

Institutionalization of Public Health in India: All India Institute of Public Health and Hygiene

Shamita Sarkar

Associate Professor of History, Vidyasagar University, West Bengal

Abstract: *Colonial medicine in India was predominant 'enclaves' and focused on the health of troops and the relatively few Europeans living in 'white' enclaves. Although these efforts were concentrating on cantonments and European 'civil lines', it was soon recognized that they would be of no avail if the problems of sanitation and disease among Indians surrounding these enclaves were not addressed. A debate arises whether this was because of colonial desire to curtail expenditure for the wellbeing of the Indians or that they were afraid of stirring hostility among Indians of triggering Indian hostility by imposing foreign practices on them. For both rural and urban places, they focus their services on early diagnosis to control upsurges of communicable diseases with high fatality rates such as cholera and the plague. Centers for the training of Public health and research activities on the same line were established. Acts and associated legislation were enforced almost like those which were then prevalent in Europe. These led to the establishment of a legislative framework for services in public health. Neil Brimnes has argued that there was a desire among the British administrators to sanitize the Indian society, although it was held in check by inadequate funds, a weak infrastructure, lack of effective remedies, and the real or imagined fear of provoking opposition from sections of the Indian population. Colonial medicine, therefore, took a narrow view of its responsibilities for the health of its Indian subjects and became preoccupied with the immediate threats of epidemic disease.*

Keywords: Enclave, Sanitation, Fatality, Disease, Public health

Medical knowledge is at the center of the history of medicine and public health. As Deepak Kumar argues, it consists of systematic knowledge of the body and its surroundings.¹ Mark Harrison and Biswamay Pati have argued that there were two tendencies in the literature to date. The first was concerned with questions of colonial legacy in public health, and whether or not the British made such progress in this regard. Opinions on this matter have differed widely, from claims that public health flourished only under British agency, to claims that successive British administrations sought merely to protect the health of colonial enclaves. Some scholars have even questioned the appropriateness of the term 'public health' in the Indian context, preferring to employ the term 'state medicine' instead. Hence the second tendency in the historiography – much indebted to the writings of Michel Foucault, which has examined 'public health,' measures in the light of colonial power, as a means by which the state aimed to know and control his subjects. Early nineteenth-century Calcutta saw the first major initiatives in sanitary reform, in urban planning and the creation of hospitals and dispensaries.²

In this paper an attempt has been made to analyze the concept of Public Health in Colonial India, to understand colonial legacy in public health and how the colonial policymakers understood it, and how the All India Institute of Public Health and Hygiene came into being. A brief discussion on the work done on Public Health in Colonial India is relevant to know the way available historical research works view the subject. There was indeed a diverse opinion on the subject. Some thought that Public Health flourished during the colonial period.³ Ramasubban, on the other hand, thought that the aim of the colonial administration was merely to protect the health of the colonial officials and staff.⁴ The works of Partha Dutta and Srilata Chatterjee have shown that large hospitals developed around the medical colleges established in important cities and towns as well as dispensaries providing outpatient facilities. Though even by 1910 the

Government of India was admitting that a large section of the population was yet to have access to Western medical care especially in rural areas.⁵ Based on the above discussions, in this chapter, an attempt has been made to analyze the concept of Public Health in Colonial India. Deepak Kumar argued that in the colonial regime public health was based more on the prejudices against 'contacts and dangerous bodies' rather than public welfare. Thus medical opinion here instead blames the victims. This very important argument about the colonial public health structure is corroborated in this chapter with primary documents.⁶

Beginning of Public Health movement

To put the modern public health movement into perspective it is important to remember that some form of community health activity existed from the earliest history of civilization. Archaeological evidence shows highly sophisticated municipal and sanitary provisions over four thousand years ago in Egypt and North India. Medieval achievements included the evolution of hospitals and the provision of medical care and social assistance by the church. During the period of enlightenment in Europe (1750-1830) there developed a new interest in the rights and conditions of men and a real concern for human health and welfare.⁷

In England, the move to introduce sanitary and public health reforms were initiated as early as the nineteenth century, when there was an unprecedented growth of major towns.⁸ The Industrial Revolution with all its benefits brought with it the concomitant urban growth and accumulated effects of overcrowding, poverty, disease, ignorance, and lawlessness.

In the mid-nineteenth century, William Farr was able to confirm statistically and provided proof of the relationship of some of these factors. The intimate connection between disease and sanitation, for instance, gave William Chadwick the ammunition he needed to introduce the famous 1848 Public Health Act in Great Britain which was followed by similar legislation in other countries.⁹

The first comprehensive Public Health Act of 1848 and the subsequent establishment of a General Board of Health ushered in a new phase of public health policy in Britain. Local Bodies were appointed to make public sewers, to provide drains, to cleanse streets, fill up offensive ditches and to provide adequate supplies of water. The first Public Health Act in Britain was passed at a time when Britain acquires concern for the health of the industrial population. The series of major inquiries – the Poor Law Commission of 1838, to study the causes of destitution in London, the Royal Commission of 1844 on the health of towns and the Royal Sanitary Commission of 1869, were involved in public health activities in England.¹⁰

The Public Health Act for England and Wales began a series of legislative measures extending through the Victorian era and into the century in which the state had to take some responsibilities for standards of health and environmental quality. The main purpose of the Act of 1848 was to facilitate the building of sanitary systems, water supplies and sewerage. But it also established local and central units of government that would take responsibility for it.¹¹

In the United Kingdom, examinations in the subject known as state medicine were held in 1868 in Cambridge, although short courses on public health mainly to test and certify the fitness of health was given at St Thomas's Hospital in London in 1856 as part of the undergraduate teaching. The topics of these examinations included public health, sanitary statistics, propagation, pathology and prevention of infectious diseases. By 1875 this evolved into a diploma programme in Public Health.¹²

In Britain, the field of bacteriology opened up a new link between the etiology of disease and its cure.¹³ The nineteenth century was the era of great epidemics.¹⁴ In the post-colonial literature, India has been seen as a quagmire of lethal diseases and epidemics. Plague, malaria, cholera and smallpox had been consigned as Indian epidemics thriving on her enervating climate, untidiness, obscurantism and lack of social services among the people. But many of these constructs as Achintya Dutta argues were empirically untenable. Most of the diseases stated above were of global occurrence. The tropical climate was considered to be the prime cause of European ill health, India was conceived as a land of dirt, disease and sudden death, where the Englishman was not likely to enjoy a healthy life.¹⁵ Philip Curtin has described India as a home of all dreadful diseases and epidemics where the ruling class migrated only to face death.¹⁶ Presumably, the tropical climate seemed to have not abruptly changed its character in colonial India. It is therefore argued by a scholar that it was the same tropical climate that existed in pre-colonial India too. But the outbreak of epidemics occurred repeatedly during colonial rule affecting almost the sub-continent as a whole.¹⁷ Until the germ theory of disease was recognized towards the end of the nineteenth century, the health officials of India generally believed in the miasma theory of diseases that diseases were caused by some poisonous chemicals brought by certain weather conditions. This hypothesis proved to be incorrect in the light of the germ theory of disease, which confirmed that the real causes of disease were specific living microorganisms.¹⁸ However recent writers are much more critical about colonialism itself which was regarded as a major health hazard for indigenous people. Some epidemic diseases like plague, smallpox and venereal diseases such as syphilis which was called *firangi roga* (disease of the Europeans) are said to have been brought by the Europeans in their colonies. The reason for cholera epidemics in India was attributed to the unsanitary conditions in the villages.¹⁹

The inefficient water supply and breakdown of existing sanitary arrangements led to a rise in mortality rates which was proved in 1831-32, 1848-49, 1854 and 1867, by the outbreak of cholera. Poonam Bala argues that Cholera did not reach Europe until the 1930s. When it first arrived in 1831-32 in Britain, it was subjected to the scrutiny of a rising medical community.²⁰ During the early 1830s and 1840s, it touched down briefly in the European and American homelands and later leading Western people to regard it as one of mankind's most dreaded diseases.²¹ It had a profound effect on society and economies on either side of the Atlantic. Thus the decades between 1830 and 1860 were referred to as "cholera years." The epidemics led to popular unrest and social conflict and were catalysts for municipal reform and development of modern public health in Europe. They also gave rise to vivid cultural and social imagery around cholera in Europe and received great medical attention throughout the nineteenth century.²² *Kala-azar* or Black Fever had also been attributed to climate but the climatic influence on *kala-azar* occurrence in India was not convincing. The disease was not only confined to India but it even occurred in the European zones. It was prevalent in China, the Mediterranean basin and European countries like Italy, France, Spain, Portugal and Greece. The black fever broke out in the epidemic form in Assam only after the extensive commercial enterprise of tea plantations in the forested territories of upper Assam was undertaken in the second half of the nineteenth century.²³

Problems relating to Public Health in Bengal

During the early years of British rule, heavy mortality in the European troops in India aroused attention in England to the unsatisfactory conditions of public health in India. Bengal was the chosen homeland of all diseases. However, it was a fact that Bengal was a malaria colony. The Director of Public Health at that time referred to the rise in fever mortality from

year to year mainly due to the scourge of malaria as the “most important public health problem of this province”. In rural areas there was the problem of obtaining qualified medical aid and this difficulty was intensified by the fact that the medical practitioners often gravitated to the towns.²⁴ The *Dainik Basumati* refers to ill-treatment of the Indian patients by the nurses but such things were hushed up.²⁵ Another problem was that throughout Bengal even untrained compounders practiced the profession of medicine and surgery without any hindrance and there was no law to prevent their practicing. Evidence drawn from diverse quarters showed that pure drinking water was scarce throughout Bengal. The *Rarh Dipika* wrote: “The sufferings of the people of Bengal, in general, owing to the want of pure water know no bounds –The people were crying out for water and Government were evincing no eagerness to remove this evil.”²⁶

Cholera, which was mainly a waterborne disease was one of the most frequent epidemics in Bengal.²⁷ In colonial India, the first cholera epidemic of 1817 created panic among the European inhabitants as well as the Indian population, even though it was claimed that “Europeans had greater immunity from the disease than the bulk of Indian population”. This was probably because the European population in British India was given the basic facilities of sanitation which meant the provision of pure water, a good diet and healthy living conditions. It was estimated that in the period between 1817 and 1831, about one-tenth of all the British troops in India perished and 18 million perished all over India. A new committee called the Committee of Improvement was formed in Dacca in 1819. For the first time in 1823 medical men were made members of the Committee. The basic difference between the policies followed in Britain and India lay in the priority for the provision of health. That is why the late element in the development of health policy in Britain – the concern for the army – formed the starting point of policies in colonial India.²⁸ Mortality, sickness and invalidity among the European population in British India can be seen as the major source guiding British administrators to introduce public health measures in India. These were caused mainly by fevers, dysentery, diarrhea, and liver diseases and most important, cholera. Since the European population was concentrated in the three towns of the presidencies of India namely Calcutta, Bombay and Madras all attempts were made to protect the British population from the epidemics ravaging these towns. These three towns were also the seats of government administration as well as major ports.²⁹

Bengal cholera was due to more or less to the absence of clean drinking water, especially in the *mofussil* areas. Another factor in the dissemination of cholera among people who dwelt amidst fair sanitary conditions was contaminated milk supply.³⁰ The intricate relation between cholera and Hinduism, as Poonam Bala argues, influenced state implementation of a coherent public health policy for cholera, not only in Bengal but also in other parts of India. The indigenous population attributed the occurrence of cholera to the wrath of the deity often interpreting the epidemic in terms of the violation of Hindu religion by slaughtering cattle to feed British troops camped in a sacred grove. Not only in Bengal, villagers in the district of Madras too believed in the occurrence of the epidemic outside the sphere of natural causation; they traced the epidemic to the pollution of sacred tanks by the low-caste soldiers. The concept of identification of an epidemic disease with divine wrath as David Arnold claims was prevalent not only in India but in Europe and America, too especially in the epidemics of the 1830s and 1840s.³¹

In 1866 an International Sanitary Conference met at Constantinople to consider the cholera epidemics which had ravaged Europe after the disease broke out at Mecca, in 1865. There had been several pandemic waves of cholera since the disease first became widespread in India in 1817, but in an age of steam navigation, it seemed cholera could now reach the

Mediterranean within weeks of its passage from India. The late 1860s and early 1870s were crucial years as far as sanitary policy in British India was concerned. In the wake of the 1867 epidemic, there appears to have been a consensus around the idea that cholera was spread by human intercourse and that sanitary cordons were the best means of preventing its spread. But this position was gradually abandoned at the highest levels of British administration. Historians agree that official doctrine on cholera from the late 1860s was closely tied to political and economic considerations such as pilgrimage and maritime commerce. However, they differ in their explanations of how these matters impinged upon the world of medicine. Dr. James MacNabb Cunningham (1829-1905) the Sanitary Commissioner exercised a decisive influence on sanitary policy on India. Cunningham issued circulars to all commanding officers at military stations, as well as to all jails and civil surgeons to which a pro- forma questionnaire was attached. The information elicited by these questions covered everything from the timing of cholera cases to sanitary and meteorological conditions and the health and morale of the persons afflicted.³²

Food adulteration was also a serious problem. Food Stuff was extensively adulterated throughout the period under study. This nefarious practice, which assumed alarming proportions, remained practically unaffected by such actions as were taken by the Government and the local bodies. Another deadly enemy of Bengal was Water Hyacinth the more common vernacular name being *kachuri* or *Kachuripana* which created much havoc in Bengal by contamination of water, by increasing malaria and by affording breeding grounds for mosquitoes. Smoke ensuing from factories, streamers, etc. was another problem particularly in the city of Calcutta.³³ Other problems connected with public health-related to domestic customs habits, prejudices and apathy of the people and their fatalistic outlook on life. This was stressed by L.F. Rushbrook Williams Director of Public Information, Government of India, who wrote: "India can never be safeguarded from a heavy death rate, punctuated by disastrous epidemics unless her people can be weaned from their tenacious adherence to social observances which are as opposed to public health as they are to economic prosperity... Throughout towns and country alike even elementary sanitary knowledge is conspicuous by its absence."³⁴

Apart from cholera, the case of a small pox epidemic in India also affords an understanding of the obstacle to the spread of vaccination for its effective control. The practice of inoculation against smallpox was common among Indians as a religious ritual, to invite Sitala to protect the devotee.³⁵ The person inflicted with the disease was then looked upon with reverence, with the goddess believed to be residing in his body. Indian response to cholera epidemics was different from that of smallpox for two reasons; first, because there was no recognized cholera deity during the nineteenth century and second, there was not any inoculation technique to invoke the blaming of a god or goddesses. It was not until the second half of the nineteenth century that cholera was identified with the deity mostly Ola Bibi by Muslims in the Northern part of India (also in Bengal) and Mariyamma by Hindus in the South.

The continued and rigid belief in disease goddess was seen by the colonial administrators as posing a threat to their rule. This was because the elaborate ceremonies and the worship carried out to appease cholera deity would create panic and disturbance at the time of the epidemic. This had important implications for the Indian and Western cultures when the cholera epidemics occurred in the nineteenth century. First, it exposed the wide cultural gulf that existed between the two, strengthened by the rural solidarity over which colonial administrators apparently had no control and second it exposed the increasing divergence between the Indian and Western ways of coping with the disease.³⁶

These were the discourses of the literati. But the moot question is what was the *popular* approach to health in Bengal as evidenced by the outbreak of smallpox in the early nineteenth century? The focus was arguably not on microbes, vectors, antigens and antibiotics but right conduct, overindulgence sin, and the intervention of demons and deities. Popular health culture in Bengal, it has been generally argued, enshrined an amalgam of Ayurvedic, religious, folk 'magic' and other elements. Western medical intervention was limited to a small educated minority.³⁷ It has been noticed that the British officers of the nineteenth century generally tended to believe that the diffusion of smallpox was largely due to the inoculation by the *tikadars*. It is difficult to trace the origin of this practice in Bengal but there is hardly any doubt that it is of great antiquity and that it was extensively practiced by all classes of people in Bengal, Hindu and Mohammedan. From investigation done by Dr. Wilson of Bauliah, Dr. Wise of Dacca and others, it appeared that in all probability seventy percent of the population of Bengal was inoculated by the middle of the nineteenth century.³⁸

Like many other infectious diseases black fever or Kala-azar was an important health issue in British India, for almost a century. The Garos of Assam described it as a '*Sarkari bimari*,' or British government disease. This indicates that outsiders carried the disease vector to the region after the advent of British rule.³⁹ *Kala-azar* was believed to have appeared in the Garo Hills around 1869.⁴⁰ From the 1870s onwards *Kala-azar* spread rapidly within a few years. But the effects of intervention medical by were not felt before 1920s.⁴¹

During the late nineteenth century, the issue of public health was much discussed in official as well as the public mind in India. The debates gradually became more intense when major cholera and plague epidemics frequently.⁴² One of the early Indian talks for higher studies in sanitation and public health was S. Goodeve Chuckerbutty in 1845, who successfully competed for the IMS. On 8th January 1852, he gave a public lecture on 'sanitary improvement of Calcutta,' and dwelt upon the need for better sanitary habits, water pipelines, sewage, water tank management, etc.⁴³ S.W. Goode's official and very thorough *Municipal Calcutta* published almost a hundred years ago was a major work in Public Health.⁴⁴ The discourse of the 'public' and what became 'public health' was brought about through state policy from the beginning of the nineteenth century in Calcutta city. In Calcutta, public health encompassed a wide range of activities from setting up communities at the initiative of the colonial government and European merchants to formulate public policy to road building, slum clearance and regulation of markets. Another significant initiative was the hospitals. In Calcutta, hospitals as modern institutions were very much a Western import. They attested to the gradual importance of Western medical practice to state policies. By the 1830s European doctors in Calcutta urged the setting up of 'Fever Hospital to deal with the menace of uncontrollable epidemics. Ronald Martin's *Notes on the Medical Topography of Calcutta* published in 1837 was one of the first important survey domes of Calcutta in the nineteenth century. Martin who was a surgeon in the Native Hospital, wrote his account to draw the attention of the government to the increasing threat of disease arising from the deteriorating conditions of Calcutta and the urgent need for medical institutions for the laboring poor.⁴⁵

The study of leprosy in colonial India offered a new entry point into the ongoing debates on public health in colonial health policy. Existing scholarship has focused on areas of direct state intervention, on wider public health matters and preventive medicine and on epidemic diseases where official intervention was seen as central. In the case of leprosy non – official bodies were most active, especially missionaries and the role of the colonial state was far smaller than for epidemic diseases like smallpox, cholera, or plague. In India the earliest asylums for

leprosy patients dated from the eighteenth century. The Leprosy Commission for India (1889) depended on the asylums for information and research for treatments of leprosy. The situation was similar in 1916 when the Government of India communicated to all asylums regarding trails of the new treatment that excited the medical fraternity the world over. The leprosy asylums were maintained or supported mostly by church-related organizations.⁴⁶

In the post-1857 period, the health of the army men became the most important concern of colonial health policy. The appointment of the Royal Sanitary Commission in 1859 was a reflection of this concern. But it was not until 1864 that the first Presidency Sanitary Commission was set up, based on a high mortality rate in the army.⁴⁷ The Report submitted to the Parliament by the Commission in 1863 may be regarded as the starting point of public health activity in India. The aim was to look after all matters regarding the health of the army as well as to gradually introduce improvements of sanitary conditions in barracks, hospitals and stations.

By 1860, bacteriological advances had set bells ringing and gave a new dimension to the colonial health policy. The appointment of provincial sanitary commissioners in India in the 1860's and after proved significant in framing health policies in India. The reports of Commissioners highlighted the relationship between the cholera epidemic and climatic and geographical factors. But these statistics were alone being not strong enough to change the state policy for they revealed the enormity and not the means of preventing the cholera epidemic. The emphasis was more on the number of deaths rather than preventing death. In 1869 the sanitary commissions were practically abolished.⁴⁸

The Report submitted to the Parliament by the Royal Sanitary Commission in 1863 may be regarded as the starting point of public health activity in India. The Report condemned the sanitary condition of the three Presidency towns and commented that "in each city, the sanitary state of the population ...is as bad as it can well be." Regarding other large towns and cities the report continued, "there was no sanitary administration whatever so that to all intents and purposes, this important Administrative Department had to be created in India." The report further pointed out that most of the cantonments bear no evidence of any consistent sanitary authority." The Royal Commission in its report (1863) suggested the establishment in each Presidency of a Commission of Public Health with a view to the diminution of sickness in the army and the improvement of the health of the general population. The publication of the Royal Sanitary Commission's Report led directly to the creation of a Sanitary Commissioner.⁴⁹ In Calcutta, a Health Officer was appointed in 1864.⁵⁰ A Sanitary Commission was appointed in Bengal in 1864 (along with other Presidencies) consisting of a whole-time officer, Sir John Strachey, as President and a medical officer with army experience, two military officers and an Indian Medical Service Officer with special knowledge of public health problems in India who acted as Secretary to the Commission.⁵¹

The following quotation from the report (1864-65) of the Commission of Bengal shows how John Strachey recognized the importance of proper health organization: "Even if we look no further than the protection of the health of the European soldiers, it will be insufficient if we endeavor to improve the sanitary condition of our cantonments alone and ignore the existence of the masses of the native population by which our troops are surrendered."⁵² This Commission recommended the establishment in all the districts of local boards for carrying on the municipal and sanitary services, the appointment of Health officers and adoption of other measures for ensuring proper supervision, of the sanitary condition of the people throughout the country.⁵³ But these proposals were not made effective as it had been pointed out in the *Report of the*

Sanitary Reorganization Committee (1920). Further Government considered it inadvisable to force public health measures on a population which they thought were resisting the innovation. It wanted to create goodwill by curing diseases and widening education to prepare it.⁵⁴ In 1865 Sir John Strachey was succeeded by G.B. Malleson, who, though not a sanitary expert was appointed as the first Sanitary Commissioner in Bengal. This arrangement was further modified in 1868 when a single medical officer Dr. D.B. Smith was appointed Sanitary Commissioner of Bengal.⁵⁵ It may be noted here that the system established in 1868 very closely resembled the Sanitary Department, established by the English Public Health Act 1858, consisting originally of a single medical officer charged with the duty of investing and reporting to the Government on all matters connected with public health, but did not possess executive functions.⁵⁶ The Sanitary Commissioners were to ascertain the existing sanitary condition of the country under their charge and to identify the places where endemic cholera, fever and similar diseases occur.⁵⁷

In Bengal, up to 1875, the Sanitary Department did not change. In 1880 the post of Deputy Sanitary Commissioner was created, the inspection of municipalities being his primary concern.⁵⁸ From the 1880s there were profound changes in the public health administration of India. Under Lord Ripon, (Viceroy between 1880-1884) Gladstonian Liberalism reached its zenith, marked by controversial reforms of the judicial system and extension of local government. British officials were deeply divided in their attitude to Ripon's reform of local government. The Sanitary Commissioner J. Cunningham believed that sanitation was an alien system that should not be imposed on the Indian people regardless of their cultural sensibilities. But like Ripon, Cunningham knew that the success of the sanitation would depend equally upon expert guidance and cooperation of the provincial government in implementing and overseeing municipal projects. Yet many officers of Cunningham's department did not share his enthusiasm for local self-government, nor indeed many officers of the ICS. Ripon faced protracted resistance from paternalistic administrators like Sir James Fitzjames, Stephen and Sir Henry Maine. The strongest opposition to Ripon came from Bombay where the Conservative governor- General Sir James Fergusson published a resolution condemning Ripon's proposals as 'unduly radical and premature.'⁵⁹

In 1883, Robert Koch discovered that Asiatic Cholera was caused by '*Comma bacillus*'. This was an important contribution and helped to establish the theory of disease causation over the earlier miasmatic theories. This shift in focus had significant implications for the colonies. In 1888 Lord Dufferin's Government issued a resolution of drawing attention to local bodies and village unions to their duties regarding sanitation and Sanitary Boards that were formed in all the provinces.⁶⁰ But no progress could be made due to the paucity of funds, the apathy of the people, the unsatisfactory state of the law resulting in lack of real responsibility of local bodies, etc.⁶¹ It was in the 1890s when 'contagions'(theory of infection or the spread of a disease) came to be accepted that State intervention seemed possible.⁶² In the meantime, Public Health conditions in Britain were further improved by the Royal Commission on Housing in 1885, which led in 1890 to a Housing Act, statistics propagation, pathology and prevention of infectious diseases.⁶³ By 1875 this evolved into a diploma programme in Public Health.⁶⁴

The ravages of the plague epidemic of 1896 revealed the defects and inadequacies of the then existing health organizations.⁶⁵ Mark Harrison argues, of all the factors affecting municipal sanitation, the coming of plague in 1896 was by far the most important. In Bombay, Bengal and Madras, allotments for sanitation increased rapidly in the early years of the epidemic provided an opportunity for the European officials to attempt to clean and after indigenous dwellings which they consider insanitary. In most cases, the effects of the plague on attitudes towards

clearance and the sanitary planning of cities were short-lived but in larger cities that had more European populations, the effects were more enduring.⁶⁶ In 1896, a Plague Research Laboratory was established under Haffkine in Bombay.⁶⁷ In 1898 after a long discussion with Local Governments, the Government of India issued fresh orders for the encouragement of sanitary progress.⁶⁸

But all these institutions served under severe limitations. The research structure that eventually evolved was a piecemeal and ad-hoc response to sudden emergencies arising because of epidemics. Indian response to such initiatives can be gleaned from the Indian language weeklies and periodicals. The *Vrittana Chintamani* (a Kannada weekly) appreciated the Pasteurian inoculation and wanted Pasteur Institutes to be established in India.⁶⁹ In 1901 the director-general of Army Medical Service profoundly proclaimed that the British had brought science to India, supporting the ravages of cholera and 'improving the conditions there' - a claim echoed by the majority of those who had served in India as medical officers.⁷⁰ The Plague Commission in their report (1904) also laid down the principles on which they thought that the executive and scientific aspects of problems of public health should be tackled. The Report recommended that the Sanitary Department needed improvement for dealing with plague and other epidemics and with general sanitation of India. The Report also advocated the establishment of adequate laboratory accommodation for research, teaching, sera and vaccine production.⁷¹ Deepak Kumar, however, believed, that cholera and plague devastations and even the *Plague Commission Report* of 1904 could not rouse the 'conscience' of the government.⁷²

Several legislations were adopted for the prevention and control of diseases. The Indian Penal Code (1860) Epidemic Disease Act 1897, the Indian Railways Act 1890, The Indian Ports Act 1908 contained provisions for prevention of danger arising to the public health by a communicable disease.

Lord Curzon's Government took up with vigour the reorganization of the Sanitary Department. The office of the Sanitary Commissioner with the Government of India was revived. The main functions of the Commissioner now were to advise the Government of India on bacteriological and sanitary questions and to advise the Local Governments on principles on which advance was to be made and also to organize and direct medical research throughout India. The office of the Sanitary Commissioner with the Government of India was revived. In 1909 the scope of the department was further extended. It must be noted here that before this many recommendations and proposals for establishing a public health service in India had been made. In 1894 the first Indian Medical Congress proposed a Health Ministry and a unified Public health service throughout India. In 1904 the Governor of Bengal urged the same. In 1905 the Royal College of Physicians recreated these recommendations. In 1907 the Secretary of State enquired what was being done about it. By the Resolution of 1912, the Local Governments could select their Sanitary Commissioners from the officers of the Provincial Sanitary Department. However, no officer of fewer than 15 years of service could be appointed without the previous sanction of the Imperial Government. In 1914 the Sanitary Officer's Act 1914 was passed placing new statutory obligations on municipalities such as the English Public Health Act (1872) introduced in England.⁷³

Public health issues after the 1st World War

The First World War caused considerable disruption of medical services since medical officers were sent abroad to serve with the Indian Army in the Middle East, Africa and Europe.

When the World War started there were a total of 748 IMS officers in India, but only 56 were permitted to remain there for its duration. While in Britain the war saw an extension of initiatives concerning maternal and children's health. But provincial governments in India continued to operate within strict financial limits. The report of the Inchcape commission in 1923 led to drastic reductions in research personnel and the amount of money allocated to medical research. Although death rates from dreadful diseases like smallpox and cholera continued to decline there was much truth in R. Palme Dutt's comment of 1940 that 'provision for the most elementary needs of public hygiene sanitation or health is so low, in respect of the working masses in the towns or the villages, as to be practically non-existent.'⁷⁴ In 1914 the Government of India had stated that the 'general direction of a policy of public health must remain with the central government, but in 1919 it was handed over to the provincial government. Later the Government of India Act of 1935 maintained this position. This policy had two main defects: one was the absence of a coordinating agency at the Centre which could propel and ensure greater uniformity of development in the different provinces and the other, the inefficiency of the local bodies. As remedy measures an All India Public Health Act and Federal Ministry of Health were suggested.'⁷⁵ But it fell on deaf ears. As a contemporary lamented: '*Public health has been allowed to develop by itself or to stagnate, though now and then immediate urgency or twinges of conscience have resulted in spasmodic action. But the ultimate principles of sound advance in public health have either not been studied or they have been mostly ignored and set aside. India has lacked an Edwin Chadwick or John Simon*'.⁷⁶

Among the medical men in India, as Deepak Kumar argued only a few like Haffkine, Ross, Donovan and Rogers were keen on research in the field of public health. In 1892 Haffkine perfected an attenuated cholera vaccine, which gave satisfactory results on laboratory animals. He looked for field trials on humans. To Haffkine, the only way to fight the cholera epidemic was by introducing preventive treatment of vaccination. The government, however, was blaming the ignorance and unsanitary conditions of the colonial subjects.

In 1898 Ronald Ross (IMS 1881) proved the relationship between malaria and mosquitoes. Both Ross and Haffkine were believed that prevention is better than cure. For this, they sought active state intervention.⁷⁷ In 1914 Sir Leonard Rogers proposed that a school of Tropical Medicine should be established in Calcutta along with an Institute of Hygiene in Bombay. To ease its burden, the colonial government looked for private support. Within the Indian municipal system, it was not easy to raise finance for public health through higher taxation. In some places like Madras, the taxes were already high. In a study of Calcutta Municipal Corporation, it had been found that the rentier class was extremely reluctant to pay high taxes for public health purposes.⁷⁸ In some places, there was little or no surplus revenue. Under such circumstances, the programmes of Rockefeller Foundation (RF) came as divine intervention. It focused on the plantations in different parts of Asia and Latin America which needed to be made lucrative through greater scientific input and through the control of diseases which impaired the labour productivity. In India, the Rockefellers' involvement began with the visit of Dr. V.G. Heiser to Madras in 1915. He looked into the prevalence of Hookworm disease and felt an enormous amount of work that could be done at a comparatively small cost.⁷⁹

From 1919, British medical intervention against Kala-azar succeeded with the introduction of antimony treatment in the form of tartar emetic. A special hospital for the treatment of Kala-azar had been built at Nazira of Sibsagar district in 1919, where treatment with tartar emetic began with encouraging results. By the end of the 1920s treatment facilities had been provided to all infected areas.⁸⁰ It may be mentioned that in 1919, the temporary post

of the Deputy Sanitary Commissioner of Public Health was created to carry on a survey of the incidence of kala-azar in the districts of Bengal. The campaign against the disease was further strengthened by the Health Board. (Epidemics) The Education Department constituted this Board to coordinate an anti Kala-azar campaign of the two departments headed by the Inspector General of Civil Hospitals and the Director of Public Health.⁸¹ The Kala-azar Commission was appointed by the Government of India in Apr. 1924 with S.R. Christopher's as its Director, to study the disease of Assam.⁸² It was the outcome of a discussion in October 1923 at the conference of scientific workers in Calcutta, when the members strongly stressed the need for organized work on the transmission problem of Kala-azar.⁸³

The history of Public health in Bengal shows that the elaborate and decentralized system of public health did not operate in India until the introduction of Montagu – Chelmsford Reforms (1919). It public health matters under the control of Provincial Governments. After election Indian ministers who held the portfolio of Local Self Government and owed their responsibility to the Provincial Legislatures became entrusted with the administration of Public Health and Medical Departments. The introduction of this process started in Bengal in 1921. In 1935 the Government of India revitalized the 1919 Act giving greater autonomy to the provinces. The Ministry of Bengal was made wholly responsible for the health policy and the administration and a larger measure of autonomy was granted to Bengal.⁸⁴

Some personnel developed control of hookworm using traveling treatment units and latrine building. He made several important studies on the species of hookworm and the flow of groundwater. The most important component of this campaign was the emphasis on creating public awareness. This was done through lectures, pamphlets and lantern shows. An exceptionally interesting mode was the use of the local storytelling method.⁸⁵

Some scholars argue that during the twentieth century, the issues of 'private domain' were neither repressed nor resolved nor absent from public sphere debates in colonial India, rather this period experienced heightened public interest and variable discourses on body and sexuality. These discourses as Sujata Mukherjee explained, reflected the anxieties of the late nineteenth-century social reformers, who had drawn attention towards the need to build stronger, masculine bodies and the increasing involvement of nationalist Indians in the search for ways of building up a strong robust nation. Maternal and child welfare, demographic reform and national strength were regarded as constitutive features of modern public health sensibilities. In England, there was a downward trend in mortality of infants in between 1903 and 1908. The 'Maternity and Child Welfare Act' of 1918 envisaged the provision of a network of centres for infant welfare.⁸⁶

Gandhi was quite critical of Western medicine. But in his writings, there were indications that he was often ambivalent in his thinking in this regard. In 1926 he declared that one should not 'blindly oppose quinine' as he had taken himself and its usefulness was obvious. But in *Hind Swaraj* Gandhi depicted Western medicine as one of the greatest evils of modern civilization. But back in 1913, Gandhi had written a series of articles under the title 'General Knowledge about Health'. This was published as *The Health Guide* in 1921. For him, Vaccination seemed to be a savage custom and felt that in taking this vaccine people became guilty of sacrilege. Though he admitted that vaccination gave a 'sort of temporary immunity from smallpox, he also affirmed his religious objections to the practice. In a private letter, he described it as 'tantamount to partaking of beef.' Despite his objections, Gandhi positioned himself as a believer in science, when 'Tibbia 'medical college was opened in Delhi in 1921.

There he exalted the spirit of research that fired modern scientists. Gandhi's powerful voice thus contributed to the public debate in India not so much with a firm rejection of western medicine as with ambiguity about what elements of modern scientific medicine should be adopted by India.⁸⁷

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- ¹¹ For centuries, European governments had reacted to epidemics with decrees. With medical boards to advise them, they set their military forces to protecting borders and ports, white washed towns, fumigated dwellings and burnt bedding. The threat of unusual disease prompted these actions and they were relaxed when the epidemics passed. Edwin Chadwick was the widely hated architect and enforcer of the new poor law of 1834. By 1838 he was looking mainly at one cause; acute infectious diseases that were fatal to male breadwinners, leaving families, dependent on relief. These diseases Chadwick insisted had physical causes in poor urban drainage, which left towns covered in a residue of filth that contaminated the air in some ill-defined way and caused disease. In autumn 1839, as a result of a request made in the House of Lords by the cooperative Bishop of London, Chadwick was charged with documenting the extent of those insanitary conditions and of the disease they presumably caused and to explore remedies in policy and technology, initially in England and Wales and then in Scotland. Chadwick's superiors were happy to let him get on with the report; they found him impossibly inflexible as a policy administrator. The grand report finally appeared in summer 1842. It digested the returns of the vast staff of poor law officials and eminent urban medical men who had been persuaded to report on conditions in their towns. It seemed that insanitary conditions caused social as well as biological disease, a psychological degradation that led desperate people to invest their hope in alcohol or worse in revolution. As cited in Christopher Hamith and Sally Sheard, "Revolutions in Public Health: 1848 and 1998?" *British Medical Journal*, Vol. 317, No. 7158, (Aug. 29, 1998) pp. 587-591.
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