

# Impact of COVID-19 on Poultry sector and farmers in India

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## ABSTRACT

The poultry industry contributes about 4.4% of the Nation's GDP. The COVID-19 pandemic has affected poultry consumption, transport, and the economics of poultry farming. The industry incurred severe losses due to a decline in demand and profitability. Rumors were circulated about linking this virus with the poultry birds. This study explores the overall impact of COVID-19 on poultry farmers. To know about the ground facts the data was collected from top poultry organization, the survey was conducted by the organization on a sample of 60 farmers from districts of Punjab, Delhi, J & K, Uttarakhand, Bihar, and Uttar Pradesh to assess the production hit due to COVID-19 on eggs and Broilers. The study revealed that the severe hit was among the states of Haryana and Delhi on an average basis between the previous year to this year, and a major dip has been in broiler production.

**Keywords:** Covid19, Lockdown, poultry, Production, eggs, and broiler.

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## INTRODUCTION

COVID-19 has had a significant impact on social and economic life in addition to public health. At the global, regional, and national levels, the poultry production sector is among the areas that are impacted [1]. Due to this COVID outage, Indian poultry was severely impacted. China, the US, Italy, Spain, France, Germany, and other nations all felt the burden, but the Indian poultry business lost a lot of money because there wasn't enough chicken and egg demand. Despite the fact that numerous reputable organizations, like the FSSAI (Food Safety and Standards Authority of India), declared there was no connection between coronavirus and poultry products, the majority of people still felt that the novel coronavirus had some linkages with eggs and chicken. Slaughtering and processing throughput have decreased as a result of worker infections and the closure of slaughterhouses and food processing facilities [2]. These factors led to the overproduction or culling of animals and animal products in order to reduce the expense of sustaining animal populations that could neither feed nor trade [3-4]. Naturally, this had an impact on the trade and production of poultry [5]. The infection propagated through direct human contact, not through chicken eateries. Of

fact, COVID-19 is neither the first nor the only difficulty this developing industry encounters. The avian influenza epidemic in 2007 forced the closure of more than half of the country's poultry farms and hatcheries, and poultry farmers are still dealing with the disease's emergence [6]. The overall productivity has been limited by recurrent outbreaks of various diseases in flocks, placing some farmers in dangerous financial situations [7]. The increase in covid cases, which resulted in the wholesale price of undressed chicken falling from Rs 87 per kg to Rs 25, was the main cause of the sharp decline in consumption of these products. Chicken is now available for Rs 120 per kg at retail, down from former prices of Rs 150–Rs 160 per kg. Even the egg cost was reduced to Rs 3.5. A contributing contributor to the decline in demand for chicken and eggs was overproduction. Around eight crore additional birds were created this year. Additionally, there were significant problems for the producers of poultry feed during the lockdown. Some faced a lack of demand, while other farmers were unable to obtain the feed. Farmers in many locations, including Bhiwani, Jind, and Rohtak, buried their flocks due to a decline in demand, with some flocks also being buried due to inadequate feed supplies. On average, a bird cost Rs. 75 to produce, and in certain places, the price dropped to Rs. 2 per kilogram. To put an end to these rumors, many state governments are taking action, such as Haryana, which plans to start educational campaigns to inform the public about how these poultry products help strengthen immunity. Iron, zinc, copper, vitamin B6, and other excellent nutrients found in poultry aid to protect against disease.

### **Literature review**

Dr. Meeta Punjabi Mehta, a current international consultant with UNFAO, described the state of the poultry sector globally during the current COVID-19 era in an article that was published by Benson Media. She noticed that the COVID-19 epidemic has had the least impact on the world's poultry industry. Although the demand has been impacted by the closure of bars and restaurants, demand in supermarkets has increased. The expectation for supermarket demand has now jumped by three to four times. Due to limits put in place, the logistics and retail sectors had the worst issues.

### **Poultry and pandemic.**

Even before the nation reported its first COVID-19 case, the widespread social media speculations that chickens were the virus's most likely carriers had decreased the market for chicken meat in several regions of the nation. However, recent assurances from many organizations that eating chicken is fairly safe may have been able to persuade consumers to a significant degree as explained by [8]. The emphasis on several aspects, in particular the decline in commodity demand, the loss of productivity owing to disrupted supply and demand chains, the suffering caused by the sale of the goods, and the revival measures done by the government and related businesses Due to various other logistical issues, the post-COVID-19 lockdown significantly decreased the demand for the meat throughout the nation. Even if the Union and State Governments did not apply many limitations later on for the outlets, the absence of consumers who were prepared to purchase and consume chicken products hindered the whole effort. According to goel, R., & Yadav, K. [9], southern states are India's poultry hub, thus they are most impacted by this rumour. Due to the rumor, people stopped eating meat as cases increased in southern India. People start to be afraid to eat poultry products even though there has been no evidence linking consumption of poultry products and COVID-19 transmission, which has a significant impact on those connected to the poultry industry in Hyderabad and Rangareddy, where the majority of Telangana's poultry production occurs

(**Government of Tamil Nadu, 2020**). The dissemination of information about COVID19 relies heavily on social media. Fake news typically does not concern the Indian healthcare system, but in recent months, following the COVID19 outbreak, it has become more prevalent. The rumors were sparked by social media. Indians were afraid of this illness, therefore they searched for several films, some of which incorrectly claimed to link chicken and other foods with the virus. The primary issue with the company's operation is that it purges phony content while failing to publicize reliable sources. Food, dairy, and meat prices, as well as those for many other agricultural goods, decreased in April and May 2020, according to R. Rama Kumar's [10] examination of price data. The meat packing plants and slaughterhouses, which pose a significant danger for virus transmission, were discussed by John Middleton and his co-authors in their study from 2020. They will have broad repercussions, have an impact on entire communities, and need extensive public health initiatives. Meat processing industries and slaughterhouses are conducive to the spread of disease. 17 Lower temperatures, extremely high or very low relative humidity, and the virus all like one other. Live viruses are retained on metallic surfaces longer than in other environments. One of the reports emphasizes poultry diseases as a major problem and the necessary strategic actions to remove them [11]. All facets of chicken processing were badly impacted, worse than the Avian Influenza outbreak of 2006, from small farmers to huge integrators [12]. Every disease outbreak does have the potential to take off like wildfire and seriously harm the international trade in chicken products. Particularly in the wake of the COVID-19 pandemic, increased feed costs and raw material prices, as well as their availability, will have a significant impact on the sector's growth and customers' purchasing power.

### **Research Methodology**

The data was collected from the renowned poultry organizations in India collected this data by a cluster of farmers about the scenario of eggs and broiler production pre and post COVID-19 effects. This report is based on secondary data. The research type is descriptive. The secondary data through the organizations were collected in the following ways-

1. Visit the poultry farms
2. Discussion with farm owners
3. Conclusions with poultry experts, and consultants

The consultant made field trips to the biggest and most important farms in Punjab, J&K, Haryana, Delhi, Uttarakhand, Bihar, etc. The consultant obtained the owners' production data by discussing the effects of COVID 19 on their farms over the phone and in person with several chicken farm owners. The information in the chart was gathered in the regions of Punjab, Kashmir, etc. to demonstrate the pace of production in contemporary times. The group acknowledged that this data was derived from an area sampling of 60 farmers, one from each district. This study makes use of secondary data analysis of quantitative data, which gives an overview of the effects of the Covid scenario and makes it simpler to determine how the production rate has changed over time.

### **Data collection**

The group used a field survey method to gather initial data. Respondent information was gathered utilizing a semi-structured interview schedule.

**Data analysis**

This collected data were analysed using Microsoft Excel, which is shown in Figs. 1 and 2, which show a graphical depiction of the quantitative data. Because this data was gathered through surveys in several areas, I decided to use secondary data. Conducting a semi-structured interview discloses the production rate on a real-world basis and provides a deeper understanding of the veracity of the production rates. Consequently, this was more in-depth and authentic. The challenge in gathering this data was getting information from multiple area heads of the same organization but in separate districts for different cities.

**Results**

The information found in **Table 1.1** illustrates the production of eggs in various geographical areas. CLC stands for "commercial layer chick production," and the table below compares the weekly production rate to the same period last year. Due to the sharp decline in egg sales, certain areas' weekly production is recorded as zero when there have been no chick replacements. It has been demonstrated that there are differences in the weekly average egg production. Delhi and Haryana had the most variances between the two weekly productions, whereas Himachal Pradesh, Uttarakhand, and J & K recorded the smallest variations, indicating that the pandemic had the least impact on this region's egg production rate. **Table 1.2** shows the commercial broiler chicks production rate. The commercial broiler chick's production rate varies, as has been seen. The biggest production discrepancies were found in J & K, Haryana, and Delhi. The three states with the fewest disparities are Himachal Pradesh, Uttarakhand, and Jharkhand. The states with the greatest disparities exhibit the greatest impact of the epidemic on production. Other factors have also been investigated, but as their results weren't statistically significant, they are inactive and aren't displayed. No earlier research on the subject has been published. A planned comparison shows that no such significant changes were found. The biggest hit was recorded by CBC (**Commercial chick broiler**). The findings are consistent with other research that looked at egg and chicken sales rates, with poultry sales being the most negatively impacted by COVID-19. The secondary data, which prevents the evaluation of all other components that were intended to be taken into account, is a significant source of limitation. Primary data collection would be preferable to evaluate those additional components or places, however, there was a geographic restriction. When compared to egg sales, these statistics were actually in favours of the severely damaged chicken sales.

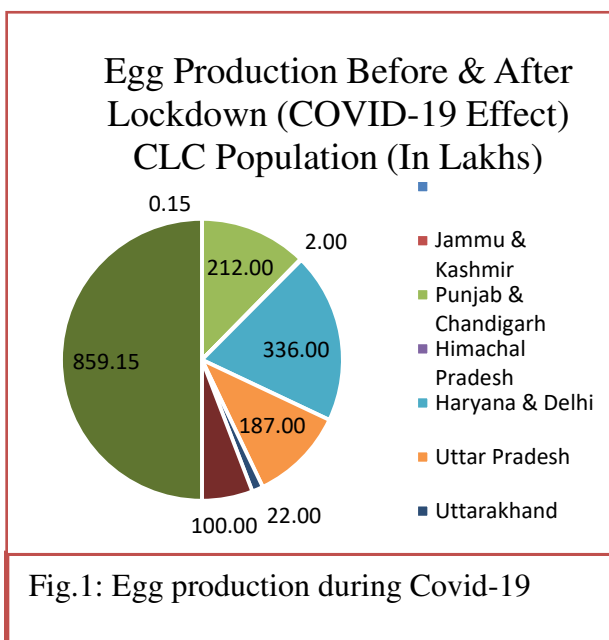
<b>Egg Production Before &amp; After Lockdown (COVID-19 Effect)</b>					
<b>States</b>	<b>CLC Population (In Lakhs)</b>	<b>Egg Production (In Crores)</b>			<b>Diff in %</b>
		<b>Weekly Avg. 2019-20</b>	<b>Weekly Prod. (This Week)</b>	<b>Diff</b>	
<b>Jammu &amp; Kashmir</b>	0.15	0.01	0.00	-0.01	0%
<b>Punjab &amp; Chandigarh</b>	212.00	11.87	5.19	-6.68	-56%
<b>Himachal Pradesh</b>	2.00	0.11	0.05	-0.06	-55%
<b>Haryana &amp; Delhi</b>	336.00	18.82	8.23	-10.59	-56%
<b>Uttar Pradesh</b>	187.00	10.47	2.62	-7.85	-75%

<b>Uttarakhand</b>	22.00	1.23	0.46	-0.77	-63%
<b>Bihar</b>	100.00	4.90	0.40	-4.50	-92%
<b>TOTAL</b>	859.15	47.41	16.95	-30.46	-64%

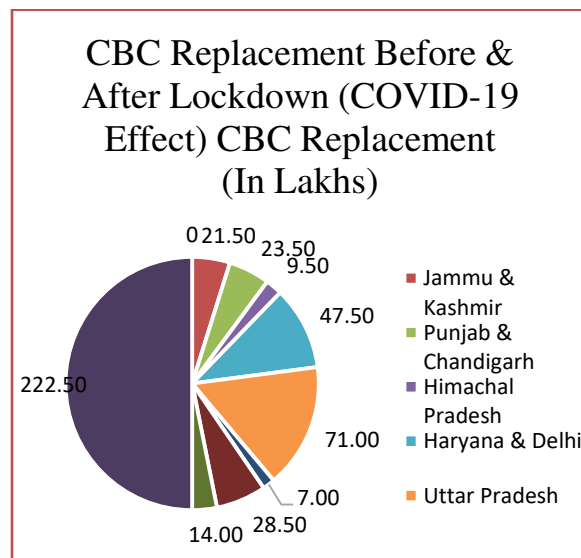
**Table 1.1: Egg production rate every week in various states and the difference btw the current and previous weekly production**

<b>CBC Replacement Before &amp; After Lockdown (COVID 19 Effect)</b>					
States	CBC Replacement (In Lakhs)				Diff in %
	Weekly 2019-20	Avg.	Weekly Prod. (This Week)	Diff	
<b>Jammu &amp; Kashmir</b>	21.50	3.00	-18.50	-86%	
<b>Punjab &amp; Chandigarh</b>	23.50	2.75	-20.75	-88%	
<b>Himachal Pradesh</b>	9.50	0.50	-9.00	-95%	
<b>Haryana &amp; Delhi</b>	47.50	8.50	-39.00	-82%	
<b>Uttar Pradesh</b>	71.00	15.00	-56.00	-79%	
<b>Uttarakhand</b>	7.00	0.50	-6.50	-93%	
<b>Bihar</b>	28.50	6.00	-22.50	-79%	
<b>Jharkhand</b>	14.00	2.00	-12.00	-86%	
<b>TOTAL</b>	222.50	38.25	-184.25	-83%	

**Table 1.2: Commercial Broiler Chick (CBC) weekly average in different states and the difference between the current and previous weekly production.**



**Fig.1: Egg production during Covid-19**



## **Conclusions**

This research has ultimately demonstrated that the lockdown implemented in response to the COVID-19 epidemic has had a substantial impact on the Indian chicken industry. The primary research question was to determine how COVID-19 might affect the poultry sector. Covid 19 was associated with this sector because the veteran markets were where the original virus first appeared. Inaccurate health messaging is crucial during times of crisis, as seen by the minor but significant impact of rumours that surfaced during the first lockdown period associating the disease to chicken intake. However, structural factors including the unpredictability in supply, manufacturing costs and dependency on loans include the most profound consequences of the pandemic. This is important because while many of the disruptions discovered in this study may be linked to COVID-19's effects on the chicken sector. The price of the eggs and chicken fell sharply and was reported to be at least rupees 2 /chicken egg. Moreover, the overall effects of COVID-19 on the production of eggs and broilers were studied in different districts. The pandemic stood as a dark opening for the agriculture sector. The COVID-19 epidemic has made it clear that there are limitations to sustaining safe farming and distribution methods during times of national emergency. To keep up output throughout the COVID-19 pandemic, the livestock and agricultural sectors must be acknowledged as significant or key operations of public concern. Building a swift, unhindered, and clinically competent transportation system is also crucial to ensuring the effective deployment of agriculture products across the nation in times of need. In the end, we should doubt the evidence of "fragility" we see here and wonder if the industry's continued existence in spite of this actually offers us evidence of resilience that hasn't been thoroughly studied. This is not to minimise the difficulties and losses affecting the many people who were severely affected by COVID-19.

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