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Effect of corona / COVID19 on the agricultural sector in India

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Abstract

Even today, a variety of human diseases are reported for unknown reasons. The virus has been detected in most of these diseases, emphasizing the importance of the ongoing search for new viruses. As India and the world on the day is battling the massive extinction crisis, as the corona virus has hit the world like a meteor, it will have a major impact on the country economy and especially on agriculture. In particular, seeing rabi season harvest around the corner.

Keywords: Corona / COVID19, agricultural, economy

Introduction

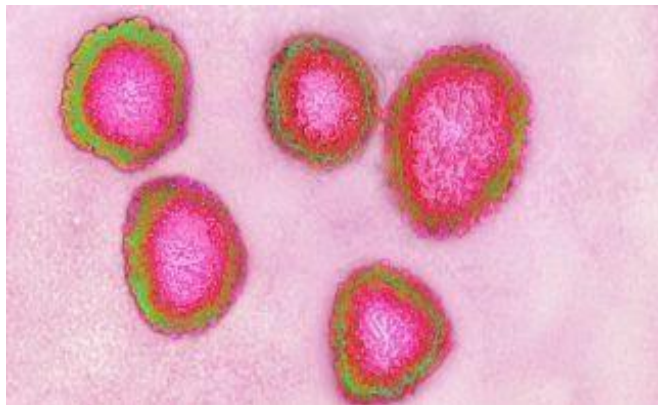
Even today, a variety of human diseases are reported for unknown reasons. The virus has been found to be associated to many of these diseases, emphasizing the importance of ongoing search for new viruses [4]. There are major difficulties when the new viruses do not respond to antibodies raised by known viruses. may not detect the selected virus, and virus-specific PCR methods may not amplify the new genome.

In December 2019, cases of the death of a numerous people due to a unidentified pneumonia was in news from China. These people were having history of exposure to seafood market (wild life market) in Wuhan, Hubei Province. The novel coronavirus, SARS-CoV-2, has been identified as a reason to the disease. The transmission from person to person is documented, and the disease named as COVID-19 by the World Health Organization (WHO) which is spreading rapidly nationally and internationally. The outbreak of 2019 novel coronavirus infections (COVID-19) from Wuhan, China has rapidly spread across whole of China. The speed of spread of COVID-19 epidemic is so rapid that It only took 30 days to extend from Hubei to the Mainland China. With so many people returning from long vacation, China has to prepare for stopping the spread of the disease [1]. As of 18th February 2020, the number of confirmed cases had reached 75,999 by 2009 deaths. COVID-19 led to a significant decrease in cure-mortality rates (about 2.67%) among confirmed cases as compared with Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS), the known Corona strains. Among the named symptoms of the 45 deaths collected from official reports released, the top four are fever, cough, shortness of breath, and chest tightness/ chest pain. loose motions also. Major comorbidities in mortality cases include hypertension, diabetes, coronary heart disease, cerebral infarction, and chronic bronchitis. The source of the virus and the pathogenesis of the disease have yet to be determined. No specific medical drug /vaccine has been found, [2] as on date.

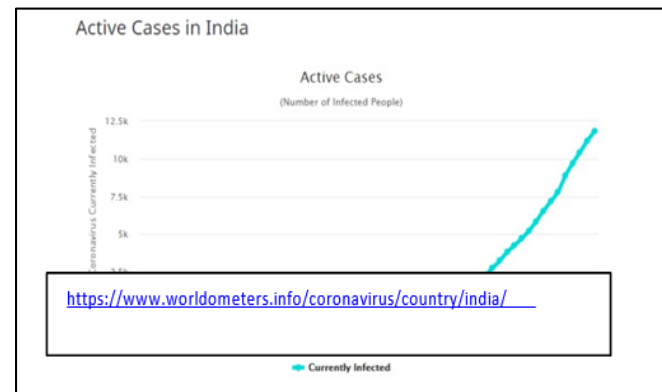
Coronaviruses, a genus of the *Coronaviridae* family, are viruses that are coated with a large amount of plus-strand RNA. The genomic RNA is 27-31 kb in size, bound and polyadenylated. Three serologically distinct groups of coronavirus has been described. In each group, viruses are identified by their sequence width and genome sequence.

Coronaviruses have been identified in rats, mice, chickens, puppies, pigs, dogs, cats, rabbits, horses, cattle and humans, and can cause serious illnesses including gastroenteritis and respiratory tract infections [5]

Three human coronaviruses have been studied The new coronavirus under study were isolated from a child suffering from bronchiolitis and conjunctivitis. This was not an isolated incident, as the virologists identified the virus from a medical perspective from seven additional people, infants and adults, during the last winter. They also worked out the complete genome sequence of the new virus, which revealed a few distinguished features as compared to earlier corona viruses.



Respiratory Department who has first warned about the virus in Dec 2019 was blamed for spreading rumors, but within two months situation has converted to a pandemic a worldwide spread and Today China to Spain-Italy USA Iran and many others nations are facing this situation in a way every person is affected by it by one or other way. The epidemic has hit all continents on earth at a faster rate than speed of light. Corona death cases are listed here [7]: major countries.



Current scenario of corona outbreak

The day when a 55 year old individual from Hubei China is detected as the first case of COVID19 on 17th Nov 2019 (6)(south morning china) nobody even imagined that it's a spark of a jungle fire. When the word Corona was in news as an outbreak of some disease in China's Wuhan area, nobody has taken it as seriously when Dr. Li Wenliang, a Chinese scientist, warned as its considered as something happening miles apart. Ironically the doctor Dr. Zhang Jixian Head of the

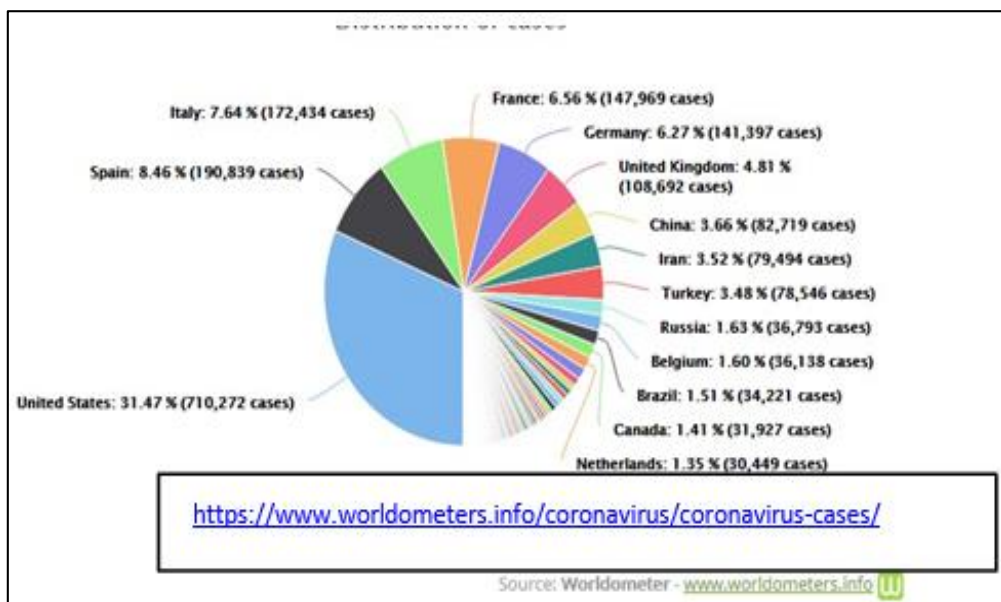


Table 1: Number of positive cases and death cases in

S. no	Country	Cases	Deaths
1	USA	710272	37175
2	Spain	190839	20002
3	Italy	172434	22745
4	France	147969	18681
5	UK	108692	14576
6	China	82719	4632
7	Iran	79494	4958
8	India	14425	488
	World**	2258909	154388

** Source: www.worldometer.info dated 18th April 2020

Based on the Johns Hopkins coronavirus tracker, this virus COVID-19 has spread to 175 countries that have not existed since March 27, 2020. The world is facing uncertainty and many countries have imposed restrictions that could have a negative impact on economic activity not just now, but for a long time in post corona period also [8]. IMF has already given statements predicting such crisis.

Since the first case in India was reported in Kerala of a person who has a travel history that he returned from Dubai in Ernakulum, in corona positive cases already crossed ten thousand. This would have been many fold higher as reported by health ministry if the country was not put to lockdown starting from March 22, 2020. India announced a three-week nationwide lockdown in the early stages until mid-April, and then extended it until May 3 to break the chain of the spread of the virus. and the country closed for 40 days.

The spread so far (dated :18 April, 2020) have been reported from states with major cases in Maharashtra (3320), New Delhi (1707), Tamilnadu (1323) Gujarat (1272), Rajasthan (1270) Karnataka (359), Madhya Pradesh (1355) The total number of COVID-19 cases in India reaching to 15000, the highest increase of one and one from, Maharastra Tamil Nadu, Bihar, Punjab, Delhi, West Bengal, Jammu and Kashmir and Himachal day so far, and the death toll increased to 19, according to Union Health Ministry data.

The economic condition of India was not conducive to another economic downturn given the low of our GDP growth over the past few years. However, these powerful measures are not only set by India, but also many countries in the world including Italy, France and many others to treat the problem successfully and contain the spread of the virus. The loss of GDP due to the outbreak and outflow of Coronavirus would be quite large amounting to about Rs 7.47 lakh as estimated.

This has undoubtedly had devastating consequences for all the corona nations of the world and will slow the growth of all industries except those in the health care sector for at least the next few months. In these challenging times, how does Indian agriculture respond to the crisis and how government actions affect 140 million farm households nationwide and then the most important country's economy in developing countries is agriculture sector and suggest mitigation measures to ensure a sustainable food system.

Effect on Agriculture sector

As the spring sets in and season change the harvest season is around the corner the time when the crops are ready to harvest, time to wake up from the fogs of long winter spell.

Farmers across north India, at this peak period of harvesting wheat, are in urgent need of combine harvesters. However, during the national lockdown imposed to curb the spread of COVID-19, there is no system in place for transporting these giant combine harvester machines that move across states which mostly come from Punjab. Due to the restrictions on movement, neither the machines nor the operators are able to reach farmers^[9].

The vegetables like green peas, cucumber, cauliflower, cabbage, potato, etc. in Punjab is being harvested in bulk during these days and farmers are unable to

move out to get the desired price for their vegetable crops. They are either dumping the production or opting to plough through the fields. It's that time of the season when the farmer harvest and sell vegetable crops of peas, The retailers are earning a quick buck by selling the vegetables at a high rate as they have enough pending stock. They also managed to purchase vegetables from farmers at throwaway prices as they are required to clear their stock. After they failed to transport their produce to mandis due to the curfew, many vegetable growers in Mansa district have started ploughing their vegetable crops with tractors in a bid to make green manure. Punjab Kisan Union state senior vice-president Gura Singh Bhainibagha said in Bhainibagha village, some farmers have ploughed their crops in their fields. The farmers are the sole ones, who are suffering or the consumers across the nation paying much high to meet the needs^[10].

The supply of fruits start falling sharply in a day because transportation hurdles and labour scarcity in Maharashtra in the wake „Traders say the current situation will devastate farmers as their produce will start rotting, while urban consumers will face sky-high prices unless the authorities take urgent steps. The perishable crops like grapes, papaya, oranges etc are worst affecting^[11].

Traders said apart from the need to keep away from unhygienic and congested conditions in Agricultural Produce Marketing Committees (APMC), or mandis, they were already facing a disruption in trade as trucks are unable to move in the lockdown. “Most of the fruit trading at Azadpur mandi has stopped as farmers are facing difficulties in sending their produce, while the onward dispatches too have become difficult,” said Rajkumar Bhatia, general secretary at

Chamber of Azadpur Fruit and Vegetable Associations. Nearly 56 government committees in the state remained closed in Maharashtra on Monday, according to a daily survey conducted by the Maharashtra State Agriculture Marketing Board (MSAMB).

A onion farmer from Lasalgaon could not package onions as government functionary stopped 11 laborers from their village 30 km away. Pulses processor Nitin Kalantry from Latur, who used to dispatch 20 trucks of pulses to the metro cities, has not been able to find a transporter since lockdown. Vilas Bhujbal at the Pune APMC categorically said traders at the mandi will not operate from Wednesday as they are afraid of contacting COVID-19.

Farm laborers have gone home or are start moving back to their villages. If we somehow manage to arrange some laborers, the police are restricting their movement because of the lockdown. So, in most of the fields, harvesting is disrupted,” said Dalveer Singh, a mustard grower in Bharatpur, Rajasthan.

Gujarat, ready with gram, tur/arhar which hosts a large number of migrant farm laborers from neighboring States, is also witnessing their mass exodus. “Farm workers are moving back to their native places in Madhya Pradesh and Rajasthan. This will severely hamper the harvesting of crops,” said a district agriculture officer from central Gujarat. The shutdown of APMCs and public transport has created panic among the laborers. Though a few big farmers having large farms are taking care of their labourers but most of the farmers can’t,” said a farmer from Chhota Udepur in central Gujarat.

In Telangana, the COVID-19 crisis has shattered the dreams of the farmers who have grown paddy, maize and chillis. Their acreages were higher this year. Paddy acreage had more than doubled to 39 lakh acres against a normal of 17 lakh acres, while the maize area increased to 5.84 lakh acres against the normal 3.72 lakh acres. Two weeks into the harvest season, farmers are at a loss as to how to complete the job as the government has imposed restrictions on vehicular movement and is asking people to stay home.

Farm gate prices are plunging. Many private dairies have halved the price they pay earlier to farmers, while tomato growers in Maharashtra are not finding buyers for even ₹2/kg or less. Farm leaders say the situation is worse than demonetization in November 2016 which has delayed payments and had not hurt the yield. But now, they say, the losses will increase because it is time to harvest many crops like grapes, melons, bananas, muskmelon, chana, cotton, chillies, turmeric, jeera, coriander, onions and potatoes. This is also the time when the harvest of the farm reaches the mandis (market yard) through the procurement activities undertaken by designated government agencies

Rs 1,000-Crore Blow for Grape Growers “The situation will be worse than the demonetisation days if the government doesn’t step in,” said Reddy. this in turns hurts farmers. Grape growers said the industry faces losses of Rs 1,000 crore as the harvest will continue for a few weeks and the main buyers are in big buyers far away. Even if interstate transport revives, urban demand is likely to be minimal during the 21-day lockdown, they said.

The tea industry had requested the government to allow it to undertake spraying/irrigation operations as there may be huge and permanent damages to the tea plants if adequate plant-protection steps through spraying of pest repellents and pest killers are not allowed.

“In view of scanty rainfall at present, there is a need to continue irrigation in tea gardens,” the Assam Branch Indian Tea Association (Abita) said in its letter. Assam chief secretary Kumar Sanjay Krishna, in his letter, said spraying pesticide, weedicide and irrigation have been permitted during the lockdown period to ensure plant protection.

However, the order came with the riders that only workers who are willing to carry out such activities may be engaged and no worker should be forced, workers so engaged should be medically checked before starting work, adequate protective gear must be provided while spraying of pesticides and weedicide, social distancing and hand washing must be ensured and the management should spray disinfectants in the labour lines

The panic situation

Farmers across country are in panic because ripening fruit and vegetables will rot because mandi operations have almost stopped, labour cannot reach farms and orchards and due to transport bottlenecks a totally disturbed market linkage.

The situation central India

“As mandis are not working, wheat prices have fallen from Rs 2,200/quintal two weeks ago to about Rs 1,600/quintal today. The support price is Rs 1,840/quintal. The ripe wheat crop can be damaged due to the unseasonal rainfall,” said Dr. Sunilam, president, Kisan Sangharsh Samiti from Madhya Pradesh.

K Gundaiah Naidu, a trader from Raiway Kodur, Kaddappa district said muskmelon grown on thousands of acres in the districts of Kadappa, Chittur and Ananthpur districts is rotting in the fields as there are no trucks available to transport the fruit to Mumbai, Gujarat, Delhi and Chennai.

Poultry prices have declined by a third in the past month because of receding consumer demand amid the coronavirus outbreak. Poultry farmers are suffering heavy losses following the sharp drop in prices. Broiler chicken in the benchmark Bengaluru wholesale market was quoted Rs

61.76 a kg on average in February, as against Rs 91.58 a kg in January. Similarly, broiler chicken in the Hyderabad and Muzaffarpur (Bihar) wholesale markets was sold at Rs 61.28 a kg and Rs 78.66 a kg, respectively, in February, as compared to Rs 86.28 a kg and Rs 90.13 a kg in January. Egg prices have also plunged.

Mitigation Measures

In order to strengthen the demand for agricultural commodities, investment in valuable information must be developed. In addition, e-commerce companies and needs and startups need to be encouraged with appropriate policies and incentives.

The agriculture ministry has persuaded mandi boards to operationalize fruits and vegetables trading in all mandis. Out of about 2,000 mandis where fruits and vegetables are traded, at some places along with grains, as many as 1,509 were in operation on Friday, against 220 on Wednesday, an official said.

“Mandis are providing masks and sanitiser at gates to protect farmers and traders. They have also been advised to ensure social distancing inside the premises,” the official said. Once fruits and vegetables operations are streamlined, the focus will be on grains as well since harvesting of rabi crops has started in many places.

Hon^{ble} Minister of Finance for India, Nirmala Sitharaman has announced a Rs 1.7 lakh crore relief fund to help the poor

and migrant workers in the country, and other categories of people vulnerable to be deprived of access to the basic amenities needed to secure their survival on earth. The relief focuses on offering direct cash transfers and ensuring food security to the needy and to support them in handling the 21-day lockdown.

In short, the Indian economy, much like many other economies today, is likely to suffer quite severely due to the ongoing COVID crisis. Agriculture is hit from multiple fronts: demand slump both domestically and exports, as well as negative global and domestic supply chain disruptions involving both forward and backward linkages. So, this is a story of a vicious cycle of demand and supply bringing each other down perpetually. The highly volatility prevailing in the ecosystem, and the aggressive lock down measures put forth by the several countries across the globe is predicted to strain not just India, but several leading economies making a long-lasting dent.

Nevertheless, industries, citizens and the government should work together on the combination of path to quick recovery, contained contagion and stimulus packages, to minimize this damage and avert its sustained worsening in future. We have illustrated that all the packages announced so far can substantially reduce the damage, but we need many more to come to completely nullify the damages over time

The government order exempts farming operations and agencies involved in procuring agriculture produce, including “mandis”. Inter- and intra-state movement of harvesting and sowing-related machines, and manufacturing and packaging units of fertilisers, pesticides and seeds are also exempted.

As the kharif (rainy / wet) period is fast approaching, institutional borrowings of crop loans should be expanded and borrowers should be able to facilitate a smooth (and adequate) flow of credit. Agricultural inputs - seeds, fertilizers, agrochemicals, etc. - should be kept in place for easy availability. The private sector must play an important role with the necessary policy support. “This decision has been taken with a view to facilitate unhindered activities related to agriculture and farming so as to ensure essential supplies to the common man,” the government order said. “Necessary directions have been issued to the concerned Ministries/Departments and designated officials of the States and Union Territories.” on March 24 urged the central government to allow production, distribution and sale of agrochemicals during the lockdown. Few states such as Bihar, Haryana, Karnataka, Maharashtra, Punjab, and Uttar Pradesh have already issued notifications to this effect, it said.

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“This decision has been taken with a view to facilitate unhindered activities related to agriculture and farming so as to ensure essential supplies to the common man,” the government order said. “Important guidelines have been issued to the relevant Ministers / Departments and designated officials of the States and country.”

The Gujarat government on Wednesday asked all APMCs to resume auctions to keep the supply chains of grains and pulses uninterrupted. “It is informed to all the APMCs engaged in the auctions of food, agri-commodities such as grains, pulses, oilseeds among others to resume their operations. For this, they are asked to maintain required safety

measures, avoid overcrowding, and maintain hygiene prescribed by the government,” an official notification said. There has been a global concern, rather a guess, on the ban on the sale of agricultural commodities by a few global players. For India, to become a commodity exporter such as rice, meat, dairy products, tea, honey, cultural products, etc. It may also take advantage of the export of such products through the export policy. Agricultural exports to India are valued at \$ 38 billion US dollars in 2018-19 and could go upwards with favorable policies. The development of export-supporting infrastructure will require investment and private support, which will be in the interest of farmers in strengthening their income.

To summarize suitable steps need to be taken to put the supply chain in place so that the farmer can dispose of the produce as a suitable price and at the same time the consumer getting the fruits and vegetables without extra hole in their pocket in a situation of crisis. For all of this to happen, the existing policy environment for promoting two major policies for wheat and rice must change. The drafting of agricultural policies, the post-COVID19 situation, should incorporate these important elements in the transformation of food systems in India.

As its rightly said “Everything can wait, but not agriculture” by Jawaharlal Nehru, the first Prime Minister of India That is something that should have been the motto during this time apart from health facilities.

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