively faster as compared to other nations, but this has the potential to push forward our economic dream to beam reality atleast for a year or so. Probably India would be able to achieve the tag of \$5.0 trillion economy not sooner than 2026-27.

### KEYWORDS

Agriculture sector, Agri-export, Covid- 2019, GDP, \$5 Trillion, Indian economy

### INTRODUCTION

Agriculture is still the backbone of rural India since it is the largest employment generating sector, engaging half of the world total labour forces (Anonymous, 2019 and Singh *et al.*, 2015). The development of agriculture shall reflect rural India *vis-à-vis* the development of the country (Singh *et al.*, 2017b). Science and technology driven smart agriculture holds an essential role in rural development in general and the agriculture in particular (Singh, 2020b ; Upadhyaya and Singh, 2019). Central Government programs like 'Mera Gaon Mera Gaurav' launched with the objective of technological backstopping of the farming community and 'Soil Health Card' for Soil test-based appropriate nutrient enrichment of soil are the basic necessity of the modern-day agriculture. Modern tools like mobile apps and decision support tools (DSTs) on various aspects of agriculture are available. These tools are capable enough to convincingly facilitate farmers for better planning and decision making as well as selection and prioritization of suitable and profitable technology / interventions / farming activities to be adopted. Precision farming or smart farming is nothing but integration of three critical components, i.e. information, technology and management. It is a very useful and widely accepted concept, which can undoubtedly enhance overall output when integration is achieved by scientifically establishing strong links between different components and cause and effect relationship is understood correctly. Weather forecasting can be quite useful in developing preparedness strategy for efficient utilization of rainwater and during the outbreak of insect pest and disease. Use of farm power and machinery help in reducing drudgery, maintaining timeliness and precision in agricultural activities and finally lead to enhancing land productivity (Singh, 2020a; Sundaram *et al.*, 2019). These technologies are not only cost-effective but also produce quality agricultural products in sizable quantity, securing more profit than through export or selling in the local market as well. Noticeably, income generation from less expenditure is used for the development of primary sectors and Upscaling of lifestyle, here the role of Agritech Startup has manifold to encourage smart agriculture through the use of modern tools and technology under the Make in India Program (Anonymous, 2019). India is handsomely posed to achieve its target of becoming a 5 trillion \$ economy as the incumbent central Government is trying hard to achieve it till the end of 2025 (Anonymous, 2011). Unfortunately, corona virus from China is creating hindrance and playing the role of road blocking agent by jeopardizing all civilian activities, including economic venture. For achieving such a national goal, all the sectors viz., Industry, service, and agriculture have to perform outstanding (Singh, 2020a). However, due to COVID-19 midcourse correction is but obvious. Worldwide the first COVID-19 disease caused by the new corona virus was reported from Hubei province in China on 17<sup>th</sup> November 2019 (Anonymous, 2020). While in India, the first case of this pandemic was reported on 30<sup>th</sup> January 2020. India announced lockdown on 22<sup>nd</sup> March 2020, which was just after Mega Hindu festival Holi and this was the period of peak agricultural activities viz harvesting of cold-season crops, and simultaneously planting of *spring / summer/ zaid* season crops. Based on the foregone brief account, the present article will emphasize the

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role of agriculture in making India a \$5.0 Trillion Economy (Anonymous, 2019).

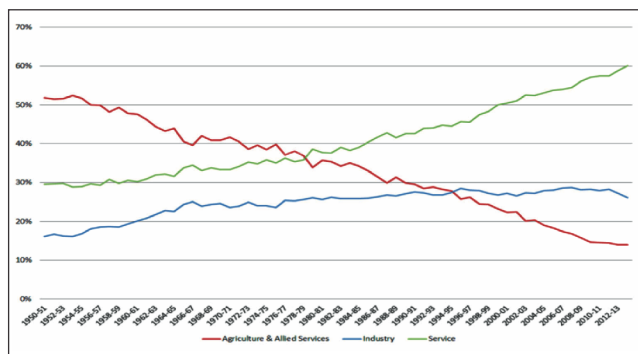
**Salient Features of Indian Agriculture**

Indian agriculture is unique due to its diverse nature in climate and geography. India enjoys all most all types of climate, and due to distinct characters, it is divided into 20 Agro-climatic zones and 21 agro-ecological zones (Singh et al., 2017b). As we know, agriculture is still the most significant sector accommodating (44%) workforce, contributing 35% of the national income and 14 % in National GDP (Singh, 2020a). Some of the characteristic features of Indian agriculture are as below:

- Subsistence Type
- Dependent on unreliable monsoon behaviour (60%)
- India's vast relief, varying climate and soil conditions produce a variety of crops.
- 48.8% of 140 Mha of agricultural land is irrigated and remaining 51.2% is rainfed. Rainfed area productivity is about 1.1 t/ha as compared to 2.8 t/ha of irrigated area.
- All tropical, subtropical and temperate crops are grown.
- Predominance of food crops, which is about 2/3rd of total cropped area.
- Poor electricity, water, credit and marketing.
- First rank in milk (17% of world production), mango, banana, coconut, cashew, papaya, peas, cassava and pomegranate production.
- Largest producer and exporter of spices, millets, pulses, dry bean and ginger etc.
- Overall, second largest producer of vegetable, fruits and fishes.
- Have three main cropping seasons viz. *Kharif, Rabi* and *Zaid*.
- 70% of India's foodgrain production is from irrigated agriculture.
- About 49.8 Mha of the country is flood-prone and every year about 8 Mha is affected by the flood. The waterlogged area in the country is about 11.6 Mha.
- Poor status in maintaining timeliness in the application of quality inputs in appropriate quantity with proper care/management throughout the process of farming.
- Poor status of storage, processing, value addition and linkage with suitable market to get appropriate price of produce.
- Poor seed replacement ratio and low technology adoption level.
- Small and fragmented land holdings and low risk taking ability of farmers.

**Pillar of Indian Economy**

Indian economy is a mixed economy and is based upon agriculture & allied, industry and service sectors (Anonymous, 2019). At current prices, the contribution of Agriculture & allied, Industry, and Service sectors was 52%, 15%, and 33%, respectively, during the financial year 1950-51. Share of Agriculture & allied sector has declined (15%) and share of industry (27%) and services sector (58%) has improved (Fig.1).



**Fig.1:** Contribution of agriculture & allied, industry, and services sectors(1950-51 to 2012-13)

**Contribution of agriculture and allied sector to the National GDP**

Agriculture and allied sector consist of crops, live stocks, forestry, fisheries and aquaculture. Crops are further divided into two i.e. field crops and horticultural crops. Crop (field and horticulture) contributes 60.2% to the total agricultural GDP and 9.63 % of National GDP (Table 1). Keeping in view the fact that during 2017-18 contribution of the agriculture sector (15.4%) is much higher than world's average (6.4%), similarly, contribution of industry and services sector is lower than world's average 27 % for industry sector and 58% for services sector (CIA, 2017). Under current Indian agriculture scenario, ways and means for the agriculture sector contribution for making India a \$5.0 trillion economy in the quickest possible time has been discussed here.

**Table 1:** Composition of agriculture and allied sector

Sector	Agricultural GDP	National GDP
#Crops	60.2	9.27
Live stocks	26.1	4.03
Forestry and Logging	8.1	1.24
Fishers and Aquaculture	5.6	0.86
<b>Agriculture Sector</b>	<b>100</b>	<b>15.4</b>
#Field Crops	34.3	5.28
#Horticultural crops	25.9	3.99

**Agricultural Output (2019-20)**

A perusal of data presented in Table 2 reveals that influence of corona virus was efficiently mitigated and food grain production is estimated at all-time high (295.67 Million tonnes) during 2019-20, which is (10.46 Million tonnes), i.e.

**Table 2:** Impact of Covid 19 on performance of agriculture sectors

Crop	Production (million tonnes)		Increase
	2018 -19	2019 -20	
Wheat	103.60	106.21	+2.61
Rice	107.80	117.47	+ 9.67*
Cereals	43.06	45.24	+2.16
Pulses	20.26	23.02	+2.76 *
Total Oilseeds	31.52	34.19	2.67
Sugarcane	349.78	353.85	4.07
Cotton	28.04	34.89	6.85
<b>Food grain</b>	<b>285.21</b>	<b>295.67</b>	<b>+ 10.46</b>

Million bales of 170 kg each, \*Five years' average production

3.6 % higher than previous crop year. The first time wheat production has crossed the milestone of 100 Million Tonnes. Horticulture Production 313.35 MT during 2019-20. The area under summer / *Zaid* sown has increased to 5.707 Mha, which was 4.131 Mha during 2019. During the year 2019-20, agriculture sector grows @ 3.7% in absolute term and 11.3% on the current price. Contribution of the agricultural sector is 58% higher than the non-agriculture sector (Tomar, 2020).

#### Forecast and performance of Indian Economy

India is globally 3<sup>rd</sup> best economy (with estimated GDP of

10.51 trillion \$), in terms of purchasing power parity, after China and USA. However, India is now 5<sup>th</sup> largest economy in term of real GDP, that has recently surpassed UK and France in December 2019 (IMF, 2016). Several studies conducted by the world-leading institutions suggest that India would be 4<sup>th</sup> largest economy by 2025 & 3<sup>rd</sup> largest economy by 2035 (Table 3). This study was carried out in 2011 and updated in 2016 (UNSD, 2016). However, it is worth mentioning that Corona pandemic was not at all in the picture. Interestingly estimate up to 2020 has been matched to a great extent (Singh, 2020a).

**Table 3 :** Gross domestic product (nominal) (in current US\$ Billions) 2015-2050

Rank	Country	2015	2016	2020	2025	2030	2035	2040	2045	2050
1	USA	18,036	18,562	21,926	25,926	30,354	35,185	40,380	45,606	50,995
2	China	11,181	11,392	16,458	21,899	28,852	37,635	48,604	61,775	77,730
3	Japan	4,124	4,730	5,506	6,773	7,625	8,500	9,380	10,188	10,954
4	Germany	3,365	3,495	4,007	4,583	5,190	5,820	6,460	7,058	7,633
5	India	2,073	2,251	<b>3,297</b>	4,628*	<b>6,433</b>	8,852**	12,060	16,171	21,465

\*India 4<sup>th</sup> largest Economy by 2025 & 3<sup>rd</sup> largest Economy by 2035,

#### Export of agricultural products.

WTO has made world food agricultural market more open and competitive as well. Data of agricultural commodity exporter has been presented in Table 4. European Union, the union of 28 countries, hold the world food market with \$585 billion, United States of America stood second with \$163 billion, however India secure 9<sup>th</sup> position with agri-export value of meager 35 billion during 2017. It is worth to mention here that during 2019 agri-export was bit improved and it was \$42.2 billion (World Bank, 2016 and Singh, 2020a).

**Table 4 :** Worldwide Top 10 Agri Exporter countries 2017

Rank	Country	Value in ( Billion \$)
1.	European Union (28)	585
2.	United States of America	163
3.	Brazil	80
4.	China	73
5.	Canada	63
6.	Indonesia	39
7.	Thailand	36
8.	Australia	36
9.	<b>#India</b>	<b>35</b>
10.	Argentina	35

42.2 Billion \$ during 2019K

#### Top 10 agricultural problems which need immediate attention

Several problems plagued Indian agriculture; some of them are natural and some are human-made. There is need for policy and planning intervention for resolving these perennial log jam. There is an urgent need to address these bottlenecks of Indian agriculture as soon as possible to grow as a boon. Some of the major problems have been enlisted, which need immediate attention to resolve.

1. Small and fragmented land-holdings.
2. Non-availability of quality seeds.
3. Non-availability of manures, fertilizers and Biocides at right time in appropriate quantity.

4. Lack of irrigation facilities
5. Lack of mechanisation.
6. Soil erosion.
7. Agricultural Marketing.
8. Inadequate storage and processing facilities,
9. Inadequate transport.
10. Scarcity of capital.

#### Time to go all-out with the special efforts

Apart from above listed significant agriculture problems, there is a need to make farming as a business and put this sector under 'Make in India program' to visualize 'Agritech startup revolution'. Realizing the vision of 'Make in India' for the world, it is estimated that by 2020 the Agritech sector will be at the centre stage of innovation and will lead India's journey towards overall transformation.

#### Make farming as a business

Treat framers as businessman not peasants. Have predictable export-import regime for farm products. Stop the present switch on and switch off policy, which harms both the farmers and foreign customers. Employment dependency on the agriculture sector should be reduced drastically by using modern tools, technology and mechanization. Relocation of the workforce to other sectors is a way to get success.

#### Make in India program and Agritech Startup Revolution

According to the latest report (NASSCOM, 2019a) entitled "Agritech in India-Emerging Trades in 2019", Agritech Startups are the next big thing in Indian agriculture. Indian start-ups in the agritech sector received more than \$248 million funding in the first six months while last year registering 300 percent growth in the same period. At present, the sector is growing at a rate of 25 per cent year-on-year. India currently hosts more than 450 start-ups in the agritech sector. The fact that every ninth agri-tech startup in the world is originating from India, demonstrates the potential of the agritech industry and the opportunities that India presents in the agriculture and farming landscape. More than five global

agritech companies have ventured in India in the last 5 years, as compared to more than 25 Indian Agritech companies with a worldwide presence. According to [NASSCOM, \(2019b\)](#) AgroStar raised \$27million in Series C funding led by Bertelsmann India, and India ranks among top 5 countries in food processing. By 2024, the sector will employ 9 million. Organised sector has only 60% share. Streamlining and traceability can improve farmers' income and exports.

Corporate investors are playing a vital role in supporting this with over \$200 million investments in B2B start-ups in the past 18 months ([Anonymous, 2019](#)).

### Strengthen Central scheme

Central government schemes such as 'PM SAMMAN' and other similar schemes introduced by some State Governments that guarantee direct cash transfer have increased the spending potential of farmers. The extra incomes may have spurred the interest in investing in new technologies.

### Impact of corona pandemic on Indian economy

Indian economy seems to be shaking off due to freezing of all economic activities under strict lockdown amid Covid-19 pandemic. The Most affected one were service and industry sectors, whereas Agriculture and allied sectors were the least affected category. Due to lockdown, approximate, 60% of economic activities are standstill, but agriculture is performing better than previous. Agriculture and allied sector may contribute to the National GDP by 0.5-0.6 % during this financial year. Due to the corona pandemic, many multilateral agencies, including the World Bank and the International Monetary Fund, have drastically cut off their India GDP growth forecasts for 2020-21. These agencies are predicting that the Indian economy may grow with a range of 1.5 to 4.0 %. Global GDP is likely to dip one percentage point if corona virus containment progressed beyond June and it will hit hard than 2008, leading to the economic shutdown. According to IMF, global recession maybe even more painful than the Great Depression in 1930.

### Recently announced Economic measures by Govt of India

20 Lakh Crore stimulus packages to make self-reliant India and share of agriculture sector apart from ₹ 1.71 lakh crore packages announced before this

- ₹ 2 Lakh crore cheap loans to 2.5 crore farmers.
- ₹ 1 Lakh crore to build agri infrastructure.
- ₹ 20,000 crores for the fishery sector.
- ₹ 15,000 crores for animal husbandry sector.
- ₹ 10,000 crores for food processing sector.
- Additional ₹ 40,000 crore will be allocated for 'MGNREGA'.
- Special insolvency framework for 'MSME's will be announced. Threshold now increased to ₹ 1.0 crore.

### Agricultural activities aimed corona

The lockdown has less severely disrupted India's agricultural and allied sector as a whole, as compared to other sectors. However, sectors starving it of buyers and migrant laborers as the restrictions halt people's movements. Most affected sub-sector in agriculture are poultry, fisheries and aquaculture, animal products, milk and milk product, floriculture and

vegetables and fruits. With a sharp decline in takers for vegetables, fruits and flowers, animal products, etc., farmers are looking to the Government for help. India should adopt following quick policy measures to ensure smooth agricultural activities as well as income and credit flows:

1. Direct procurement of farm produce.
2. Direct cash transfers to farmers as well as landless labourers.
3. Interest-free financial support through cash transfers and in KCC mode.
4. Ensure free movement of implements and equipment used in agriculture.
5. Availability of seeds and other input for summer / *zaid* upcoming *kharif* season

### Reason for better performance by the Agriculture sector under Covid 2019 pandemic

Government of India in close association with the respective State Government have responded and acted swiftly to cope and mitigate the pandemic effects on civil society. Several steps have been taken on this account. However, few necessary agricultural specific measures are described as under:

### Financial support and fight against Covid- 19 to agricultural and rural sectors

Central Government has supported with ₹ Fifty thousand eight hundred fifty crores to 8.4 crore farmers' families under Kisan Samman Yojna during 2019-20. Separate ₹ 17986 corers for farmers' families to fight against Covid-19 have been allocated. During 2019-20 under crop insurance, approximate ₹ Fifty thousand corers have been released for the premium of ₹ 9000 crores.

### Transport of agriculture product

Since harvesting is at fagend, oilseed and pulses have been harvested, wheat harvesting is about to finish. For efficient transport of agri-product to market and procurement centre 'Kisan Rath' has been launched by Central Government with 1.1 million vehicles as well as Railway extended their services on 66 routes for the transport of agricultural product through goods trains.

### Procurement of agriculture product

Procurement of agriculture produce is being done in full swing through 21,131 centres as compared to 14,838 centres during 2018-19. As of now 11.7 MT wheat, 1.8 MT rice and 0.5 MT pulses have been procured. Further, through 'eNAM' (National Agriculture Market for online trading for agricultural commodities) total of 585 MT and is have been linked and worth ₹ 1.0 Lakh Crore transaction has been done through 'eNAM.'

### Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

'MGNREGA' has proved very handy for poor and landless daily workers, presently 12 crores are permanent job cardholder, whereas 6.5 crores have been enrolled temporarily. It is worth to mention that a total of 266 types of works/activities have been approved/listed in this act of which agriculture-related work are 162 in numbers. During

2019-20, 66% of the total fund was allocated /directed for agriculture-related work only, and this will be increased to 77% for 2020-21.

### Agri-market reforms

Deregulation of agriculture commodities from the Essential Commodities Act (ECA), and the imposition of stock limits only during emergencies

1. Marketing choice to farmers: sale anywhere in India
2. Allowing private participation will benefit both farmers and consumers
3. Free grains to the migrant for three more months

### Essential Commodities Act (ESA)

The act will be amended to remove cereals, edible oil, oilseeds, pulses, onions and potato from ESA purview. A new law will be framed to give farmers the option to choose the market where they want to sell their produce by removing inter-state trade barriers and providing e-trading of agriculture produce.

### Agriculture outlook for the year 2020-21

It is forecasted that this rainy season, monsoon will be 96-104 per cent of the long-period average (LPA), which is normal for the season. Availability of water in reservoirs is 50% higher than previous years during April to June quarter quite enough for agricultural activities. Fertilizer release for this Kharif season is 13.96 Lakh tonnes which is 8% higher than the previous year. Further, quality seed sale is 20 % higher at Krishi Vigyan Kendra level. Minimum Support Price (MSP) for 2019-20 has been increased in between 50-109% of its cost of production. The target for 2020-21 in the agriculture sector has been pledged to 3.0% and food grain production target 298.3

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MT for 2020-21 (Tomar, 2020).

### Ten steps to 5 trillion-dollar economy

1. Improve our export to \$1 trillion annually.
2. Lower our tariff, which are amongst higher in the world.
3. National Competitiveness.
4. Remove roadblock of Red tape.
5. Rationalize Exchange rate of Indian Currency to USD.
6. Labour law reform.
7. Land acquisition reform.
8. Farming as a business.
9. Reduce subsidy and long-term strategies to end it in time frame mode.
10. Reform in the educational system.

### CONCLUSION

Severe challenges have been posed to economic activities across the world, including India by none other than corona virus pandemic. Due to the swift action by Indian Government on several fronts including strengthening of logistic support chain and economic relief package, there are positive indications that India will get rid off of such disasters very soon as compare to other nations. Our overall export should be to the tune of \$1 trillion annually, in which the contribution of agriculture and allied sectors should be \$100 billions. Further, treat framers as a businessman, not peasants. We must have a transparent, predictable export-import regime for agricultural produce so that this should not shake the trust and confidence of both the farmers and foreign buyers. India might achieve the coveted status of the economy of worth \$5.0 Trillion during FY 2026-27 due to vulnerable impact of Covid- 2019 on Indian economy.

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