

## Environment, diseases and Indian history

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### ABSTRACT

One can state that in studying environmental change, it is true that most human activities have environmental consequences, and that change in the natural systems, whether induced by humans or by nature itself, almost inevitably affects human beings. Environmental history is a multidisciplinary subject that draws widely on both the human influences and nature. There are many components of it, i.e., physical impact of human on earth, human and their exploitation of the nature, settlements and colonial expansion etc. Many of these components of environmental history examine the circumstances that produce the environmental problems. Apart from it there is separate line of study which is more cantered around historical perspectives and is specific toward environment and its impact on historical change.

### KEY WORDS

Environment, Ecological imperialism,  
Catastrophe, Diseases, Pandemic

### Environment and History

Environment and History is an interdisciplinary subject which brings environmental science and humanities close together with a deliberate intension of bringing

ideas and believes related to their connection. Environment always had its impact on history sometimes for transition and sometimes for realisations. Human beings utilized it to fulfil their biological need but, till they were prudent in using resources it reciprocated in their development and as they become prodigal, the nature had its own course of action to rebuilt itself. The purpose of this article is to study those catastrophes which are considered responsible for the problematic conditions or was there something else working in against the mankind. On this perspective the book 'Late Victorian Holocausts' is of immense importance because Mike Davis in this book has related human problems with cruel climatic conditions in the late nineteenth century. On the question that whether famine is caused due to decline in availability of food, we get an answer that it may can happen in the isolated hunter-gatherer ecologies but not in the large-scale society. The climatic change may can have short term impact but whether it was associated with larger impact is not true. Their impact is not permanent and fades with the passage of time but what remains is the

political legacy of those world wide disasters.<sup>1</sup> Frequent intense El Ninos in 1790s killed millions of people in India and kept their conditions unsettled for the next century.<sup>2</sup> It triggered drought which brought pressure of acquisition of resources among the classes, food crisis and millions died due to starvation in India. The destructive droughts of 1877-1878 coincided with economic depression which intensified the international competition and reduced the prices of the agricultural products. This was the time when India entered the grain markets creating surplus in wheat and rice.<sup>3</sup> This production was completely for the export benefits of the colonizers and it further reduced the living condition of the people in India. In between 1877-88 three hundred and twenty million kilograms of grains were exported to Britain to control the price rise emerged during poor harvest of 1876-77.<sup>4</sup> This led to price rise in India and there was no proper implementation by the British to control it. Instead, authorities considered it useless to invest on Indian population because of their tendency to increase more rapidly than the food it raises from the soil.<sup>5</sup> Due to this food become unaffordable and it brought the Indian population in the condition of tussle and starvation.

Mike Davis, quotes William Digby, "The part played by the British Empire in the nineteenth century is regarded by the historians fifty years hence, the unnecessary deaths of millions of

Indians would be its principal and most notorious monument".<sup>6</sup> Davis has clearly mentioned the complete ignorance of famines in many countries. He mentions how Eric Hobsbawm in his series of works has completely avoided the worst famines of nineteenth century. If at all it got a place in writings, it was from a very different perspective of the colonizers solving the mystery of inequality between nations. Mike Davis has put a question; how do we explain the fact that in the very half century when in the peacetime famine permanently disappeared from Western Europe, it increased so devastatingly throughout much of the colonial world and caused massive deaths? For Davis major concern was not the death of the millions of poor rural people but the manner and reasons of it. He considered that it was more because of regressive exploitation of the labour for the world economy.

As he has described the "third world" as the outgrowth of income and wealth inequalities that were shaped most decisively in the last quarter of the nineteenth century, when the great non-European peasantries were initially integrated into the world economy.<sup>7</sup> In his opinion, the deaths were happening within the process of forcible incorporation in the economic and political structure of the "modern world system". Davis also quotes Karl Polanyi who says that, actual source of famines in the last fifty years was the free marketing of

<sup>1</sup> Brian Fagan, *Floods, Famines, and Emperors; El Nino and the Fate of Civilizations*. Published by Basic Books ,1999 p. 222

<sup>2</sup> Ibid. p.222

<sup>3</sup> Brian Fagan, *Floods, Famines, and Emperors; El Nino and the Fate of Civilizations*. Published by Basic Books ,1999 p. 227

<sup>4</sup> Ibid. p. 229

<sup>5</sup> Viceroy Lord Lytton remarked in 1877 that the Indian population" has a tendency to increase more rapidly than the food it raises from the soil"

Brian Fagan, *Floods, Famines, and Emperors; El Nino and the Fate of Civilizations*. Published by Basic Books ,1999 p. 228

<sup>6</sup> Davis, Mike, *Late Victorian Holocausts, El Nino Famines and the making of the Third World*, (Verso, London New York), 2001, p.8, William Digby, *Prosperous British India: A Revelation from official records*, London 1901, p.118

<sup>7</sup> Davis, Mike, *Late Victorian Holocausts, El Nino Famines and the making of the Third World*, (Verso, London New York), 2001, p. 15-16

grains combined with local failure of incomes.<sup>8</sup> Polanyi talks about cultural degeneration which he believes is hidden in the Marxists emphasis on exploitative aspects. According to him the disasters of the indigenous were more because of destructions of their basic institutions which were more responsible for the massive deaths in India. It was not due to hunger or over exploitations by their colonizers but due to the demolition of their village community.<sup>9</sup> So, it was the process of integration of the producing class into the world economy and its one-sided interest which widened the gap of income between different worlds.

### Disease and history

Most of the scholars who work on disease and history don't question the presence of disease and deaths caused by them. They consider it integral to society and also consider the close relationship between medical anthropology and histories of disease. They work on historical analysis on the basis of cultural and social response they receive and popular belief about illness and their social role.<sup>10</sup> Talking about diseases, by considering it a part of environment, we will find that the diseases were also coming through transition. There are many evidences that can suggest us that many of the pandemics and epidemics that were never heard before were brought by the explorers and travellers in form of microorganisms. These organisms were helpful in their territorial expansion which supported them by making the inhabitants of the explored reasons incapable of their defence. Historian Alfred A. Crosby talks about Western European

overseas migration and their demographic takeover. In this process of demographic takeover, two phenomena were used, decimation and demoralization of the aboriginal. In his book Crosby considers that these microorganisms which were accompanied with weeds, stronger breed of animals, were mechanism for European territorial expansion.<sup>11</sup> The stronger breed of animals overpowered the animals of the explored reasons which provided explorers authority to control the production system. Similarly, the microorganisms created diseases which spread everywhere and it reduced the possibility of defence for the explored reasons. It is believed that European takeover contributed to the spread of diseases worldwide. In their policy of expansion and economic exploitation they indulged in encounters with rest of the world and introduced new pathogens, which rest were not immune to, which caused epidemic. New explorations for trading activities opened new possibilities for their economic development but in return it devastated indigenous population.

These diseases and their definitions changed with the passage of time. In the early 2009, a sudden emergence of novel H1N1 influenza virus had caused confusion about the meaning of the word "Pandemic" and how to recognize it. There were many approaches to define this, including 'extensively epidemic', 'epidemic over a very wide area affecting larger population' and, 'distributed or occurring widely throughout a region, country, continent or globally'.<sup>12</sup> While answering these questions

<sup>8</sup> Ibid. p. 8, Karl Polanyi, *The Great Transformation*, Boston 1944, p. 160

<sup>9</sup> Ibid. p. 159-160

<sup>10</sup> Warwick Anderson, *Disease, Culture and History, Health and History* Vol.1, No. 1 (1998), published by: Australian and New Zealand Society of History of Medicine, inc. p.30

<sup>11</sup> Alfred W. Crosby, *Ecological Imperialism: The overseas migration of Western Europeans as a biological phenomenon*, Cambridge University Press '1986, pp. 166-179

<sup>12</sup> David M. Morens, Gregory K. Folkers and Anthony S. Fauci, *What is Pandemic?*, *The Journal of Infectious Diseases*, Vol. 200, No. 7 ! October'

David M. Morens, Gregory K. Folkers and Anthony S. Fauci have raised many questions regarding its newness and severity. Now, nature has given us time to rethink and answer their questions about how and what to understand about pandemic when we face one.

In the 412 B.C., Hippocrates<sup>13</sup> described an epidemic that modern doctors believed was influenza and history has recorded many epidemics and pandemics since then. Influenza pandemic of 1918 took 20 million lives around the world and similarly devastating were the casualties occurred in the influenza of 1950s and 1960s.<sup>14</sup> In early twentieth century plague was the deadliest disease and during 1897-1930 plague mortality was close to 12 million. Its larger impact was in cities and it led to their social disorganisation and collapse. It caused massive fatalities, disruption of ordinary lives, migrations unhygienic methods of segregation and weak measures of local governments. Significantly, India suffered terribly, far more than any other country.<sup>15</sup> China and Indonesia were next worst effected, but their plague deaths were not even two percent of India's total deaths.<sup>16</sup> Which makes it easy to explain that the data of plague mortality in India was so high and brutal that she became a singular victim of the modern pandemic and it also compels us to look deeply into the prevailing

circumstances and measures taken to clearly understand the factors which were responsible for devastating impact it had.

Specifically, if we talk about diseases, we find a similar trend of its transmission in India history. Sometimes it came in form of demographic takeover by colonisers and had large impact on population, economy as well as history and sometimes these were grown out of unhygienic living conditions with similar devastating impact. Ira Klein talks about strain of *P.pestis*<sup>17</sup> that began to kill rodents and then humans in Bombay city in summer 1896 was considered to have been imported by ship from plague infected Hong Kong.<sup>18</sup> Vipul Singh talks of famines which resulted in dramatically increased mortality, most of them attributed to fever, dysentery and smallpox.<sup>19</sup> These highly contagious diseases, especially smallpox appeared epidemically in a very malignant form during the great famine. As has been mentioned by David Arnold, that a large portion of deaths were also due to the spread of smallpox and Cholera.<sup>20</sup> But others find it wrong to shift the blame from the food shortage due to famine to contagious diseases. Since, smallpox existed from long and people in India had developed strong immunity to it. And the reference of smallpox and methods of its prevention in earlier days suggest that it was

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2009, p.p.1018-1021, Pub. Oxford University press.

13 Hippocrates of Kos, also known as Hippocrates 11, was a Greek physician of the age of Pericles, who is considered one of the most outstanding figures in the history of medicine.

14 Youri Ghendon, Introduction to pandemic influenza through history, World Health Organization, Geneva, Switzerland

15 Ira Klein, Plague, Policy and popular unrest in British India, *Modern Asian Studies*, Vol.22. No. 4 (1988) p. 725

16 Ibid .p.725

17 *P.pestis* is a facultative anaerobic organism that can infect humans via the oriental rat flea. It cause disease plague, which takes three main forms: Pneumonic, Septicemic, and Bubonic.

18 Ira Klein, Plague, Policy and popular unrest in British India, *Modern Asian Studies*, Vol.22. No. 4 (1988) p.735

19 Vipul Singh, *Speaking Rivers: Environmental History of a Mid-Ganga Flood Country, 1540-1885* (Delhi: Primus, 2018), p. 106

20 David Arnold, 'Hunger in the Garden of Plenty: The Bengal Famine of 1770', *Dreadful Visitations: Confronting Natural Catastrophe in the Age of Enlightenment*, ed. Alessa Johns, New York and London: Routledge, 1999, p.105.

nothing out of the ordinary among the indigenous population when famine came in the latter half of eighteenth century.<sup>21</sup> So, the main reason behind the excessive deaths was not the diseases but shortage of food which was an outcome of an administrative failure of colonial rule. Rather than environmental factors such as drought, flood, and spread of small pox and cholera, it was the transformation of the revenue policy under the British colonial rule that led to this catastrophe.<sup>22</sup> This somewhere suggest that the diseases were regularly witnessed in India and society had developed clinical as well as religious arrangements to control them. As far as its impact is concerned these diseases had larger as well as smaller impact but more impact was due to the discrepancies in the governance.

Keeping this in mind if we try to understand pandemics in India will find that prior to Nobel Corona virus, India faced influenza epidemic also known as the Bombay fever Spanish Flu in the year 1918-20 which is a part of worldwide Spanish Flu pandemic. It cost 5% of the total population of India and data suggest that out of the total death's maximum (approx.13.88 millions) deaths were in India's British ruled districts. It is clear that the influenza 1918 swept across India in a matter of three months and that the impact varied widely, being worst in Bombay Presidency and central provinces and Berar, and having little impact in Bengal. This difference in mortality is unclear but, many theories were given regarding causes of mortality varying from famine, altitude, diurnal

temperature and humidity. One empirical observation not explained by these, however, is the severity of the epidemic in the states relative to the areas administered by the British.<sup>23</sup>

Again, if we talk about Plague, the prominent reason for spread of this disease in India was the close proximity of humans and rodents, their low immunities to the plague bacillus and ongoing economic and environmental change that might have intensified contact between infected and susceptible rodents and humans.<sup>24</sup> The nature of this disease caused maximum mortality in economically weaker sections of the society which was more due to malnutrition, sanitation and nonhygienic conditions. In comparison to the countries who had favourable climatic conditions for the spread of the disease we find Indian condition pathetic with high number of deaths because of their vulnerable condition during the pandemic. When we go in detail, we find that it was not just unawareness but intentional less-effective approach which decided India's fate. There can be serious question on difference of impact of the disease on Indian and world population. Ira Klein has raised a question on this that whether it was Indian's inability to ward off plague reflect incomprehension of it, or were there flaws also in the western policies.<sup>25</sup>

Looking into factors responsible in spread of plague in India, we find that spread was directly through droplets infection in its pneumonic form or through rat bites and transportation. One reason which was led to its

<sup>21</sup> Vipul Singh, *Speaking Rivers: Environmental History of a Mid-Ganga Flood Country, 1540-1885* (Delhi: Primus, 2018), p. 111

<sup>22</sup> Vipul Singh, *Speaking Rivers: Environmental History of a Mid- Ganga Flood Country*, published by: Primus Books: First edition (24 January 2018) p.113

<sup>23</sup> Kenneth Hill, *Influenza in India 1918: excess mortality reassessed*, *Genus* Vol.67, No.2, *Revisiting Mortality crisis of the past.* (May-Sep 2011) pp. 9-29

<sup>24</sup> Ira Klein, *Plague, Policy and popular unrest in British India*, *Modern Asian Studies*, Vol.22, No. 4(1988) p. 728

<sup>25</sup> *Ibid.* p.-----

widespread was the large commerce and free trade policies which played a prominent role in dissemination of the infection through grain trade.<sup>26</sup> The grains and granaries were breeding arena for black rats and were workplace of Indian's malnourished populace. Advanced in transport, commerce and human mobility, India suffered material privation and insanitation, which were characteristics of poor nations.<sup>27</sup> Was it an equipped poor living conditions and unhygienic sanitation that should be kept responsible or the materialistic approach of the colonizers. Measures like restrictions in grain's transport, people's mobility, social distancing could have restricted transmission of the disease. Instead of these measures people of India were left unaware and this unawareness left them protesting against medical precautions without realising the seriousness of the disease. Still, it was less due to the popular opposition because the guiding principles of antiplaque campaign were medically unsound.<sup>28</sup>

Now there is current outbreak of corona virus disease (Covid 19) declared a pandemic by the World Health Organization (WHO) on 11<sup>th</sup> March 2020. There are reports that it originated from China and India now is among the leading three countries with the highest number of confirmed cases. On 29<sup>th</sup> August 2020, India recorded the global highest spike of 77368 cases on a day and total deaths crossing 60000.

The issue still remains same, who should be held responsible for the causalities, whether the number of deaths were due to the disease or it was due to government's negligence and

miscalculation and whether the pandemic could have been restricted. The policy to control the contagion seems to fall in the category of a lost forethought in sudden declaring a lockdown and its adverse impact on the migrant workers is receiving the deserved attention of the critiques. India lost precious time as between January'2020 to March' 2020, government was busy organising public events associated with diplomatic ties, political activities which resulted in a conflagration.<sup>29</sup> During the same time when WHO had signalled that Latin America is the new centre of the Pandemic, a country like Cuba had reduced Covid cases and by the month of June Cubans were 24 times less likely to catch it than Dominicans, 27 times less likely to catch it than Mexicans, and more than 70 times less likely to be infected than Brazilians.<sup>30</sup> It was made possible through closing borders, regular screenings and contract tracing on every single day.

Intellectuals and analysts kept on discussing methods and findings to bring in front the list of regions who were found to have high overall vulnerability and were likely to get severely impacted by the epidemic. Indian had a serious threat of disease spread due to dense population in urban centres, challenges in social distancing, unhygienic living condition in rural areas and substantial proportion of population living below the poverty line. Many studies brought their reports by keeping these limitations under consideration and helped in identifying vulnerable regions in India to help the community to prepare to diminish the impact of pandemic and recuperate from it.<sup>31</sup>

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<sup>26</sup> Ibid. 737

<sup>27</sup> Ibid. p. 738

<sup>28</sup> Ibid.p. 740

<sup>29</sup> Kumar Sanjay Singh, Wages of hubris: India overtakes Italy as a Covid 19 hotspot, The World Sikh News, 5 May'2020

<sup>30</sup> The Guardian, Cuba sets example with successful programme to contain coronavirus, Ed. Augustin in Havana, 7 June'2020

<sup>31</sup> Rajib Acharya, Akash Porwal, A vulnerability index for the management of and response to COVID 19 epidemic in India: an ecological study,

Still state governments were helpless in controlling the condition of migrant workers fleeing to their native places due to starvation. Rumours were circulated, fear and helplessness spread and authorities left the working-class people wandering on bus stands, railway stations and on highways.

## Conclusion

In this sequence of historical transformation from exploration to colonial governance and now the current situation, we find that environmental conditions and diseases resulted in high increase of mortality in India. Looking at it from historical perspective it seems that despite of the deaths that were caused due to these calamities or epidemics, there was a positive impact of it too. If it was nature's course of action in which the calamities were taking place and microorganisms were regularly building their immunity than human society was simultaneously adapting themselves with these conditions. Floods definitely caused huge number of deaths in India but at the same time it gave better possibilities for cultivation too. Famines in a riverine plain, however, was unheard of before as the natural conditions provided enough opportunity for cultivators to produce using different locally invented irrigation methods.<sup>32</sup> Similarly, the epidemics were a natural condition which helped society to develop clinical arrangements and mechanism to enhance capacity to fight with them. But something which internally weakened the social-economic conditions and

reduced the strength of the society was the governance. In the Indian experience, development activities induced social and environmental disruptions and sustained or promoted high death rates.<sup>33</sup> This happened during catastrophe when droughts and famines were ignored and utilized for drain of capital by the rule. Similar approach was during spread of disease when authorities could have controlled morality with proper measures but people were left unaware. Now, during pandemic the decline of economy continues and is the worst decline among the major world economies. Vinay Lal in his recent publication has also argued that humankind kind is used to catastrophes such as covid-19 or those of even greater proportions.<sup>34</sup> He has critical approach toward governance because of its weak analysis of threats related to pandemic. So, the transformation of policies and administrative failures at different levels were more responsible for the economic, social and cultural devastation that occurred in India at different time periods.

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The Lancet Global Health, Volume 8, Issue 9, September 1'2020

<sup>32</sup> Vipul Singh, *Speaking Rivers: Environmental History of a Mid- Ganga Flood Country*, published by: Primus Books: First edition (24 January 2018) p.106

<sup>33</sup> Ira Klein, *Plague, Policy and Popular unrest in British India*, *Modern Asian Studies* Vol.22, No.4, (1988), p. 723

<sup>34</sup> Lamat R.Hasan, Books /Review, *Why Covid-19 is not the first, and definitely not the last pandemic to hit humankind*, (Vinay Lal, *The Fury of Covid-19: The Politics , Histories and Unrequired Love of the Coronavirus*), Published by: Business Line, *The Hindu*, updated on November 21,2020 I published on November 20, 2020