

# **IMPACT OF 1918 PANDEMIC (H1N1 VIRUS)**

## **or SPANISH FLU ON INDIA**

### **Introduction & Back ground**

The outbreak of First World War disturbed the economy of the India. All necessary commodities became expensive. It became impossible for the poor to buy them. The poor were suffering from economic hardships while the rich, especially the mill-owners were making huge profits. The ordinary and middle class people were in great trouble. With the growing inflation, there were different epidemics which affected whole country which caused millions of deaths, escalated the problems of common people.

In 1916, barani crops suffered because of lack of rain. The prices of food grains began to rise abnormally in 1917 again as the rabi crop was badly damaged by rain. Difficulty of transport from rural areas due to rain also affected the price of food grains. In 1917, wheat was sold at 7½ seers, gram 11¼ seers and salt 10½ seers per rupee in Lahore. The price of salt also rose because of the shortage of supply from the salt mines. Public complained about it and the complaints were shared by the shopkeepers. Salt was sold at Rs.4 a maund in November 1917, which was Rs.3 in previous month. In the same month, the Government raised the tax on salt by 25 per cent, which caused further discontentment especially among the poor who formed majority of the population in the country or to be very specific in Punjab. The year 1918 did not bring relief for the people. There was no improvement in agricultural situation. The monsoon failed and the condition and prospects of the crops was bad. Due to lack of rain, the production of food grains reduced to twenty million tons. The lack of railway transport was another problem which pushed up the prices. In 1917, wheat yield in India was 9.9 million tons and that of the rice was 35.9 million tons, but in 1918-19, it was dropped to 7.5 million tons in case of wheat and 24.3 million tons in case of rice. Wheat was sold at 6 ½ seers per rupee in Lahore which was highest since the beginning of War.

The impact of the War on the political and economic life of India was felt by every strata of society. However, it was the poor who suffered most. Due to the shortage of food grains, the per-capita availability of food became less and the poor in particular became more vulnerable to famines, disease and epidemics. An epidemic may be defined as widespread occurrence of a disease in a particular time. Epidemics of fever, small-pox, cholera and plague affected societies from time to time, killing a large number of people. Epidemic entails not only mortality, but also

the collapse of administrative structure, exodus from cities and breakdown of trade and agriculture.<sup>1</sup> **(Chandra, Siddharth & Kassens-Noor, Eva. (2014). The evolution of pandemic influenza: Evidence from India, 1918-19. BMC infectious diseases. 14. 510. 10.1186/1471-2334-14-510.)**

The end of the War coincided with a worldwide pandemic of influenza. It was a disease, which exhibited an intense infectivity and an incubation period which is relatively very short from 6 to 48 hours. The influenza was a highly contagious disease. It spreads from person to person mostly by contacts, though it may also be transmitted through cloths, towels etc. of the infected. The 1918-19 pandemic seemed to have radiated from Northern France in April 1918, reaching North Africa in May, and India and China in June. The disease rounded the globe in only four months. The disease was spread by infection from locality to locality, by rail, road and water.<sup>2</sup> **(Ibid)**

The Sanitary Commissioner of Punjab reported that the disease was brought to the country by returning troops and other emigrants and the postal employees at Karachi and Bombay ports. Being early infected, they extended the disease throughout the country. He stated that a troop transport ship arrived at Bombay on May 29, 1918 . The first wave of the disease spread across India by the end of August 1918 aided by the movement of the troops themselves, the postal peons of the Railway Postal Service and panic migration of sick people by railway from infected areas. The spread of the second wave had a rather different character. In the last week of August, a new and far more virulent form of influenza broke out. According to some other record Influenza arrived in Bombay in early September 1918, and spreaded north and east across the country. A more recent review of the global impact of the epidemic estimated that it raised the crude death rate in India in the years 1918 to 1920 by 14 per 1,000 population above the average for 1914-17 and 1921-24, half as much again as the impact in the next most severely impacted country . However, this impact was almost entirely concentrated in the months of September to December 1918, in which period the crude death rate rose in some provinces to over 100 per 1,000 person-years of exposure, and for India as a whole rose to a reported 16 per 1,000 population in November 1918. The ratio of deaths in each month from August 1918 to March 1919 relative to the average number of deaths in the corresponding months of the preceding and following years for India and for major provinces. In Bombay and Central Provinces, the impact in the peak month is to increase deaths by a factor of over 10, but other provinces were much less severely affected. <sup>3</sup> **(Kant, Lalit & Guleria, Randeep. (2018). Pandemic Flu, 1918: After hundred years, India is as vulnerable. Indian Journal of Medical Research. 147. 221. 10.4103/ijmr.IJMR\_407\_18.)**

## HOW INDIA HANDLED THE PANDEMIC ?

On June 10, seven police sepoy, one of whom was posted at the docks, were hospitalised with what appeared to be influenza. They were India's first cases of the highly infectious Spanish flu that was rapidly sweeping across the world at the time. Bombay was soon crippled by the virus and railway lines carried it to different corners of the country. By the end of 1920, the pandemic claimed somewhere between 50 to 100 million lives globally – possibly more than both the world wars combined. India was the country that bore the greatest burden suffering an estimated 18 million casualties, which accounted for about 6 per cent of the country's population at the time.

Such flu pandemics have a peculiar characteristic of engulfing the world in waves. The first wave is usually mild and resembles the seasonal flu. In the Spanish flu pandemic this wave lasted till July. Then, a second more lethal wave takes over, which began in September and lasted until the end of the year in 1918. The subsequent waves vary in virulence. A final wave of the Spanish flu was witnessed in the early months of 1919 and disease finally vanished by March 1920.

From the hilltops of Shimla to the isolated villages of Bihar, no part of the country remained unaffected. The speed and extent of the fatalities were overwhelming. In Bombay, 768 people died in a single day on the 6th of October in 1918. The Hindi poet, Suryakant Tripathi, popularly known as Nirala, wrote in his memoirs that “Ganga was swollen with dead bodies.” He lost his wife and many members of his family to the flu but could not find enough wood to perform their last rites. A report released by the sanitary commissioner in 1918 later documented that it was not just Ganga that was clogged up with bodies, but all rivers across India.

Even Gandhi, who was gaining recognition among intellectual circles as a future leader, came down with the flu in its second wave. “All interest in living had ceased,” he later wrote in his autobiography. For a variety of reasons, the second wave proved particularly fatal for India. While the mortality rate for the epidemic stood at 4.7 per 1,000 people in Britain, India's mortality rate climbed to 20.6 per 1,000 people. The country's poor healthcare infrastructure had a key role to play in creating the disparity. But the arrival of the flu also coincided with a drought in 1918, which led to a famine in large parts of the country. Since, hunger weakens the immune system of the body, it made large segments of the population vulnerable to the virus. The colonial regime made matters worse. Despite the famine and the epidemic, Indian-grown food continued to supply the war efforts on the British front lines. Doctors were also away for the war.<sup>4</sup>(<https://economictimes.indiatimes.com/news/politics-and-nation/an-unwanted-shipment-the-indian-experience-of-the-1918-spanish-flu/articleshow/74963051.cms?from=mdr>, accessed on 28.06.20)

The Public Health Department conducted research into the causes of the disease. It appeared to have spread mainly by returning military units, post office and railway employees and general

travelers. In the Punjab, infection came with returning military persons and post office employees. The infection rapidly spread by trains, cinemas and so forth. Postal employees at Karachi and Bombay were early infected, and they in return infected the railway postal employees with the result that important delivery stations were also infected. In Lahore, Simla and other places, the original infection could be traced to the post office. Most of the preventive measures were intended to safeguard imperial interests and protect the Europeans and the troops. Therefore, the epidemic operations were most effective in European enclaves like the civil lines, cantonments and hill stations. There was an attempt to educate masses by means of pamphlets and lectures explaining the extraordinary infectivity of the disease, emphasizing the necessity of the segregation of the sick and avoidance of contact with them, avoidance of large gatherings such as fairs and travelling. They were advised the advantage of fresh air and fresh ventilation. <sup>5</sup> (Chandra, Siddharth & Kassens-Noor, Eva. (2014). The evolution of pandemic influenza: Evidence from India, 1918-19. BMC infectious diseases. 14. 510. 10.1186/1471-2334-14-510.)

Though There were some anomalies in the Indian experience with the Spanish flu as well. India was the only country where more women died than men across all age groups. It is hard to explain why that was the case. The trend might have been due to the fact that women usually ate less well than men in the average Indian household as the latter gender was prioritised in case there was limitation of food. So, the women were more likely to be malnourished. Moreover, women were more likely to treat the sick and, hence, more prone to the disease.

Apart from gender, the divisions in mortality rates from the Spanish flu also ran across community lines. The mortality numbers from the second wave show the stark impact that birth and affluence can have on surviving an epidemic. Over 61 lower caste Hindus died per 1,000 in the community while merely 18.9 caste Hindus per 1,000 from the community lost their lives. The same figure for Europeans living in India at the time stood at 8.3. Since the lower caste Hindus were mostly engaged as sweepers and scavengers, it made them highly vulnerable to the spread of the virus. Also, they were usually housed in crowded, unhygienic conditions, and had less access to medical facilities.<sup>6</sup>(<https://economictimes.indiatimes.com/news/politics-and-nation/an-unwanted-shipment-the-indian-experience-of-the-1918-spanish-flu/articleshow/74963051.cms?from=mdr>, accessed on 28.06.20)

General vaccination operations began on November 1, 1918, but owing to the epidemic of influenza, campaign of vaccination was slow until the end of the month. People were vaccinated annually at a cost of Rs 2 ½ lakhs. The prejudice attached to vaccination was one of the major obstacles in the path of preventive measures. The women regarded the visit to the temple of goddess Sitala as far more efficacious than vaccination. The considerations of family honour prevented the infected women from getting themselves treated in hospitals and dispensaries.

Compared to men, there were lesser number of women who received treatment in the government hospitals and dispensaries. These difficulties were particularly formidable in towns, and to overcome them it was proposed to appoint females for vaccinations in selected towns. With the assistance of a special grant of the Government, thirteen new dispensaries were opened.<sup>7</sup> (Chandra, Siddharth & Kassens-Noor, Eva. (2014). **The evolution of pandemic influenza: Evidence from India, 1918-19. BMC infectious diseases. 14. 510. 10.1186/1471-2334-14-510.**)

While exposing the deep vulnerabilities that existed across colonial India, the flu left some long-lasting effects as well. The British found them incapable of handling a crisis at this scale. So, a lot of local and caste organisations collectively mobilised themselves to assist relief efforts. Such grassroots organisations had existed across India for a while but the flu united them across the country for a single cause. As a result, it was after this crisis that leaders like Gandhi managed to garner support of the grassroots organisations for the national movement as well. Thus, the Spanish flu in its sinister aftermath had a key role to play in paving the way for the freedom movement.<sup>8</sup> (<https://economictimes.indiatimes.com/news/politics-and-nation/an-unwanted-shipment-the-indian-experience-of-the-1918-spanish-flu/articleshow/74963051.cms?from=mdr>, accessed on 28.06.20)

## **What measures India took to boost the Indian Economy after the Pandemic of 1918 :**

Households' fertility and human capital investment choices lie behind the radical transformations that have created the global distribution of population and prosperity. Malthusian and unified growth theories provide formal frameworks to explain these choices and their effects on aggregate growth and productivity. Yet as these models make clear, the relationships between wealth, population, fertility, and growth are complex and non-monotonic, making empirical study of these phenomena challenging. The influenza arrived in India in June of 1918, peaked in November, and had largely dissipated by early 1919. During the 6 month period of its greatest extent, over 11 million people died, and millions of others were sickened. Yet the intensity of the influenza varied greatly by district, with the most severely struck districts registering mortalities of over 15% and the least severely struck showing no increases in mortality over baseline. This spatial variation, which we show to be driven largely by exogenous factors, induces a corresponding variation in the subsequent amount of agricultural land per capita by district. It is this exogenous decrease in population, and subsequent increase in per-capita income, that allows us to explore Malthusian dynamics.

The 1918 influenza epidemic provides a unique opportunity to observe how an economy plausibly in a Malthusian population equilibrium react to an exogenous decrease in population and hence increase in wealth per capita. India's growth rate prior to 1921 had been low, 0.4% annually since 1891. Literacy rates were just 7.2%. Estimates of the influenza's death toll range from 10.9 million (Hill 2011) to 22.5 million (Kingsley 1951) out of a 1911 population of just over 303 million. Contemporary sources report that health officials could do nothing to control the spread of the epidemic, and that it affected all classes of society. However, the intensity of the epidemic differed greatly across regions with the most affected districts in the Central Provinces suffering greater than 10% mortality, while the least affected had no appreciable increase in deaths during 1918.<sup>8</sup>([www.econ.yale.edu/~egcenter/Dave%20Donaldson.pdf](http://www.econ.yale.edu/~egcenter/Dave%20Donaldson.pdf), accessed on 28.06.20)

According to W. A. Lewis (1970), tropical countries experienced a substantial export growth of primary goods in the last quarter of the nineteenth century. This was caused by the transportation revolution and 'growth in demand resulting from the increase in the national incomes of the leading industrial states' (Lewis, 1970, p. 14). The annual rate of growth of exports from tropical countries between 1883 and 1913 was 3.4%, which was slightly lower than the annual growth rate of industrial production in the world, 3.7%. The strong export performances of these tropical countries resulted from the peasants' own initiatives. W. A. Lewis suggested that tropical countries achieved primary-good export-led economic growth between 1880 and 1913. He asserted that this picture does not necessarily call to mind such keywords as 'colonialism', 'exploitation', or 'drain'. But this export-led economic growth faltered after the First World War. We find the same tendency in the Indian case. India's export growth rate was 2.8% during the 1883-1913 period. This was low among many tropical countries. It resulted from a land-population ratio that was very low compared with other tropical countries. The peasants could not afford to allocate much land to commercial crops due to the scarcity of land. Nevertheless, there is no doubt that the increase of commercial agricultural exports was a kind of 'engine of growth' in the economy as a whole. The problem of land scarcity became apparent in the second half of the nineteenth century. Many agrarian historians concur with this author's judgment. In 1840, two-thirds of cultivable land was uncultivated in the South Arcot district. From 1852 to 1890, unirrigated land increased by 25%, canal-irrigated land, by 41%, and well-irrigated land, by 138%. As a result, cultivated land substantially increased'. Furthermore, 'this extensive increase of cultivated land reached its limit by the late nineteenth century or the early twentieth century. Then, labour intensification in agriculture started.

From the 1860s to the end of the 1920s, India continued to export food grain, with the exceptions of the great famine years. There was no absolute food scarcity in this period as a whole. However, there was certainly very severe local food scarcity when serious droughts occurred. The development of railways must have prompted movements of food grain from areas of plenty to areas of scarcity. However, famine became a more class-biased phenomenon in this period

than before. We need to look at the vulnerability of the lower classes to famine. The mortality rates among agricultural laborers who belonged to the lower castes were much higher than in the other classes. At times of drought, they lost their employment and were then unable to purchase food.<sup>9</sup>([src-h.slav.hokudai.ac.jp/rp/publications/no10/10-06\\_Wakimura.pdf](http://src-h.slav.hokudai.ac.jp/rp/publications/no10/10-06_Wakimura.pdf)) Moreover the increase in prices did not stop even after the War. Average wheat price during the pre-War period was Rs.3.5 per maund but it was Rs.7.3 in 1919. The price of rice increased from Rs.4 per maund in 1917 to Rs.7.3 per maund in 1919.<sup>35</sup> Rain of March 1919 proved useful in the North and Central Punjab. Crops were better. The arrival of Australian wheat in Bombay slightly dropped the price of gram from 7 ½ seers to 8 ½ seers per rupee and wheat from 5 to 5 ¾ seers in the Hissar district. The purchases for other provinces and the great concentration of troops for operation against Afghanistan were the main causes for the rise in prices. The Lieutenant Governor had strongly urged before the Government of India that demands from other provinces, except Sind, be suspended till prices became easier.<sup>37</sup> As compared with 1894, the prices of food stuffs had risen five times in 1919. Wheat price rose 147%, European cotton cloths 170%, Indian cloth 100%, ginned cotton 310% and sugar 68%.<sup>38</sup> The prices remained high till 1920. Wheat was sold at 7 seers per rupee, barley at 10 ½ seers, jowar at 9 seers, bajra and gram at 7 seers per rupee. Wages did not rise according to rise in prices and therefore every increase in the cost of living worsened the condition of both urban and rural people. The rise in the price of food seriously affected the poor. It diminished their purchasing power. As the price of food rose, the poor had to spend an increasing proportion of his income on the necessities of existence and a decreasing proportion on other commodities. The average wage had remained almost same but the prices of food grains had nearly doubled from 1911 to 1919.<sup>10</sup>The disease left a devastating impact on the economy. (Kant, Lalit & Guleria, Randeep. (2018). *Pandemic Flu, 1918: After hundred years, India is as vulnerable*. *Indian Journal of Medical Research*. 147. 221. 10.4103/ijmr.IJMR\_407\_18)

## **Conclusion :**

In the last 120 years of recorded economic history in India, 1918 was the worst. Recorded growth in real gross domestic product (GDP) was the lowest (- 10.5%) while inflation was near all-time highs, a cocktail much worse than any other tragedy that has hit India—including the world wars or the Bengal famine. Population profiles got profoundly altered (the decade between 1911 and 1921 was the only census period in which India's population fell). The devastation of the pandemic also, in no small part, fuelled the Indian independence movement. The 1918 influenza epidemic struck India when the subcontinent was mired in its long-term Malthusian equilibrium of low population growth and stable per-capita consumption. Its terrible death toll left survivors with additional agricultural land, which we show they rapidly put to agricultural use with no decrease in yields. At the time of Pandemic India was under British Colonial rule. The fortunes of British Colonizers had always different from those of the Indian People. The spring of 1919 would see the British atrocities at Amritsar. As a result Gandhi started non co-operation movement. The resulting devastation of Pandemic would eventually lead to huge changes in India and the British India. Influenza became one more example of British Injustice that spurred Indian people on in their fight for Independence.

## Notes & References :

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- **In 1720, *Yersinia pestis*(the bacteria, it is assumed that the bacteria are spread by flies infected with this bacteria.) arrived at the port of Marseille, France from the Levant upon the merchant ship *Grand-Saint-Antoine*. The vessel had departed from Sidon in Lebanon, having previously called at Smyrna, Tripoli, and plague-ridden Cyprus. A Turkish passenger was the first to be infected and soon died, followed by several crew members and the ship's surgeon. The ship was refused entry to the port of Livorno. When the ship landed in Marseille, everybody took into quarantine although the outbreak couldn't be stopped. This is the last major scale pandemic in Europe caused by plague. Records show that the bacteria killed around 100,000 people in Marseille.**
- **The first records of a cholera pandemic took place in 1820, which took place in Asia, in the countries of Thailand, Indonesia and the Philippines. In 1820, more than 100,000 deaths were recorded in Asia due to this bacterium.**



- **Every hundred years, there seems to be a great pandemic, plague 1720, cholera epidemic in 1820 and Spanish flu 1920**