COMMUNICABALE DISEASES IN DELHI: A HISTORY OF CHOLERA, TUBERCULOSIS, AND LEPROSY 1919-1957

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DECLARATION

I declare that this dissertation entitled **'Communicable Diseases in Delhi: A History of Cholera, Tuberculosis, and Leprosy 1919-1957'** in partial fulfillment of the requirements for the award of the degree of **Master of Philosophy** of Jawaharlal Nehru University, is my original work. No part of this work has been published or submitted to any other university.

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CERTIFICATE

We recommend that this dissertation be placed before the examiners for evaluation.

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Finally, I am sole to be held accountable for the inadequacy in this work.

Priti Sinha.

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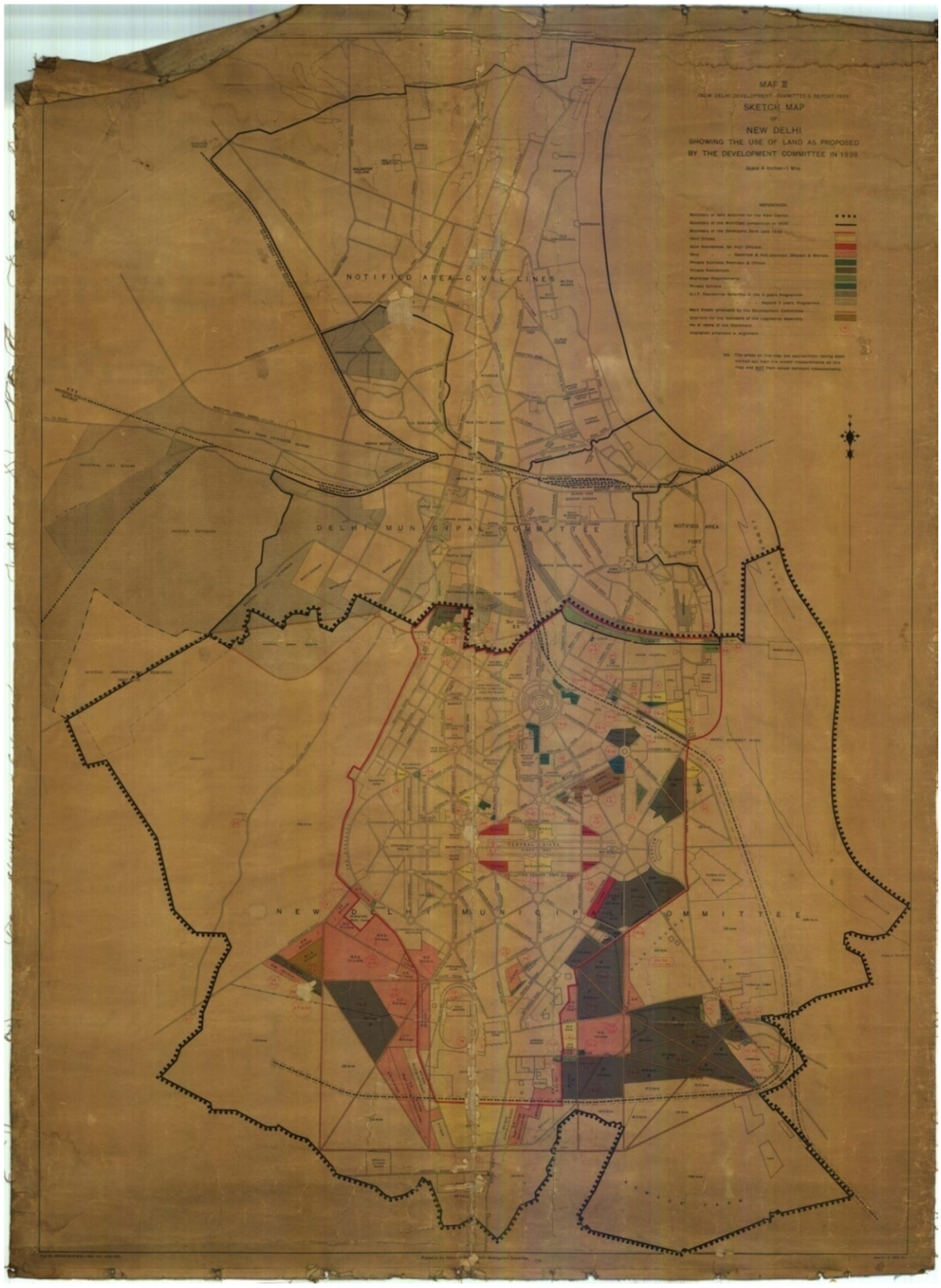
MAP



Sketch Map of New Delhi showing the use of land as proposed by the Development Committee in 1939[1]

[1] Image no. 67, DVD ROM 13, Delhi State Archives.

INTRODUCTION

With the "establishment of the seat of the Central Government at Delhi in 1911-12, attention was naturally focused on augmenting the existing health facilities so as to bring them to a reasonable level commensurate with the needs of a Capital". A hospital for the Europeans in the Hindu Rao Estate and two hospitals for the Indians, Balak Ram, and Kingsway Isolation Hospital were started about the same time. Hindu Rao Hospital was originally the residence of Hindu Rao, a Maratha chief, brother of Vijya Bai, wife of Daulat Rao Scindia of Gwalior. The house was taken into use in 1911 as a temporary hospital and a convalescent home for the Europeans during the Coronation Darbar.[1] Since 1921 till Independence of India in 1947 the European gazetted officers and the upper subordinates serving under the Government of India were accommodated in the hospital.[2] Balak Ram Hospital was a small hospital with 28 beds including 8 detention beds for the mental patients and an outdoor dispensary in Timarpur. Under the detention order of the District Magistrate, lunatics were admitted in this hospital. The detention was for a period of 10 days only, beyond which the Magistrate's orders were to be renewed. In the year 1914, Dr Shroff's Charity Eye Hospital was established by Dr. S.P Shroff at Daryaganj.[3]

In the year 1914, the Government created the post of the Chief Medical Officer for Delhi Province. This Officer was entrusted with the responsibility of the medical and the public health administration of the Province. Due to the increase in the staff of the Government of India, a Civil Surgeon was appointed for Raisina in the early 1920s. Apart from the health department maintained by the Delhi Municipality, preventive health services in the rest of the Province in the 1920s were not adequate. High mortality rates due to plague epidemics and smallpox led to the appointment of temporary anti-epidemic staffs in the year 1923 which consisted of 2 sub-assistant surgeons, 8 helpers, 35 coolies, and 3 vaccinators who were placed at the disposal of the Chief Medical Officer. On 1 April 1927, the post of the Assistant Director of Public Health was

[1] Report of the Delhi State Medical and Health Reorganisation Enquiry Committee 1955. The Chairman of the Committee was Dr. M.D.D. Gilder, M.P., Ex-Health Minister, Bombay Government.
[2] File No. 10, 1929, Part A, Chief Commissioner's Record, Delhi, Department of Home. Levy and Disposal of Fees from Paying Patients admitted into Government Hospital, Delhi State Archives (hereafter DSA).
[3] Report of the Delhi State Medical and Health Reorganisation Enquiry Committee 1955.

created. This post was also referred to as the Chief Health Officer. He was the Medical Officer of Health of New Delhi and the Civil Lines. He also took over the charge of the public health activities in the rural areas from the control of the Chief Medical Officer.[4]

The succeeding decades of the 1930s and the 1940s witnessed some important developments in the health services particularly the indoor facilities for the medical relief improved considerably. In 1932 Willingdon Hospital (renamed as Dr Ram Manohar Lohia Hospital) was established. In 1934, a nursing home was provided to the hospital to meet the needs of the high officials of the Government of India and the well-to-do citizens. The hospital had 50 beds in total. In the year 1935 the first tuberculosis hospital in the Province, the Silver Jubilee Tuberculosis Hospital (renamed as Rajan Babu Institute of Pulmonary Medicine and Tuberculosis) was established with 68 beds for the inpatients. In 1936 Irwin Hospital (renamed as Lok Nayak Jai Prakash Narayan Hospital) a multispeciality hospital was established with 300 beds for the inpatients. In July 1937, Najafgarh Health Unit was established. In March 1939, Mrs Girdhari Lal Maternity Hospital was started with 42 beds. In 1942 Safdarjung Hospital was founded during the Second World War as a base hospital for the allied forces. After the end of the Second World War, it was taken over by the Government of India to serve the needs of the civil population of the Province. Thus, by 1953 Delhi State had 21 hospitals with 2,247 beds, 6 health centres with 81 beds, and 43 dispensaries with 40 beds of the allopathic system of medicine. Besides these, there were 2 hospitals with 62 beds and 14 dispensaries of the indigenous systems of medicine in the State.[5]

In October 1943, the Government of India appointed The Health Survey and Development Committee under the chairmanship of Joseph Bhore to inquire into the colonial health system and to make future post-war recommendations. The Committee submitted its Report in 1946. The members of the Committee recommended that the preventive and the curative aspects which were integral parts of medicine should not be treated separately but should be integrated under one administrative authority. This administrative authority was to be designated as the Director of Health Services. In view of the recommendation of the Committee, the Government of Delhi created the post of the Director of the Health Services in November

[4] *Ibid*.
[5] *Ibid*.

1945. Some of the functions of the Director of Health Services were to exercise supervision and coordinate health services in Delhi State; the Director was also a technical adviser to the Government in all matters relating to medical and health arrangements in the State. The post of the Chief Health Officer was abolished in July 1948 and that of the Chief Medical Officer in December 1949. The posts of the Civil Surgeons were also abolished and the Staff Surgeons were created to attend to the government servants and their families.[6]

MEDICAL EDUCATION

The health development of a province is largely dependent on the medical education. Education and service cannot be separated. The education which one receives determines their knowledge and success in their chosen field. Delhi Province was dependent on other provinces for imparting medical education for its population. It had got four seats reserved in Punjab, three in King Edward Medical College, Lahore, and one in the Amritsar Medical College.[7] In 1912 an appeal was issued by Lady Hardinge to the princes and the people of India to establish a medical college and a hospital for women at Delhi. As a result of this appeal Lady Hardinge Medical College was started in 1916 and the hospital in 1917. Some of the important donors were Maharaja of Jaipur who donated Rs. 3,00,000/-, Maharaja of Gwalior donated Rs. 2,00,000/-, Maharaja of Patiala donated Rs.1,25,000/-, Nizam of Hyderabad donated Rs. 1,00,000, Maharaja of Baroda, Udaipur, Jodhpur, and Kota donated Rs.1,00,000/- each, Begum of Bhopal donated Rs. 30,000/-. The Government of India undertook to make a grant of Rs.1 lakh per annum towards the annual maintenance of the college and the hospital.[8] Thus, public philanthropy and government aid were directed towards the establishment of the curative institution. There were four institutions in the Province, which trained nurses. These were St. Stephen's Hospital, Victoria Zenana Hospital (renamed as Kasturba Hospital in 1975), Lady Hardinge Medical College, and Irwin Hospital. Health visitors were trained in the Lady Reading Health School. This school was opened in 1918 with the financial assistance of the Countess of Dufferin's Fund and the Government of India.[9]

[6] *Ibid*.
[7] *Ibid*.,
[8] 'Lady Hardinge College: Opened by the Viceroy, *Times of India*, 18 February 1916, ProQuest Historical Newspapers.
[9] Report of the Delhi State Medical and Health Reorganisation Enquiry Committee 1955.

HISTORIOGRAPHY

Historians have written extensively on the history of communicable diseases in India but the areas of their study has primarily been Calcutta (Kolkata), Bombay (Maharashtra), Madras (Tamil Nadu) Orissa (Odisha), and Punjab.[10] The history of communicable diseases in Delhi as a new geographical location has not been sufficiently researched. The majority of the books written on Delhi by the historians deals with urbanization.[11] Stephen Legg (who is a geographer) in his book *Spaces of Colonialism: Delhi's Urban Governmentalities* (in the chapter Biopolitics and the Urban Environment) shows the relationship between the urban spaces and communicable diseases such as tuberculosis in Delhi. He argues that Delhi City (Old Delhi) where cases of tuberculosis were most prevalent was densely populated marked by congestion and overcrowding which provided a fertile ground for tuberculosis to flourish and thrive compared to the Civil Lines and the New Delhi which were sparsely populated and inhabited majorly by the rich European population and the influential Indians. Therefore, the tuberculosis predicament of Delhi City was slow to attract the attention of the Government.[12] He does not go into the details of this disease and merely attributes congestion and overcrowding as the important cause of tuberculosis in Delhi.

Given below are some of the books and article which this writer has reviewed critically. These books and article are reviewed in chronological order. The reason why this writer has chosen these books and article are that it deals exclusively with diseases or have chapters on diseases which are the area of study for this writer.

Sanjiv Kakar in his article 'Leprosy in India: The Intervention of Oral History' deals with the intervention of oral history with regard to leprosy in India. Kakar argues that maximum numbers of the leprosy patients were found in the rural areas and as these patients were illiterate it was through "oral narrative" that their stories could be traced. Kakar further states that

[10] Some of these works are Mridula Ramanna's *Health Care in Bombay Presidency, 1896-1930*, Jane Buckingham's *Leprosy in Colonial South India: Medicine and Confinement*.

[11] Some of these works are Narayani Gupta, Delhi between the two empires: Society, Government and Urban Growth, Delhi: Oxford UniversityPress, 1981, Jyoti Hosagrahar Indigenous Modernities: Negotiating architecture and urbanism, New York: Routledge, 2005.

[12] Stephen Legg, *Spaces of Colonialism: Delhi's Urban Governmentalities*, Oxford: Blackwell Publishing, 2007, p.157.

numerous government reports found in the archives were unable to narrate the personal experiences of these patients who faced discrimination at all levels. The literate leprosy patients who wrote their experiences maintained their anonymity. This sustained the "myth" that economically marginalized people were the only ones who contracted leprosy. Kakar conducted interviews with leprosy patients in India for two years from 1991 to 1993 in "four leprosy hyperendemic districts" of Durg and Rajnandgaon (now in Chhattisgarh, then in Madhya Pradesh), Salem in Tamil Nadu, and Cuttack in Orissa. The triumph of the Multi Drug Therapy (hereafter MDT) motivated the recuperated leprosy patients to vigorously engage in "leprosy control and eradication work". This Kakar considers a major step towards annihilating the "community prejudice" about leprosy. He hinges his work on the evidence given by what he calls "patient activist". He interviewed mainly women and children as these two groups he argues were "virtually silent" in the official documents.[13] In these official documents, he states that women leprosy patients were mentioned "only when her sexuality is perceived as constituting a threat to order within the asylum", therefore, discussions revolved around the segregation of the male and the female patients in the asylums. It was only through oral account one gets to know the suffering of a mother who was separated from her child or abandoned by her spouse when he finds out that she had contracted leprosy.[14]

Kakar posed several questions to the recovered patients he interviewed which ranged from the patients view on leprosy, transmission, their personal experiences, societal prejudice, and their involvement in identifying new cases. The interview was conducted with the help of the local interpreters.[15] For this article, he interviewed three people, one woman, and two men. In Durg, he interviewed Thanwarin Bai who resided at Khapparwada village. She narrated her ordeals in detail. After she contracted leprosy, the villagers coerced her to leave the village. It

[13] Sanjiv Kakar, 'Leprosy in India: The Intervention of Oral History', *Oral History Society*, Health and Welfare, Volume 23, Number 1, 1995, p. 38.
He states that by 1995 India had 2 ½ million leprosy patients who basically comprised one-third of the total leprosy population of the world. Every state in India had leprosy population. Haryana had the least leprosy patients with 1,552 cases while Tamil Nadu and Orissa had the highest number of leprosy patients. The Government launched National Leprosy Eradication Programme in the early 1980s. Under this Programme districts which had "5 or more patients per thousand populations" were recognized as "hyperendemic". In these districts Multi Drug Therapy was introduced. This therapy curtailed the time duration for the treatment of the disease to a minimum of 6 months and a maximum of 24 months. This was a departure from the previous treatment of the disease with sulphone where a patient had to take the medicine for several years
[14] *Ibid*.,p.44.
[15] *Ibid*., p.38.

was only after the leprosy workers came to her rescue with MDT, and after she was cured, that she was allowed to return to her village. Prior to the use of MDT, she viewed leprosy as a divine punishment and therefore, thought it was incurable. After returning to her village she involved herself actively in anti-leprosy work. She examined women and girls. She encouraged the patients to visit the mobile clinic which came to her village on the seventh day of every month. Regarding the villagers attitude, she recorded that though they had become "tolerant" towards leprosy patients they were not fond of her. Some of the villagers abused her by saying "first you get leprosy and you bring shame on this village. Now you detect more cases and you bring more shame".[16] When enquired why she was not wearing her slippers as she had numbness on her feet, she added that they would get worn out and she did not have money to buy a new one.[17]

Kakar interviewed the second patient R.C. Singh who was originally from Haryana but had lived in Makatolla village for several years. He was a government school teacher. He had an idea about leprosy as one of his kin suffered from leprosy. He was aware of the initial symptoms of the disease before ulceration set in like the discolouring of the skin. He was shocked when he learnt that he was diagnosed with leprosy. His leper relative was abandoned by his family near the banks of Ganga River. His colleague was forced to resign after he contracted leprosy. In order to avoid such fate, he requested the leprosy worker to give him medicine surreptitiously, but the workers did not entertain his request and asked him to take his medicine from the clinic along with the other patients. The workers wanted to dispel the "myth" that leprosy could be transmitted through touch and wanted to generate awareness among the people that it was due to Mycobacterium Lepare. They also assured him that MDT was more efficient as it completely destroyed the bacteria, unlike sulphone which merely prevented the bacteria from proliferating. After taking the medicine he was cured of the ailment. He did not encounter hostility in the school. The headmaster a very well informed and compassionate man who hailed from Khairagarh princely family encouraged him. The school children actively participated in a procession which was organized to spread awareness about the disease.[18]

Nirankar Sarangi was the third patient to be interviewed by Kakar. He was a resident of Gandhipalli leprosy colony at Cuttack. He was diagnosed with leprosy or "bada rog" as was

[16] *Ibid*., p.39.
[17] *Ibid*., p.40.
[18] *Ibid*.,p.40

called in his village during childhood; therefore, he was forced to abandon his schooling. He lived with his family until the age of 21 years; as a result, many of his kinsmen did not visit his home for the fear of contracting leprosy from him. He tried local treatment but it was of no use. In 1956, he left his home with Rs. 60 given by his mother for Hathibadi Health Home. Later he was shifted to the Leprosy Home and Hospital in Cuttack. Initially, he was treated with the unpleasant chaulmoogra injections and sulphone tablets in the Leprosy Home. After several years, he used MDT which cured his disease. In fact, all the inmates of the colony were treated with MDT. He got mixed reactions from the public. Although he was cured of the disease some people still feared him. He belonged to the Brahmin caste and when questioned about how he felt when he was treated as an untouchable he replied "for me everyone is equal, everyone is same" but as he was the priest of the temple, therefore, he ate food only prepared by "certain hands".[19]

Through these interviews with the patients, Kakar manifests the significance of the "village community". The village community was all pervasive in the patient's life. When the community was antagonistic as in the case of Thanwarin Bai who had no option but to conceal the symptoms of the disease from the villagers and when the symptoms became visible making it impossible for her to hide it she was exiled from the village.[20] The role played by the leprosy workers were also important as they tried to debunk any myths associated with the disease and informed the patients about the advantages of getting treated with Multi Drug Therapy.[21]

Kakar to certain extent is right when he states that in the official archive leprosy is represented as a class disease which affects the economically marginalized sections of the society, yet this writer does not agree with his view that the archives do not document the personal hardships faced by these patient as government archives do contain petitions written by the leprosy patients which narrates in detail the ordeals of the patients. This writer has used two petitions written by the leprosy patients who resided in Delhi during the 1940s and the 1950s which explains in detail the ordeals faced by these patients.

Jane Buckingham's book *Leprosy in Colonial South India: Medicine and Confinement* also deals with leprosy but unlike Sanjiv Kakar who studied the oral history of leprosy in three

[19] *Ibid*., p. 41.
[20] *Ibid*.
[21] *Ibid*., p.43.

different regions of India during the 1990s, Buckingham's work exclusively deals with leprosy in the nineteenth-century colonial Madras. A Major part of the book deals with the treatment of the disease and the institutional mediation by the State. At the outset, Buckingham states that the work of the historians on medicine is mostly concerned with epidemic diseases like cholera, smallpox, plague, etc., because of the adverse effects these diseases had on the European civil and military population. [22] She argues that with reference to leprosy colonial medicine was insufficiently funded and very disorganized in its management "to be an effective tool of empire".[23] She contextualizes the study of leprosy in India as a segment of the broader history of the impoverished people. The poverty-stricken deprived Indian people reduced to begging after contracting leprosy were exceedingly visible to the British.[24] She argues that the Colonial State's engagement with leprosy was "subtle". She gives two reasons for this argument. The first reason is that the transmission of leprosy required close and prolonged contact with the infected person and therefore it did not spread with the rapidity of diseases like cholera and to certain extent tuberculosis. The other reason was that it mostly affected "Indians and Eurasians"[25] than the Europeans who had the "option" of returning to England once they were diagnosed with leprosy. She states that this could probably be the reason behind the "very low" prevalence of leprosy among the Europeans in India.[26]

Buckingham delves into an important question in the book as to whether the leprosy patients were treated as "patient or prisoner" in the hospital. Prior to the passage of the Lepers Act 1898, she argues that there was no legal provision to incarcerate "vagrant" lepers.[27] Though the leprosy patients in the Madras Leper Hospital were able to defy and negotiate the orders of the hospital authorities in matters of incarceration, medication, and diet[28] yet majority of the sufferers were not completely satisfied with their patient status. They were apprehensive that once they were admitted to the hospital they would be prohibited from leaving it.[29] The

[22]Jane Buckingham, *Leprosy in Colonial South India: Medicine and Confinement*, Basingstoke: Palgrave Macmillan, 2002,p.4
[23]*Ibid*.,p.190.
[24] *Ibid*., p6.
[25] *Ibid*., p.4.
[26]*Ibid*., p.27.
[27]*Ibid.*, p.36.
[28]*Ibid.*, p.50.
[29]*Ibid*., p.54.

Government on the other hand, perceived the sufferers as patients and not as prisoners.[30] Subsequently, Buckingham argues in the book that "the Madras Leper Hospital remained principally an institution for the treatment of leprosy sufferers rather than for their forced confinement".[31]

One very interesting aspect of the book is that Buckingham provides a detailed narrative on the passage and the implementation of the Lepers Act 1898. The death of Father Damien, a Roman Catholic priest from Belgium in 1889 due to leprosy generated a frenzied reaction in Britain. His death exposed the vulnerability of the Europeans to leprosy.[32] It not only created panic in Britain and other European countries that leprosy would rebound from the colonies to Europe but also the Europeans residing in countries where leprosy was prevalent would be diagnosed with the disease.[33] In India, his death led to the formation of National Leprosy Fund on 17 June 1889 and setting up of Leprosy Commission to examine the disease.[34] The call for mandatory separation of all the leprosy patients became intense in India but the State's obligation to confinement was desultory. This was due to the disinclination of the State to initiate any measures which would endanger the British rule, especially during the time of early nationalism.[35] The British authorities realized that mandatory incarceration of affluent leprosy patients would be viewed as "intolerable interference by the Indian upper class".[36] The Indian middle class zealously guarded their freedom. The Lepers Act which was passed in 1898 "advocated confinement of vagrant leprosy sufferers".[37] The Act was only implemented in 1913 to the whole of Madras Presidency.[38] The Act had minimal influence on leprosy patients in Madras. After the implementation of this Act, there was an increase in the number of "voluntary confinement" which was more due to fear among the patients that they would be incarcerated for life so some patients voluntarily entered the asylum and left it once their sores improved.[39]

[30] *Ibid*., p.58.
[31] *Ibid*., p. 60.
[32] *Ibid*., p.152.
[33] *Ibid*., p.153.
[34] *Ibid*., p.154.
[35] *Ibid*., p. 165.
[36] *Ibid*., p. 163.
[37] *Ibid*., p. 159.
[38] *Ibid*.,p.185.
[39] *Ibid*.,p.186.

The limitation of the book is that though it deals with the ordeals of the leprosy patients, Buckingham does not mention any patients name.

Mark Harrison and Biswamoy Pati in their edited book *The Social History of Health and Medicine in Colonial India* scrutinize the various aspects of the social history of health and medicine in Colonial India like the role of the leprosy and the lunatic asylums, the effect of the quarantine policy on the Hajj pilgrimage, etc. According to Mark Harrison and Biswamoy Pati, there are two trends in the historical literature of medicine in India. The first examines the issue of "colonial legacy" and how much development did the State make in this realm. Historians have different views on this issue. Some like Radhika Ramasubban maintain that the Colonial State only safeguarded the health of the "colonial enclaves", others like David Arnold have even raised an objection to the use of the phrase "public health" and instead recommended to use the phrase "state medicine". The second trend is influenced by the writings of Michel Foucault. It evaluates the measures taken for public health in the context of "colonial power" which enabled the State to "know and control" its citizen.[40]

Harrison and Pati further highlight that most of the works on colonial public health view the country in "isolation" as a result these works do not take into account the fact that some of the significant state mediations were a result of the international pressure especially from the European countries in the form of "quarantine and other restrictions on Indian shipping" which not only harmed the trade but also caused other serious hindrances.[41] Saurabh Mishra's chapter (in the book), *Beyond the Bounds of Time? The Haj Pilgrimage from the Indian Subcontinent, 1865-1920* explores this theme in some detail. The major concern of his work is how cholera spread to the European countries through the Indian Hajj pilgrims and the measures taken by the European countries to arrest its impact with particular reference to the quarantine policy and its effects. Mishra does not look at the other avenue through which cholera spread especially the poor sanitary and the environmental conditions. In 1869 Suez Canal was opened, which made possible for the poor Muslim population from the Indian Subcontinent to perform Hajj. Prior to this Hajj was seen as an expensive pilgrimage intended only for the affluent Muslims. With the

[40] Mark Harrison and Biswamoy Pati, 'Social History of Health and Medicine: Colonial India' in *The Social History of Health and Medicine in Colonial India*, (eds.) Mark Harrison and Biswamoy Pati, New York: Routledge, 2009, p.1.
[41] *Ibid*., p.2.

opening of the Suez Canal, Mishra argues, there was a conspicuous change in the understanding of the Hajj by the European as well as the Colonial State. With the outbreak of cholera cases in the 1860s and the 1870s in Mecca from where it diffused to Europe the Indian Hajis (a person who performs Hajj) were viewed as the carriers of the disease.[42] This subject was discussed at great length in most of the western medical publications, periodicals, and even sanitary symposiums. The *British Medical Journal* (Hereafter BMJ) urged the authorities to improve the situation; its editor Ernest Hart visited the Subcontinent to convince the Indian Muslims to appeal to the Turkish administration to launch salubrious reforms in Mecca.[43]

The views of the European Governments and the BMJ differed on cholera. While the BMJ maintained that cholera was due to the insalubrious state of affairs at Mecca, the European Governments on the other hand firmly believed that the Indian pilgrims transmitted cholera, therefore, they insisted on quarantine measures for the Hajis from the Subcontinent. In 1882 quarantine measures were introduced at Kamaran where the pilgrim ships from Bombay to Jeddah were stopped for the inspection of the pilgrim's health. This not only led to stringent confinement but also placed a monetary burden on the pilgrims who had to pay extra for the quarantine.[44] They also endured "dehumanizing process of disinfection". Majority of the pilgrims criticized the discourteous behaviour of the quarantine staffs. In cases of deaths, the quarantine period was prolonged for two months which sometimes led to revolt.[45] There was a general belief that the British imposed limitations on the travel of the pilgrims. This allegation was denied by the British Government who stated that the limitations were enforced by the Turkish and the other European nations.[46] The Colonial Government doubted that in order to press for restriction on its trade in the Red Sea the quarantine issue was raised by its rival European powers. In order to protect its trading privileges, the State rejected the contagion theory of cholera during the nineteenth century.[47] By the early twentieth century and especially during the Khilafat Movement Hajj "assumed a stridently political colour in colonial eyes".[48]

[42] Saurabh Mishra, 'Beyond the Bounds of Time? The Haj Pilgrimage from the Indian Subcontinent, 1865-1920' in *The Social History of Health and Medicine in Colonial India*, (eds.) Mark Harrison and Biswamoy Pati, New York: Routledge, 2009, p.32.
[43] *Ibid*.,p.33.
[44] *Ibid*.,p.33.
[45] *Ibid*.,p.34.
[46] *Ibid*., p.35.
[47] *Ibid*.,p.36.
[48] *Ibid*., p.37.

With the abolition of the Caliphate in Turkey, there was dissatisfaction among the Muslims regarding the British. In order to win over the Muslim population of India, the British Government decided to make "arrangements for a cheap and full Haj when time came".[49] Mishra argues that one can only contemplate if a successful completion of the Hajj pilgrimage fulfilled the Government's aim to placate the Muslim population but by the early twentieth century Hajj became "a sensitive political question for the colonial state".[50]

Biswamoy Pati and Chandi P. Nanda in their chapter *The Leprosy Patient and Society: Colonial Orissa, 1870s-1940s* analyse the "social history of leprosy in colonial Orissa".[51] They argue that in Orissa leprosy was viewed as a class disease which was reflected in the comment of the Civil Surgeon who ascribed the disease to "the lower classes [of] Uriyas are a dirty race and have no ideas of cleanliness and sanitation".[52] Dispossessed of "any private space" to conceal their disease, the roving poor meandered on the street; as opposed to the prosperous classes who could hide it "in their personal private space".[53] Puri an important religious centre was associated with leprosy by the colonial government. Here leprosy patients gathered and solicited for alms. The government primarily due to the fear that these patients would cause inconvenience to the other non-leprosy population of Puri wanted to segregate and "invisiblize" them.[54] It was in this context that the proposal to construct a leprosy asylum at Puri acquired momentum which was robustly endorsed by the Magistrate and the Chairman of the Puri municipality J.R. Blackwood.[55] The idea behind constructing the asylum was to provide accommodation and food in order to avert the leprosy sufferers from begging.[56] As the government was unwilling to invest, a small segment of the colonial bureaucracy and the landed gentry of Orissa financed the construction of the asylum. They further argue that in the first half of the twentieth century there was a transition in the leprosy patient's position in the society. This transition was due to leprosy having become a disease which could be cured and also Gandhi's endeavour for the wellbeing of

[49] *Ibid*., p.38.
[50] *Ibid*., p.39.
[51] Biswamoy Pati and Chandi P. Nanda, 'The Leprosy Patient and Society: Colonial Orissa- 1870s-1940s' in *The Social History of Health and Medicine in Colonial India*, (eds.) Mark Harrison and Biswamoy Pati, New York: Routledge, 2009, p.113.
[52] *Ibid*., p.115.
[53] *Ibid*., p.124.
[54] *Ibid*., p.115.
[55] *Ibid*.,p.116.
[56] *Ibid*.,p.118.

the leprosy sufferers through his writings[57] yet "a remarkable degree of continuity characterized the idea of confinement in many ways reinforced by the social origins of those affected by leprosy".[58]

Mridula Ramanna in her book *Health Care in Bombay Presidency 1896-1930* traces the shift in the plague policy of the Colonial State from 1896 when the first outbreak of plague took place in Bombay to the constant outbreak of plague that occurred in the 1900s. It also looks at the changes in the reaction of the Indian population towards the policy in various parts of the Presidency. The 1896 plague epidemic "caught the authorities by surprise".[59] They were oblivious to the fact as to where the plague came from; neither did they know how to cure it. The plague was "caricatured" as a beast which had invaded the gorgeous Bombay city portrayed as a "woman".[60] Various reasons were attributed to the outbreak of the plague. The *Gujarati* a vernacular newspaper stated that plague was due to the negligence of the health and the engineering department, the greediness of the landowner, atheism of the people, and wrongdoing of the rulers of the city.[61] The colonial authorities maintained that plague was due to filth, congestion, awful drainage in Indian houses, poverty, and lack of nutritive diet which reduced the immunity of the Indian population to fight against diseases.[62]

Severe measures were introduced by the State to combat the outbreak. These measures antagonized the local people as it disregarded "caste and community tradition, taboo and ritual prescriptions and were both gender insensitive and intruded into the privacy of the home".[63] Vernacular newspapers reported that dissatisfaction was not due to restrictions but due to the manner in which it was carried out.[64] Local people adopted various clandestine measures to hide dead bodies or sick people during house searches. Major Ross complained that he could not even find out 30% of the cases as both the patients and the dead bodies were either removed, locked, hid beneath mattresses or camouflaged in such a manner to give the appearance of a person preparing a meal. The Hajj pilgrimage was stopped and restrictions were also imposed on the

[57] *Ibid*., p.120.
[58] *Ibid*.,p.125.
[59] Mridula Ramanna, *Health Care in Bombay Presidency 1896-1930*. Delhi: Primus Books, 2012, p. 1.
[60] *Ibid*., p. 11.
[61] *Ibid*.,p.12.
[62] *Ibid*.,p.25.
[63] *Ibid*., p. 1.
[64] *Ibid*.,p.12.

travelling of the people due to international pressure. Masjids (mosques) and burial grounds were closed.[65] The most disturbing thing for the people was the treatment meted out to women. In Karachi "purdahnashin" women were forced to abandon their railway coaches and in Anand, women were taken to faraway places for medical examination by the male doctors while the European women were exempted from such measures.[66] This infuriated the local male population as they valued the chastity of the women more than their lives.[67] In spite of the severe measure, the plague spread rapidly to other parts of the Presidency. In Poona (Pune) "Operation Plague" was initiated in March 1897. Draconian measures like the deployment of the army to search for the victims of the plague, mandatory hospitalization of the patients, sanitizing of the houses and other portable properties of the people were carried out.[68] This evoked strong hostility which led to the assassination of W.C Rand, the Chairman of the Poona Plague Committee.[69]

Regarding treatment Ramanna states that Arthur Road Infectious Hospital was the only hospital in the city where plague cases were treated. There was a scarcity of staffs in this hospital and most of the patients were admitted in a moribund state.[70] Temporary hospitals were established by the Government at Grant Road, in government homes at Parel and other places. As caste and community practices were not maintained in these hospitals people vehemently refused to take their medication, meal, and drink. In order to rise above the caste and the community barriers, the Government established 29 hospitals for the treatment of the people belonging to different castes and communities residing in Bombay. Another problem which the State encountered was the phoney specialists, people whose original professions were that of a "tram conductors, railway guards, engineers, postal inspectors or clerks" but who assumed the role of a doctor during the plague outbreak.[71]

In March 1898 a medical squad which travelled to Madanpura to examine a suspected case was denied permission into the house, a riot broke out and "as the crowd attacked them and in the subsequent police firing, five persons were killed or mortally wounded. As a result, house

[65] *Ibid*.,p.13.
[66] *Ibid*., p.23.
[67] *Ibid*.,p.18.
[68] *Ibid*.,p.19.
[69] *Ibid*.,p.20.
[70] *Ibid*.,p.14.
[71] *Ibid*.,p.15.

searches were abandoned and replaced by volunteer committees".[72] From 1900 "interventionism was abandoned"[73] and efforts were made to promulgate knowledge on plague and dismiss panic among the people regarding the disease. Bombay Sanitary Association delivered its first lecture on plague which was titled "Some common sense views on plague". In the year, 1905 the Government of India passed a resolution which solicited people's cooperation to fight against plague.[74] Another preventive measure was rat killing which was extensively done in the early twentieth century.[75] Inoculation was enthusiastically encouraged from 1905. This was more due to the efforts of the capitalist classes especially the mill owners. Bombay Mill Owners Association, in order to get their employees inoculated, gave them a day off with full payment and an insurance policy of worth Rs. 50/- was given in the case of death.[76] Apart from the mill owners, important political leaders like Gopal Krishna Gokhale encouraged the people to get themselves inoculated.[77]

Ramanna has extensively researched and looked at a range of primary sources from India, United Kingdom, and the United States of America. The one aspect which she has not covered in detail is the Epidemic Disease Act, 1897. Though regarding this Act she states that it was only after the European Nations threatened to take stern measures that the Government of India implemented the Act which was "regarded not only as vague but harsh and so arbitrary in its implementation, that travel became impossible".[78] She does not take into account other provisions of the Act such as the power given to the local officers to prohibit the export, import, and in some cases to close down the production of contaminated products, neither does she states how frequently was the Act used during the 1900s repeated plague outbreak.

CHAPTER OUTLINE

This thesis is entitled *Communicable Diseases in Delhi: A history of Cholera, Tuberculosis, and Leprosy 1919-1957*. It is divided into three chapters with an introduction and a conclusion. Each chapter will focus on one of these three diseases. The reason why this writer has chosen 1919 as

[72] *Ibid*., p. 13.
[73] *Ibid*., p. 11.
[74] *Ibid*., p. 26.
[75] *Ibid*., p.27.
[76] *Ibid*., p.30.
[77] *Ibid*.,p.31.
[78] *Ibid*., p. 22.

an entry point for her thesis is that the first effort to establish a tuberculosis clinic in Delhi was made in 1919. Unfortunately, this clinic could not be constructed due to the paucity of funds. In 1957 first leprosy asylum was established in Delhi. Why diseases? Do cholera, tuberculosis, and leprosy have anything to inform us about the cultural, social, and political developments and the circumstances in which they materialized in Delhi? These diseases evidently have no inherent significance but it gains extensive importance if an individual wants to understand the State, how it functioned, what were its priorities, etc. Thus, the major concern in studying these three diseases is to understand how the State looked upon these diseases? What sort of preventive and curative measures were employed by the State and how did these change over the period of study? How did the people react to the preventive and the curative measures? Finally, were any special Legislative Acts employed to tackle the outbreak of these diseases?

The first chapter on cholera titled *Cholera: Causes and Repercussions* deals with four outbreak of cholera epidemic in Delhi Province in the years 1929, 1935, 1938, and 1944. In all the outbreaks the chief concern of the Government was to unearth the precise causes which led to the occurrence of cholera and to limit the area of its impact. This chapter will deal in detail the 1929 outbreak and the various preventive measures employed by the Government to tackle the outbreak. It also traces the changes in the treatment of cholera and how people reacted to the preventive measures undertaken by the Government. It will further look into the implementation of the Epidemic Disease Act 1897. A unique quality of this Act was that it was implemented only during the outbreak of cholera and not during the outbreak of any other epidemic diseases in Delhi Province such as plague. The chapter will also throw light to the distrust with which the State viewed both the Hindu religious sites such as Haridwar and the Muslim holy site of Mecca in spreading this destructive disease. More than the Hindu pilgrimage sites it was the performance of Hajj by the Muslim that unnerved the State. It was the avenue through which cholera quickly spread to Europe. Thus, it will look into the diverse precautionary measures undertaken by the Government to regulate the pilgrim movement.

The second chapter will focus on tuberculosis. It is titled *Tuberculosis: An Institutional History*. This chapter will deal with overcrowding and congestion as one of the reasons for tuberculosis. It will further look into the formation of the King George V Thanksgiving (Anti-Tuberculosis) Fund. It will also deal with the establishment of the major tuberculosis clinics,

hospitals, and sanatoriums with special reference to the Ramakrishna Mission Free Tuberculosis Clinic, the Queen's Road Tuberculosis Clinic, and the Silver Jubilee Tuberculosis Hospital and Sanatorium and it will also trace the role played by Lady Linlithgow in fighting the bane of tuberculosis.

The third chapter on leprosy titled *Leprosy: Disease of the Poor* deals with the leprosy sufferers of Delhi. It will look into the causes and the treatment of leprosy. The majority of the causes were credited to the dietetic habits of the Indian people particularly the lower caste Hindu and the Muslim population who consumed decomposed fish and beef meat. As for the treatment in the second half of the nineteenth and the early twentieth-century gurjon oil and chaulmoogra oil were used and it was only in the 1950s that Dapsone an anti-bacterial sulphone drug was used. The chapter will further deal with the condition of the leprosy patients in Delhi Province during the British rule with reference to the implementation of the Lepers Act 1898 and setting up of leprosy asylum. The British government was hesitant to implement the Lepers Act 1898 as it dreaded that the Act would drive away the lepers from Delhi Province and since there were very few lepers in the Province, the government did not consider establishing an asylum in the Province as its priority. It will also look into the condition of the leprosy patients after Independence. In the year 1952, Delhi State Government implemented the Lepers Act 1898 with a view to drive away the lepers from other states who had settled down in Delhi. Since there were very few lepers in Delhi the government was disinclined to establish an asylum and it was only after the dialogue with the Meerut Government was unsuccessful that the first leprosy asylum was established in Delhi at Tahirpur village in Shahdara in the year 1957.

This thesis is based on the primary source material collected from the Department of Delhi State Archives, the National Medical Library, and The Nehru Memorial Museum and Library.

CHAPTER 1

CHOLERA: CAUSES AND REPERCUSSIONS

Cholera derived from the Greek word "Kolera" which means diarrhea[1] is caused by contamination of food, which generally takes place through flies and inadequate access to safe drinking water due to dirt, feces, pebbles, bricks, and remnants of food being thrown into various water sources like tanks, wells, rivers etc., which results in water pollution.[2] Unlike leprosy and tuberculosis which generally takes a longer period to be transmitted and the patients do not die suddenly, cholera attacks unexpectedly and unpredictably.[3] The patient is quickly and suddenly struck down with extreme prostration or collapse, with incessant profuse involuntary rice water stools, vomiting, no urine, lips and finger become cyanosed, voice becomes husky, the body becomes cold, and the pulse of the patient becomes feeble. Sometimes these cases prove fatal within two or three hours of an attack.[4] In India cholera frequently raged during the hot dry winds when the temperature hovered around 120° Fahrenheit to 130° Fahrenheit.[5] Contrary to any other disease cholera epidemic jeopardised the entire neighbourhood and not just "isolated individuals".[6]

Although the people in Asia and Europe were familiar with cholera before the arrival of the British in India its manifestation in enormously pernicious and catastrophic form was accurately documented in the early nineteenth century. The initial precise account of cholera

[1] Mohan Rao, 'Of Cholera and Post-Modern World', *Economic and Political Weekly*, Volume 27, Number 34, 22 August 1992, p.1792.
[2] Report of the Health Survey and Development Committee. Published By: The Manager of Publications, Delhi. Printed By: The Manager, Government of India Press, Calcutta 1946. The Chairman of the Committee was Joseph Bhore.
[3] David Arnold, *Colonising the Body: State Medicine and Epidemic Disease in Nineteenth Century India*, Delhi: Oxford University Press, 1993, p.160.
[4] Poresh Nath Mukherjee, 'Several Cases of Cholera treated with Bacteriophage', *Indian Medical Gazette*: *A Monthly Journal of Medicine, Surgery, Public Health, and General Medical Intelligence Indian and European*, Calcutta Thacker's Press and Directories, Ltd, August 1933. (Hereafter *Indian Medical Gazette*)
[5] Report on the Treatment of Epidemic Cholera: From Information Collected by the Governments of Bengal, Madras, Bombay, N.W. Provinces, Punjab, Oudh and Central India, by Orders of the Government of India. Indian Papers. Medicine. Disease. National Library of Scotland. Permanent URL: http://digital.nls.uk./74464863. [Data accessed on 2 March 2016].
[6] David Arnold, 'Cholera and Colonialism in British India', *Past and Present*, Volume No. 113, Oxford University Press, 1986, p. 119.

scourge dated back to the year 1817 in Bengal.[7] Bengal was considered as the "endemic foci"[8] of cholera in India by many writers who wrote on it. This was primarily due to the insanitary conditions which were prevalent in Bengal. People who lived in "bustees" (slum dwelling) and barracks of Bengal were the worst sufferers. In many places, more than 500 people were compelled to take water from a single tap. The supply arrangements of water were old and outmoded. In most cases water mains and pipes were old and pressure inside the mains and pipes sharply varied on account of inconstant water supply and there were plenty of leakages. The condition of the latrines and the urinals were deplorable. It was not uncommon in Calcutta (Kolkata) that a single latrine or urinal was used by not less than 100 people in the bustees. Several days uncovered, decayed garbage accumulated on the streets which emanated foul smell and bred cholera-carrying flies. These flies contaminated food and water which led to the outbreak of diseases like cholera.[9]

The 1817 outbreak prevailed with "unusual virulence" and in the course of seven years, it reached eastward to China and the Philippine Islands, southward to Mauritius and Bourbon, and to Persia and Turkey in the north-west.[10] By 1831-1832 it reached England and America and by 1837 Africa was in the grip of cholera.[11] The epidemic emphasized the lack of knowledge about the disease and researches were carried out in order to understand the causes which led to the outbreak of cholera. In the 1850s John Snow an English Physician propounded the "water-born theory". According to this theory, cholera was caused by drinking contaminated water. This notion made cholera a communicable disease which could be averted if people had "safe access to clean drinking water" but this demanded mammoth investment for "sanitizing India" which the Government was reluctant to invest. In 1869 J.L. Bryden, the Statistical Officer to the Government of India's Sanitary Commissioner put forward the "aerial miasma theory".[12] He observed that the Punjab epidemic in the year 1869 coincided with the spread of the south-west monsoon, and therefore, originated the view that the disease was spread by the wind. In 1870 after a careful study of several epidemics Bryden reached the conclusion that cholera was

[7] Anil Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*. New Delhi: Sage Publication, 1998, p. 171.
[8] Report of the Health Survey and Development Committee. Volume I.
[9] S.C. Seal, 'The Problem of Endemicity of Cholera in Bengal', *Indian Medical Gazette*, August 1948.
[10] John Snow, *On the Mode of Communication of Cholera.* London: John Churchill, New Burlington Street, 1854.
[11] Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*,p.171.
[12] *Ibid*., p. 173-174.

"dependent on an atmosphere of moisture for epidemic invasion".[13] Thus, according to the aerial miasma theory "the highways by which cholera travels are in this country, aerial highways, and not routes of human communication". This theory was readily accepted by the Government as it indicated that cholera was not a contagious disease and that "quarantine and sanitary cordons were unsuitable for India".[14] In fact till the nineteenth century the Government of India forbade its employees to publish views which suggested that cholera was a communicable disease. This was more due to the commercial interest of the State which could be endangered if the State accepted the contagious theory of cholera.[15]The aerial miasma theory was prevalent till the first half of the twentieth century. In 1925, Leonard Rogers an Anglo-Indian pathologist dedicated twelve months of intensive work on the epidemiology of cholera. The record of his labour was published in the *Proceedings of the Royal Society of Medicine* for 1926 (Volume XIX). Rogers believed that atmospheric condition which favoured cholera epidemic was high absolute humidity of the air. Rogers also did not agree with the popular view that Bengal was "one great home" of cholera from which the epidemic spread over to the whole of India. He agreed that the 1817-1819 epidemic spread from Bengal and that several other epidemics also originated in the Bengal Province. He observed that the exacerbations of the disease were more frequent in some areas which were far distant from Bengal than in other areas which were nearer. The 1875-77 outbreaks illustrated this point. It originated in three distinct endemic areas. These three endemic areas were in the eastern sub-Himalayan divisions of the United Provinces (Uttar Pradesh) in February and March 1875, in Nasik near Bombay (Maharashtra) in March 1875 and in Tanjore (Thanjavur) in Madras (Tamil Nadu) in April 1875.[16]

This chapter revolves around four outbreaks of cholera epidemic in Delhi Province in the years 1929, 1935, 1938, and 1944. In all the outbreaks the major concern of the Government was to find the exact causes which led to the outbreak of cholera and to restrict the area of its impact. The chapter is divided into four sub-sections. The first sub-section deals in detail the 1929 outbreak and the various preventive measures employed by the Government to tackle the outbreak. It also looks at the changes in the treatment of cholera. The second sub-section looks at

[13] 'New Light on the Epidemiology of Cholera', *Indian Medical Gazette*, February 1927.
[14] Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*,p.174.
[15] Saurabh Mishra, 'Beyond the Bounds of Time? The Haj Pilgrimage from the Indian Subcontinent, 1865-1920' in *The Social History of Health and Medicine in Colonial India*, (eds.) Mark Harrison and Biswamoy Pati, New York: Routledge, 2009, p.37.
[16]'New Light on the Epidemiology of Cholera', *Indian Medical Gazette*, February 1927.

how the people reacted to the preventive measures undertaken by the Government. The third sub-section deals with the implementation of the Epidemic Disease Act 1897. A special feature of this Act was that it was implemented only during the outbreak of cholera and not during the outbreak of any other epidemic diseases in the Delhi Province such as plague. The fourth sub-section brings to light the suspicion with which the State viewed both the Hindu religious sites such as Haridwar and the Muslim holy site of Mecca in spreading this devastating disease. More than the Hindu pilgrimage sites it was the performance of Hajj by the Muslim that "constituted a dangerous category of border crosser".[17] It was also the avenue through which cholera rapidly spread to Europe. Thus, this sub-section will look into the various preventive measures undertaken by the Government to regulate the pilgrim movement.

THE CHOLERA EPIDEMIC OF 1929 AND CHANGES IN THE TREATMENT OF THE DISEASE

The year 1929 witnessed a severe outbreak of cholera in Delhi Province. The first case of cholera was reported on 31 March 1929 in the clerk's quarter near Paharganj and the infection was traced to Delhi City (Old Delhi). Another few cases of cholera occurred at the village of Shahdara on 23 April 1929.[18] The water supply in Shahdara village was contaminated as the main water connection of the village passed through the sewers and the drains.[19] The issue of clean water supply for the village was presented before the local and the central governments. Rs. 40,000/- scheme was prepared by the central government to provide filtered water supply to the villagers of Shahdara but this scheme could not materialize due to the paucity of funds. Fifty-five coolies at the brick field near Shahdara were inoculated. Some of these coolies ran off by road to Aligarh. The Collector of Aligarh was subsequently informed of the outbreak of cholera and running away of the coolies by telegram.[20] The State gathered information about the running away of the coolies to Aligarh through "reliable men" posted in the neighbouring villages who reported to the "headquarter" the moment a case of cholera occurred or even if

[17] Sandhya Polu, *Infectious Disease in India 1892-1940: Policy-Making and the Perception of Risk*, Basingstoke: Palgrave Macmillan, 2012,p.54.

[18] File No. 5(40), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi Province, Delhi State Archives (Hereafter DSA).

[19] 'Water Supply in Delhi: Problem before Municipality', *Hindustan Times*, Wednesday 10 July 1929.

[20] File No. 5(40), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi Province, DSA.
The exact number of coolies who ran off to Aligarh was not known.

people tried to run away to the neighbouring villages.[21] The State had thus, armed itself with spies in the Province as well as in the neighbouring villages to keep itself informed about the activities of the people. The rapidity with which cholera spread prompted the State to take this step. The spies posted in the neighbouring villages informed the State about the fleeing of coolies from Delhi to Aligarh. The State viewed the coolies as the carriers of cholera so it expeditiously informed the Collector of Aligarh about the running away of coolies from Delhi to Aligarh.

The next case appeared on 27 April 1929 at "Janpura" village (Jangpura). The source of infection was not known. Three cases appeared at Jangpura village in between 27 April to 3 June 1929. Thirty-eight inoculations were done in the village. Mass inoculation of the entire village was not deemed necessary as there were three cases of cholera outbreak in Jangpura. On 6 May 1929 big outbreak of cholera was reported in the brick field near "Safter Ganj" (Safdarjung). This infection was traced to a case in the village of "Mubarak Pur Kotla" (Kotla Mubarakpur) which had previously occurred on 28 April. This village was situated adjacent to the Kilokri sewage farm. Cholera Vibrio, a bacterium that causes cholera, was found on the farm. Thirty-five cases with fifteen deaths occurred in the brick fields between 6 and 14 May 1929. The outbreak was brought under control by the inoculation of every labourer and their family. In total 1,083 labourers including their family members were inoculated. Disinfection of the well water supply was carried out. A single case occurred in the clerk's quarter in New Delhi and three cases occurred in the stone-yard coolie camp which was situated near the council chamber in New Delhi on 16 May 1929. The spread of the disease in the coolie camp was controlled by the inoculation of 842 coolies including their families. The camp also received a filtered water supply. In total fifty-five cases with nineteen deaths occurred in New Delhi area while 2,830 inoculations were carried out.[22] Inoculation was done selectively in different areas of the Province. In New Delhi when 4 cases of cholera were reported on 16 May 1929 a total of 842 coolies were inoculated, whereas in Jangpura village only 38 people were inoculated with 3 cases of outbreak of cholera. Thus, the number of inoculation done in New Delhi was much higher than the other areas of Delhi Province.

[21] 'Delhi Menaced with Cholera: Precautionary Steps', *Times of India*, 11 June 1929, ProQuest Historical Newspapers.
[22] File No. 5(40), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi Province, DSA.

In Ber Sarai four deaths occurred between 25 May and 28 May 1929. 162 inoculations were carried out. Wells were daily disinfected. Three cases of cholera one each at "Majid Moth" (Masjid Moth), "Ghari Jharian Marian" (Garhi Jharia Maria) and "Ghari Piram" (Ghari Puram) erupted at these villages surrounding the Kilokri sewage farm. The villagers at these three villages were inoculated and the wells were disinfected. In total 141 cases of cholera with sixty-four deaths were reported from the rural areas. The Kilokri sewage farm was largely responsible for spreading the disease in its immediate vicinity.[23]

The table given below represents the total population, the total outbreak of cholera cases, the total number of deaths due to cholera and the total number of inoculations carried out in Delhi City, New Delhi, the Civil Lines, Cantonment Area, and the rural areas of Delhi Province in the year 1929.[24]

Area	**Total Population**	**Total Cases of Cholera**	**Total Number of Deaths due to Cholera**	**Total Inoculation**
Delhi City	2,46,987	131	98	1,083
New Delhi	31,456	55	19	2,830
Civil Line	17,306	5	-	-
Cantonment Area	6,272	5	-	-
Rural Areas	2,50,000	141	64	1,556

Before going into the details of the above table it is important to describe the physical layout of Delhi. In the year 1929 Delhi Province covered an area of about 500 square miles. There was an urban and a rural area. The urban areas were subdivided into Delhi City with a population of 2,46,987, New Delhi with a population of 31,456, the Civil Lines with a population of 17,306 and the Cantonment Area with a population of 6,272. Compared to New Delhi, Civil Lines, and the Cantonment Area, Delhi City was thickly populated and the Cantonment Area was

[23] *Ibid.*
[24] *Ibid.*

least populated.[25] This was because until 1911 Delhi City alone was to be reckoned with and yielded high density of population while during the decades 1911-1932 New Delhi came into existence.[26] The rural areas surrounded the urban areas on all sides. In the rural areas, there were 304 villages situated with a population of about 2,50,000. Each village had approximately 822 people residing. The Chief Medical Officer was responsible to the Chief Commissioner for the medical and the public health work in the Province with the exception of the Cantonment Area which was administered by the military authorities. One Assistant Director of Public Health was in executive charge of the Province which implied that the person was entrusted with the decision-making power. In fact in 1931 the implementation of the Epidemic Disease Act, 1897, during the cholera outbreak was done on the request made by the Assistant Director of Public Health.[27]

From the above table it is clear that the maximum number of deaths i.e., 98 and total cases of outbreak i.e., 141 due to cholera occurred in Delhi City and the rural areas of Delhi Province respectively.[28] The reason for the maximum number of deaths in Delhi City was due to its insanitary condition. By 1933 Delhi City had 67 public latrines used by the "poorer classes" out of which 40 were water borne. Each latrine on an average had 15 seats which served 20 people if dry, and 50 people if water-borne. The latrine thus served only 35,000 people in the City with a population of 2 ½ lakhs. The Delhi Municipality operated upon a "cheap and ingenious" contract system for the removal of the refuse from the City. Under this system the City was divided into 50 districts and each district was handed over to a "bhangi" (sweeper) contractor at the lowest bid. Nearly 200 carts were supplied by the municipality which were insufficient as the contract was for the removal of "twice as many cart loads of refuse to the dumping ground". Near these 67 latrines were 67 "dalao" (refuse) places. The wastes were burnt in incinerators. The bhangis brought pails of night-soil and baskets full of garbage from short as well as long distances which were emptied into the carts. The liquid human excreta were "carelessly" thrown into the open carts and waited for hours until it was removed to the dumping ground. The carts carried "their foul loads" through the highways and the byways of the City,

[25] File No. 6(5), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province for the year 1929-30, DSA.
[26] 1931 Census, Micro Edition of Inter-Documentation Company AG, Fiche No. 3201-3243.
[27] File No. 6(5), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province for the year 1929-30, DSA.
[28] *Ibid*.

"leaving behind a long trail of stench, as they crawl along their path, all the while dropping offensive bits here and there". The carts, pails, baskets, and the buckets in which the bhangis carried the refuse were never washed. The dalao place was littered with "filth" which fell down from "topping refuse carts".[29] Delhi City lacked urinals with proper enclosures. People committed "nuisance quite openly" in the "nali" (drain) and on the ground near a house "without being restrained by claims of decency".[30] Compared to the sanitation situation of the Delhi Municipality, the New Delhi Municipality had "a glorious system befitting the imperial city". The private houses had flush system. The government quarters had dry-pan system and for the menials there were 100 public latrines, with 4 seats each and all were water borne. Each public latrine had a pail-shoot near it and all the night soil from the government quarters were thrown into it. The wastes were taken in the lorries to the dumping ground. Each lorry carried tons of refuse and performed 8 to 10 trips per day. The whole service was clean and efficient.[31] The use of lorries in New Delhi to dispose of wastes to the dumping ground was less time consuming and more effective than compared to the carts that were used in Delhi City.

The maximum number of outbreak of cholera cases i.e., 141 were reported from the rural areas of Delhi Province which was plagued by famine due to scarcity of rainfall, blowing of winds, and the damage done by locusts which not only spoiled the crops but also dried up all the grasses grown by slight rainfall.[32] Apart from the famine which played havoc in the rural areas of Delhi for three consecutive years in 1928, 1929, and 1930, in villages there were practically no system of drainage. The lanes and the paths acted as drains. Many villages were devoid of latrines. The sweepers were employed to clean the roads and the drains. The "zamindar" (landlord) was expected to give 2 ½ seers of grain twice a year to the sweeper for cleaning the lanes and the roads of the villages. The sweepers were "as much irregular in their work as the villagers are in payment".[33]

[29] 'Sanitation of an Imperial City: Antiquated Methods of Delhi Municipality', *Hindustan Times*, Sunday 8 October 1933.
[30] 'Delhi Sanitary Needs', *Hindustan Times*, Thursday 24 September 1925.
[31] 'Sanitation of an Imperial City: Antiquated Methods of Delhi Municipality', *Hindustan Times*, Sunday 8 October 1933.
[32] File No. 2/1929, Deputy Commissioner's Record, Delhi. Famine and Relief Work in Delhi by Constructions, Wells, Roads, Bands and Tanks, DSA.
[33] File No. 6(5), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province for the year 1929-30, DSA.

The inoculation scenario in the Province was dismal. In Delhi City only 1,083 people were inoculated against a total population of 2,46,987, in New Delhi 2,830 people were inoculated; whereas the total population of New Delhi was 31,456. In the rural areas 1,556 people were inoculated against the total population of 2,50,000.[34] In total 0.43%, 8.99% and 0.62% of the total population of Delhi City, New Delhi, and the rural areas of Delhi Province were inoculated. Thus, the rate of inoculation was much higher in New Delhi compared to Delhi City and the rural areas. In comparison to Delhi the inoculation situation in Amritsar was better. The City reported 235 cases of cholera. Out of these eighty-eight people died. The Medical Officer of Health inoculated 20,000 people. Katra Hakiman (in Amritsar) which was badly affected received special attention by the department of health, where temporary pipes for water were laid and the public wells were closed. The residential lanes were cleaned with phenyl and lime. The old and the dirty earthen pitchers where water was stored were forcibly removed from the houses of the people. Quarantine camps were set up, where the workers and the volunteers of the Anjuman-Nau-Jawanan-i-Islam and the Anjuman-Khadim-ul-Islam had rendered services to the patients by administering intravenous saline injection supplied by the municipality which saved 131 people.[35] In Delhi such forceful methods were not employed by the authorities. The consent of the inhabitants of the Province was considered an essential part of the epidemic control scheme. Strict instructions were given to the special railway staff that only voluntary inoculations were to be done. The Government did not go in for mandatory inoculation.[36] This was more to do with the volatile political situation of Delhi, the capital of the British India. In March 1929 a bomb was dropped in the Legislative Assembly and the close of the year saw an attempt made to bomb the Viceregal Special as it approached New Delhi. The Indian National Congress also passed the "Purna Swaraj" (Complete Independence) resolution in the Lahore session of the Congress in December 1929 and Gandhi started the "Salt Satyagraha" in the spring of 1930.[37] Therefore, the British feared backlash if any effort to initiate compulsory inoculation was made in this hostile political environment.

[34] File No. 5(40), 1929, Part B, Chief Commissioner's Office, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi Province, DSA.
[35] 'Cholera in Amritsar', *Hindustan Times*, Monday 23 September 1929.
[36] File No. 5(40), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi Province, DSA.
[37] 1931 Census, Micro Edition of Inter-Documentation Company AG, Fiche No. 3201-3243.

Inoculation for the first time in India was done in Bengal in the year 1893 when Waldemar Haffkine after inoculating "himself and four Indian doctors was able to induce some villagers to come forward for inoculation".[38] By the first half of the twentieth century vaccines as well as tablets were used to inoculate the patients. The *Hindustan Times* in its 6 May 1929 edition carried an advertisement on Bilivaccine which was a tablet given to the patients. The advertisement read as following[39]

> Self Vaccination. Protect yourself and your family against death danger of cholera by merely swallowing one tablet of Bilivaccin each day three successive mornings. No injections. No reactions. No discomfort. According to authentic facts and figures in the comparative field test officially published by the League of Nations for the information of the health authorities throughout the world one full dose of anti choleric Bilivaccin (3 tablets) taken by mouth gives the same degree of protection as two injections with anti cholera vaccine. Extensively used by Directors of Public Health and other foremost Governmental health authorities and services all over India.[40]

Before 1914 inoculation in India was restricted to few groups of people especially to the "British soldiers and tea estate" workers as the Government was skeptical of its efficiency and also feared the adverse public reaction which inoculation would incite.[41] In 1927 Mr. Norman White a member of the League of Nation visited India and after touring the country he stated that

> It is interesting that cholera vaccination is coming into use, but hitherto no attempt at mass inoculation has been made. The encouraging results that are claimed for mass cholera vaccination in the Dutch East Indies, in French Indo-China, and in Philippine Islands, coupled with the fact that this form of inoculation, having no appreciable reaction, has been willingly reviewed by the oriental population of those countries, are sufficient to justify a serious consideration of the possibilities of undertaking a cholera vaccination campaign on an extensive scale in India.[42]

The success of inoculation in the Far East countries can widely be asserted by the fact that in Java before cholera inoculation was introduced in 1912 there were 5,511 deaths from cholera but after inoculation was started mortality from this disease gradually reduced till in

[38] Pratik Chakrabarti, *Medicine and Empire 1600-1960*, Basingstoke: Palgrave Macmillan, 2014,p,148.
[39] 'Self Vaccination', *Hindustan Times*, Monday 6 May 1929.
[40] *Ibid*.
[41] Arnold, 'Cholera and Colonialism in British India', p. 146.
[42] 'Fight Against Cholera: Success of Mass Inoculation', *Hindustan Times*, Thursday 28 April 1927.

1928 when no deaths were reported. In Korea there were 11,084 deaths from cholera in 1919 but because of inoculation in 1925 there were no deaths due to cholera.[43] It was only in the 1930s that cholera inoculation was intensified in India. The number of inoculation in India increased from "1.5 million in 1932 to 7 million in 1935 and 10.8 million in 1938" and there was also decrease in cholera mortality from "3,37,000 in 1930 to 97,566 in 1939".[44]

The inoculation scenario in Delhi Province also changed during the 1930s. Compared to 1929 when only 5,469 people were inoculated throughout the Province in 1938 a total of 93,213 people were inoculated.[45] One of the reasons for the increase in inoculation was the use of travelling dispensary. It was a moving van staffed by a sub-assistant surgeon, a driver, and an orderly. The dispensary was first used on 21 September 1936. A sum of Rs. 1,08,500 by the Indian Red Cross Society from the silver jubilee fund made it possible for the travelling dispensary to be brought into use. The van was equipped with tents and camp furniture for the staff, a magic lantern slide and fitted drawers and cupboards for the carriage of a "small stock of medicines for the treatment of simple ailments". Thus, the dispensary aimed at no elaborate treatment and was in fact only equipped to deal with ailments on a first aid basis, relying on the rural dispensaries and the hospitals for the treatment of serious cases.[46] During the 1938 cholera outbreak the van was equipped with perchloron and permanganate to disinfect the wells, anti-cholera inoculation and also "essential oil mixture" of Spirit Ether, Cajuput Oil, Juniper Oil, Carophyil Oil, and Menthae Pipera Oil. Dr. Sharma who was in charge of the van pitched his camp in the village for a couple of days "so as to be immediately at hand in the event of any suspicious symptoms supervening amongst the contacts". This helped to allay the natural anxiety and the fear of the people. He carried out 6,060 cholera inoculations and delivered 42 magic lantern lectures and 2 broadcast talks for the village radio programme from the Delhi studios. Apart from deploying the travelling dispensary "additional doctors" were employed to inoculate the people with protective vaccines. The services rendered by the police and the revenue staffs

[43] *Ibid.*
[44] Arnold, 'Cholera and Colonialism in British India', p. 149.
[45] File No. 6(1), 1940, Chief Commissioner's Record, Delhi, Department of Local Self Government. Annual Public Health Report of Delhi Province, DSA.
[46] File No. 6(1) 1935, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province, DSA.

were also useful as they reported "promptly any suspicious cases of illness" to the health authorities.[47]

Prior to the introduction of inoculation the cholera patients in India especially in the latter half of the nineteenth century were treated with opium, brandy, chloroform, sulphuric acid, castor oil, and carbolic acid. Chloroform temporarily relieved pain and vomiting. Castor oil was used in purging out toxic material through the bowels. Carbolic Acid was useful in restraining the advancement of cholera germs in its initial stage. Sulphuric Acid mixed with opium briefly restricted vomiting. Quinine was also given especially during the rainy season. Opium and chloroform were criticized on the ground of having little progress and sometimes led to comatose and even death. Brandy in large quantities exacerbated the vomiting of the patients and in most cases, it proved fatal especially if it was used recklessly "in the anxious desire of rescuing a hopeless case by desperate means". Sulphuric Acid aggravated the burning pain. W. Thom who was the Deputy Inspector General in Bombay (Maharashtra) stated that the appropriate method of the treatment of cholera was to support the vigour of the patient, "and not to check the vomiting and purging which I believe to be the method adopted by nature for eliminating the poison from the body". In the few cases which he treated he used "champagne, beef, and chicken tea with an occasional dose of aromatic spirits of ammonia". There were not many cases treated by him, but no patients succumbed under him due to cholera. The native "hakeems" (Muslim physician) used ginger and capsicum to cure cholera. The "Marwarres" (Marwari, a trading community who are native inhabitants of Rajasthan) of "Sattara" (Satara) used ghee for the treatment of cholera and the patients were occasionally administered four or five seers of ghee.[48]

The first half of the twentieth century witnessed a change in the treatment of cholera. In 1925 in a lecture in Delhi, Dr. K.S. Sethna stated that the patients suffering from cholera should be placed in a horizontal position perfectly at rest in a well ventilated room. The patient should be covered with a blanket and hot water bottles put by their legs. Only boiled water or soda water was to be given to the patient. If the person was in pain then their body was to be rubbed with hand or with ginger root. If the pain was unendurable then a doctor was to be called to administer

[47] File No. 6(1), 1940, Chief Commissioner's Record, Delhi, Department of Local Self Government. Annual Public Health Report of Delhi Province, DSA.
[48] Report on the Treatment of Epidemic Cholera.

morphia injection.[49] Thus, there was a transition in the treatment of cholera with opium, brandy, chloroform, sulphuric acid, castor oil, and carbolic acid in the latter half of the nineteenth century to boiled water or soda water in the early twentieth century. As the major symptoms of cholera are severe diarrhea and vomiting which leads to dehydration so boiled water and soda water is safe and less expensive to rehydrate the body. The ginger roots were rubbed in order to provide warmth to the body. Morphia was to be given only in extreme cases when the pain was unbearable for the patients.

Colonel J.D. Grahman, the Public Health Commissioner with the Government of India, suggested two points which according to him were essential for preventing the outbreak of cholera in Delhi Province. The first point was the necessity of filtered water supply for the villages situated in and around the Kilokri sewage farm for the protection of the villagers. These villagers were cultivators on the government sewage farmland and their falling sick would deprive the government of the labouring force. The second point was that no vegetable crops and fruits were to be permitted to be grown on the sewage farm as cultivation on these farms were done by using sewage water which was polluted with bacteria and microbes thereby endangering the lives of the people who consumed these vegetables.[50]

The sewage farming at Kilokri which was one and a half mile to the south of New Delhi (near Jangpura) began in the year 1926 when an area measuring about 742 acres were transferred to the Delhi Government by the Public Work Department for giving on leases for cultivation purpose. The leases were auctioned in public on 16 June 1926 for a period of two years that is from 16 June 1926 to 15 June 1928. On the expiry of the lease, further area measuring 466 acres were transferred for giving on leases for cultivation. Thus, the lease hold of 1,208 acres were auctioned on 11 June 1928 for 1 ½ years. The land fetched the government a rental income of Rs. 1,05,360/- per annum. The condition attached to the lease was that the lessees were entitled to grow "every sort of crop" except those vegetables or fruits which were eaten uncooked and remained in touch with sullage like cucumber, melon, radish, pumpkin. The crops grown on the sewage farm were cucumber, garlic, onion, pumpkin, radish, melon, cabbage, turnip, beet,

[49] 'Cholera Scourge', *Hindustan Times*, Tuesday 1 September 1925.
[50] File No. 5(40), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi, DSA.

brinjal, tori (ridge gourd), potato, and pepper.[51] Thus, clearly the condition attached to the lease was not followed as vegetables that could be eaten uncooked and remained in touch with sullage like cucumber, onion, radish, melons, and pumpkins were grown.

On 8 September 1928, an article appeared in the *Peshwa*, a local vernacular newspaper in which a fatwa was issued by Maulvi Kifayat-ullah, President of Jamiat ulma-hind. The fatwa was regarding the vegetables grown using sullage and dirty water in the village of Bhogal near Jangpura. The Fatwa stated that the consumption of such vegetables were against the dictates of the Quran and injurious to the public health. The Fatwa further stated that these vegetables were full of "poisonous germs" which were visible even without a microscope and its use by the "ignorant public of Delhi" was disastrous for their health. He requested that the cultivation of such "poisonous vegetables" were to be prohibited by a "royal proclamation as soon as possible so that the health of the Hindu and the Muslim public may not be adversely affected".[52] Thus, the Fatwa emphasized on the dangers of growing vegetables using sewage water. It used religion to instil fear among the people against the consumption of the vegetables and the fruits grown using sullage and dirty water. It also aimed at Hindu-Muslim unity as it requested to stop the cultivation of toxic vegetables and fruits by royal proclamation so that the health of both the Hindu and the Muslim population of Delhi Province could be saved.

Major Webb, the Health Officer of New Delhi was also strongly of the opinion that no vegetable or fruits were to be grown on the sewage farm as sewage in India was not treated, unlike the sewage which was treated with the help of settling tank and land filtration and then used in the English sewage farms. He suggested that only sugarcane, papayas, and plantains should be grown as these could not be contaminated. Papaya and plantain would not come in contact with the sewage and the canes would be cut off above the sewage level.[53]

According to the terms of the agreement the land (Kilokri sewage farm) could be resumed by the Government provided the Government paid compensation for the standing crop which was Rs. 86,000/-. In addition to this, the Government would have to forego rent for an unexpired period which amounted to Rs. 79,420/-. Thus the total loss of the Government would

[51] File No. 4(67), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Cultivation of Vegetables in the Sewage Farm Area at Kilokri, DSA.
[52] *Ibid.*
[53] *Ibid.*

be Rs. 1,65,420/-. If the leases were terminated after the existing crop had been harvested the loss of the Government would be one-third of Rs. 1,65,420/- which was Rs. 55,140/-.[54] Thus, the Government for financial reason did not terminate the lease. After Independence land in the Kilokri sewage estate was used for the rehabilitation of the displaced people.[55]

With the outbreak of cholera, all the vegetables which were cultivated on the Kilokri sewage farm and conveyed to Delhi City were stopped. This was a preventive measure so that the disease did not rebound back to Delhi City by means of transit of the vegetables which were cultivated on the sewage farm.[56] The wells in the city were chlorinated by the use of percholoron, a bleaching agent with high chlorine content. In order to prevent the contamination of water in the well all the fifty-nine wells in Delhi City were covered.[57] As cholera had also broken out in the neighbouring places of Punjab and Meerut people arriving at the railway stations were examined by the special staff. Five cholera posts were established at Eastern side of Jumna Bridge, Alipur on the Ambala Road, Nangloi on the Rohtak Raod, Nizam-u-din on "Muttra" Road, and Safdarjung on the Gurgaon Raod. These were the major entry routes for the people coming to Delhi. At these cholera posts every person who arrived in a motor car, lorry, vehicle, and every pedestrian who passed by these posts were examined by the staff. Instructions were also issued that in case of a special train for the pilgrims where a case of cholera had occurred, the District Medical Officers of Health at all stations where such a train was scheduled to stop and the Chief Medical Officers of the railway concerned were to be intimated. These steps were necessary to stop the spread of the disease.[58] The other time a cholera post was established was during the 1944 outbreak when the public health staff were put on duty at Delhi City railway station and on octroi barrier at Karnal Road. Passengers who returned from "Kurakshetar"

[54] *Ibid*.
[55] File No. 1(28), 1954, Delhi State Secretariat, Delhi. Transfer of Land in the Old Sewage Farm to the Ministry of Rehabilitation, DAS.
[56]File No. 5(40), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi Province, DSA.
[57] File No. 6(5), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province for the year 1929-30, DSA.
[58] File No. 5(40), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Outbreak of Cholera Epidemic in Delhi Province, DSA. Muttra Road could either mean Mathura Road or Bahadurshah Zafar Marg, (Anthony King, Colonial Urban Development: Culture, Social Power and Environment, Oxon: Routledge, 2007, p.269)

(Kurukshetra) fair by fair specials and by buses were examined at these posts before their entry into the Province.[59]

The health department issued notices advising the public to take various precautions in order to ward off the disease. The precautions issued were elaborate in nature like water and milk should be boiled before it was consumed. The vessels in which milk and water were stored must be thoroughly cleaned. As flies played a very important role in the spread of the cholera germ by carrying the infecting organism, so, therefore, food products, milk, and water should not be left uncovered. No uncooked vegetables, and fruits especially cucumber, watermelon, and jackfruit was to be consumed as these were cut and sold in the market attracting flies to settle on them. Unripe and rotten fruits and vegetables were to be avoided. Only those fruit sellers were to be patronized who covered their food stuffs with clean cloth or kept it in wire gauze or glass cases. The precautions also emphasized on keeping the environment clean. The surrounding of the houses was to be kept clean. The occupants were to make sure that no wastes accumulated in their houses and especially horse stable was to be kept clean as horse litter was one of the most fertile places for breeding of the flies. The drinking of the well water was to be avoided. No food or milk was to be left in the patients room as the bacteria of cholera was found in the excreta such as urine, feces, and vomit of the patient. Phenyl was to be used to clean the latrine pans.[60]

Under the patronage of the Delhi Social Service League, to carry on awareness in order to enhance the public health education on cholera, lectures were delivered with the help of the magic lantern slides. The slides were in the form of a story which depicted the causes and the effects of cholera. Five main remedies were mentioned in the lecture which people were recommended to follow. These remedies were reporting to the "thana" (police station) or the municipality of the outbreak of cholera so that they would take measures to prevent cholera at its outset. The wells were to be permangnated, food were to be protected from flies, only boiled water was to be consumed, and getting rid of flies by burning or burying all the "filth and refuse" in the villages.[61]

[59] File No. 6(62), 1944, Chief Commissioner's Record, Delhi, Local Self Government. Measures to Control the Spread of Cholera in the Delhi Province, DSA.
[60] 'Cholera in Delhi: Health Department's Advise', *Hindustan Times*, Friday, 19 April 1929.
[61] 'Delhi Social Service League: An Interesting Lantern Lectures', *Hindustan Times*, Thursday 8 August 1929.

On the recommendation of the Health Officer Dr. K.S. Sethna a medical sub-committee was formed in 1929 to look into the water supply of Delhi Province. The health of the city was adversely affected by the contaminated water supply and the poor sewage and the refuse disposal system which augmented the number of deaths due to cholera. The sub-committee suggested the provision of concrete beds to drain pipes and surface drains to avoid leakages. The water pipes were to be properly supervised and examined before giving water connection to a house. The night-soil was to be removed and disposed to far-off places as they were fruitful sources for fly breeding. The food supplies were to be protected and public were to be educated by lectures and by pamphlets on the "causes and precautions" to be undertaken during the cholera outbreak. Apart from educating the public by means of lectures and by pamphlets the other recommendations of the medical sub-committee could not be implemented due to the "deficiency" of funds.[62]

Since cholera was primarily caused by contamination of water, the water supplies in all the rural schools were from the village wells which were mostly uncovered. The earthen "gharas" (earthenware) were used to store water which was seldom covered; thus the water remained "exposed to infection with dirt". The sub-assistant surgeon who inspected the rural schools twice in a year and the assistant surgeon who inspected once a year had frequently brought the issue of the uncovered gharas to the notice of the teachers urging them to cover the gharas.[63] Tap water was supplied to the schools in the urban area and the water was also stored in the gharas. In some of the primary schools which were overcrowded and in insanitary condition it was noticed by the sub-assistant surgeon that dirty utensils were used by the students to draw out water from the gharas. The protected water supply arrangement in both the urban and the rural schools were not safe except in the middle school Timarpore, Civil Lines where the Headmaster had introduced siphon taps for the gharas and had also provided the students with special gauze in which the glasses were kept for drinking water.[64]

[62] File No. 6(5), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province for the year 1929-30, DSA.
[63] *Ibid.*
[64] *Ibid.*

PEOPLE'S REACTION

In order to understand how the people of Delhi Province reacted to the outbreak of cholera and the precautionary measures undertaken by the Government letters written to the editor of the *Hindustan Times* forms an important historical source. With the outbreak of cholera in Delhi one of the steps taken by the health department was to bring out notices with practical suggestions for the general information of the public to arrest the impact of the disease.[65] These notices were read by some of the citizens of Delhi who wrote to the editor of the *Hindustan Times.* In one of the letters written to the editor by Ellahi Bux, a resident of "Qarol Bagh" (Karol Bagh) wrote that he read with interest articles in the papers from time to time in which the health department of the municipality offered advise to the public regarding the precautions to be undertaken during cholera. But curiously enough, the health department took no active steps to remedy the drainage and the sanitation situations in Delhi which according to him were the "root causes" of the trouble. He gave the example of Karol Bagh which was under the control of the municipality where there was neither proper arrangement for water supply nor drainage system. The waste water from the whole area stagnated and provided a thriving ground for the mosquitoes to breed. The bulk of the population of Karol Bagh were labourers, who were generally not provided with latrines in the houses occupied by them. The municipality had failed to provide public latrines and the result was that these "poor people" had recourse to the primitive method of easing themselves in the open which presented "an unsightly spectacle". He concluded the letter with a request to the Secretary of the municipal committee "to visit the place to see things for himself and if he thinks some improvement is called steps may be taken".[66] This letter reflected two things. First certain sections of the population were aware that cholera was a water-borne disease which was a result of the defective drainage and the insanitary environment. Second was the insensitive outlook of the State towards the residents of the Karol Bagh area, majority of who were labourers by occupation. They lacked basic facility of a latrine to relieve themselves and the Secretary of the municipal committee never or very rarely visited the area.

Another letter that also reflected the apathy of the State was written by "A Citizen". In the letter, the person wrote that he was a resident of Delhi, the capital of the "Indian Empire". He

[65] File No. 6(5), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province for the year 1929-30, DSA.
[66] 'Cholera in Delhi', *Hindustan Times*, 13 September 1929.

was not affluent enough to possess an abode in the Civil Lines or in Chandni Chowk but had the misfortune of residing in a slum; therefore, he endured personal testimony to the insanitary conditions of his environment. The municipal drain which was used as a latrine had an unpleasant odour, it overflowed on the road and lined with little heaps of garbage which nobody cared to remove. As a result, the residents were forced to inhale the nauseating stench. The health officers who frequently visited the Civil Lines and Chandni Chowk neglected those areas which were not inhabited by the influential people of the city. The sweepers employed in these "neglected areas" were routinely taken away to do "begar" (compulsory labour) as a result filth accumulated in these areas which led to the outbreak of diseases like cholera.[67]

Mohanlal Nirmaldas who was a Superintendent of Agents at National Indian Life Insurance Corporation Limited wrote to the editor on 3 December 1925 that he rented a flat at the Burn Bastion Road near the Brooke Bond's Agency on 29 November 1925. After he shifted, he found that the back street was in "most unhealthy condition". Pile of garbage accumulated on the street. On 1 December 1925 a neighbourhood drain gutted which resulted in the overflowing of dirty water and it formed a regular pool in front of the doorsteps of the whole building. Due to this Mr. Mohanlal spoiled his three suits and "not to speak of the cold bath my shoes and feet had to undergo perforce". He learnt from his landlord that besides paying his rent he also paid house tax which was half anna and water tax at the rate of Rs. 2 per month. All these taxes augmented the revenue of the municipality and yet the municipality did not provide street light and used the old dim oil lamp to light the back street which was a "sure sign to the thieves who took full advantage of the situation". He concluded the letter by expressing his disillusionment with Delhi for when he left for Delhi, he had imagined "a first class city as becomes the metropolis of the Empire" but it was "imperial only in tax imposing".[68]

Addressing the problem of the Delhi slaughter house, Mohit Lal Bose wrote to the editor that there was no underground drain for the disposal of the blood of the animals brought for slaughter at the local slaughter houses near Sadar Bazar. The blood was thrown on the adjacent street "and left to decompose there polluting the surrounding atmosphere". Moreover, it became a breeding ground for the flies for which "Delhi was notorious". He requested the Director of

[67] 'Sanitary Conditions in Delhi', *Hindustan Times*, 2 March 1929. The person does not mention the area in which he resides in Delhi.
[68] 'Delhi Sanitation: As Others See Us', *Hindustan Times*, Thursday 3 December 1925.

Public Health, Delhi to "kindly pay a visit to the locality, to look at the insanitary condition of the vicinity of the slaughter house and to take prompt action to get rid of the nuisance which is a menace to the public health".[69]

In yet another letter written to the editor by Dr. Kuntal Kumar highlighted the plight of a parade ground near Esplanade Road. The parade ground instead of serving as a recreational space for the residents was frequently used as an open public latrine and a "common repository of all sorts of rubbish and refuse". The human and the animal excreta laid "carelessly uncovered for the public gaze". The sweepers did not clean the ground, as a result, the "poor people" who resided near the ground suffered from cholera, typhoid, and pneumonia due to the infected water supply as well as fruits and vegetables. He concluded the letter by stating that "I do not know why money is spent on the sanitary department if no sanitation is observed and no fruits of healthy life are enjoyed".[70]

In all the letters mentioned above complains were similar in nature. The complainants resided in areas which were insanitary in condition. The municipal drains, parade ground, and the other abandoned spaces were used as latrines which emanated foul smell. Several days wastes amassed on the streets uncovered, which provided a thriving ground for the flies to breed and multiply in numbers. This led to the outbreak of serious epidemics like cholera. The health officers rarely visited these localities. On the other hand areas like Civil Lines and Chandni Chowk which were inhabited by the rich Europeans and the influential Indian were in salubrious condition. The sweepers cleaned the streets and the drains. The health officers frequently visited these areas. Thus, there was "preferential and unequal treatment of different areas within the city".[71]

THE IMPLEMENTATION OF THE EPIDEMIC DISEASE ACT, 1897

The Epidemic Disease Act 1897 was an important Act which was implemented in Delhi Province during the cholera outbreaks. It was passed in the aftermath of the bubonic plague in Bombay in 1896. The aim of the Act was to effectively restrain the outbreak of the epidemic

[69] 'Delhi Slaughter House', *Hindustan Times*, Friday 21 November 1930.
[70] 'Unclean Delhi: Look at the Parade Ground', *Hindustan Times*, Saturday 12 November 1932.
[71] Jyoti Hosagrahar, *Indigenous Modernities: Negotiating Architecture and Urbanism*, New York: Routledge, 2005, p. 102.

diseases in any part of India. This Act was to be only applied when the "ordinary provisions" of the "existing laws" were insufficient to prevent the spread of the disease. The "object and regulation" of the Act was to give the local officers power to deal promptly with any serious outbreak that occurred. In case of Delhi the Chief Commissioner in exercise of the powers conferred by the Section 2 of the Act empowered the Deputy Commissioner on the advise of the Chief Health Officer to prohibit the import or export of the contaminated products. The Act further gave arbitrary powers to the official to close down the production of the commodities which were found to be unsuitable for human consumption. For this purpose the officials could enter into and inspect any "building, shop, stall or place" which was used for the "sell or free distribution of any article of food or drink" and to "seize, remove, destroy or cause to be disposed of, in any manner he thinks fit so as to prevent its being used by human beings". The cremation and the burial of the human bodies and the dead animals were also examined and in many cases, the State decided the places for burial. Measures were also taken for the establishment of the isolation camps, hospitals, and the medical inspection post.[72]

In 1931, there were 61 deaths due to cholera in New Delhi. As the ordinary provisions of the law were not sufficient to prevent the spread of cholera the Chief Commissioner on the request of Major R.S. Asponall, the Assistant Director of Public Health, imposed Section 2 of the Epidemic Disease Act, 1897, which empowered the Deputy Commissioner of Delhi to prohibit the sale of ice-cream, dahi bara and dahi (yogurt), sweetmeats, fish, fruit, vegetables, chholey (spicy boiled grams), milk, chaat (preparation of fruit, etc.,) and sweet biscuits into the New Delhi Municipality from Paharganj by the hawkers.[73]

In 1932, effort was made to limit the passes to the hawkers who frequently came to Delhi Province. These hawkers sold varieties of food and drink and only for a limited number of commodities were they required to take out a license. For example, no license was required for selling of ice-creams and boiled potatoes. These products were generally prepared under unhygienic conditions and hence the hawkers selling these eatables were a menace for the health of the public. The control over these hawkers was not very strict and efficient because section 197 of the Punjab Municipal Act 1911 was in operation in Delhi. This Act gave the municipality

[72] File No. 5(56), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Bringing into force the Epidemic Disease Act, 1897 to prevent the spread of cholera in Delhi, DSA.
[73] *Ibid*.

the power to prevent the production or sale of any item of food or drink in any place not licensed by the municipal committee. The limitation of this Act was that the municipality had no right to punish any person who continued to produce or sale the prohibited commodities unless the concerned person received from the municipality six months notice in writing to discontinue the production of that commodity.[74] As these hawkers had no fixed place to sell their commodities so it was very difficult for the municipality to send them notices and moreover the hawkers were uneducated.

It was also in exercise of the powers conferred by the Section 2 of the Epidemic Disease Act that in the Biennial Urs of Hazrat Nizamuddin which was held on 16, 17, and 18 July 1938 the police prohibited the entry of unauthorized food vendors, water carriers and purveyors of drinks to the mela ground during the period of the festival. In a letter to the Deputy Commissioner, Delhi dated 6 June 1938 the Gurudwara Parbandak Committee, Sis Ganj, appreciated the duty of the police who prohibited the unauthorized food vendors, water carriers and purveyors of drinks from entering the enclosure of the Gurudwara Dam-dama Sahib during the period of the festival.[75]

One special feature of this Act was that no financial compensation was provided to the petty businessmen for the loss they incurred during the period when this Act was in force. In July 1944, few cases of cholera were reported from Delhi City. The Medical Officer of Health, Delhi City notified this fact to the public through leaflet. After his visit to Delhi City, it was found that a water hand pump, from which most of the affected people took water, was the source of infection. The water hand pump was closed down. 21 cases were removed to the Infectious Disease Hospital from a cooly camp at Raisina Road in New Delhi on 30 July 1944. The camp was provided with filtered water but it was found that the coolies had dug wells between their huts and used the water for drinking purpose. The wells were closed down and the camp was removed to a site near Purana Qila. In total, there were 237 cases of cholera outbreak in the Delhi Province out of which 105 people died. The worst affected area was Delhi City with 181 cases out of which 95 deaths occurred followed by New Delhi with 35 cases out of which 8 deaths

[74] File No. 6(1), 1933, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province, DSA.
[75] File No. 148/1929, Department of Deputy Commissioner. Measures to be adopted at the outbreak of dangerous epidemic Disease Cholera, DSA.

occurred. The Epidemic Disease Act was implemented and under it the sale of watermelon, guava, pear was prohibited as these fruits caused diarrhea. A petition was submitted to the Chief Commissioner's Office by Jiwan Singh and the other residents of Sabzimandi through their lawyer H. Abdul Aziz Vakil. The petitioners stated that on 13 July 1944, the Chief Commissioner empowered the Deputy Commissioner under the Section 2 of the Epidemic Disease Act to prohibit the sale of "Kharbooza (melon), khira (cucumber), kakri (cucumber), watermelon, amrud (guavas) and nashpati (pear)" which were not only sold within Delhi but were also exported outside Delhi. The petitioners were "thekadars" (tenants) who had paid their rents to the owners of the garden. As a result, of the implementation of this Act they suffered a financial loss of Rs. 1,19,550 which they wanted to be reimbursed. Their petition was turned down by the Chief Commissioner on the ground that the petitioners could not claim compensation on account of any order passed by the Deputy Commissioner while discharging their duties under the Act.[76] Therefore, the officers under this Act enjoyed financial impunity.

This Act which was frequently implemented during the outbreak of cholera was not implemented during the occurrence of any other epidemic diseases such as plague in Delhi Province. The reason being that cases of cholera were reported almost every year with the major ones having occurred in the years 1929, 1935, 1938, and 1944 unlike the plague where only in 1922- 23 there was a serious outbreak of plague and after 1929 there was no outbreak of plague reported in Delhi Province. Plague first broke out in sporadic form in the Province in the middle of December 1922. The first case was reported on 14 December 1922. Shahdara a village about 4 miles east of Delhi and a halting depot for grain was infected with plague. The first case was imported from "Cawnpore" (Kanpur) and the few cases that occurred in the Province in December were amongst the grain traders who frequently travelled to Kanpur and vice versa. The disease was mainly located in the Khari Baoli area wherein the big grain godowns (storehouses) of the Province were situated. Of the 67 plague cases which were reported till February 1923 in the Province, 22 cases occurred in Khari Baoli area and 19 cases in Sadar Bazar area. The disease took a severe epidemic form from the first week of March in 1923 and spread in the several wards of the Province. By 14 April 1923, 889 people died due to plague. As plague is caused by rats, therefore, intensive rat trappings and destructions were carried out in

[76] File No. 6(62), 1944, Chief Commissioner's Record, Delhi, Local Self Government. Measures to Control the Spread of Cholera in the Delhi Province, DSA.

Delhi. Usually, the rat destruction work was carried throughout the year by a permanent rat destruction gang which consisted of 3 "jamadars" (sweeper) and 16 coolies. On 22 December 1922, an extra gang of 3 jamadars and 20 coolies were employed at the grain godown areas. The numbers of the rats trapped and destroyed (between 1 January to 31 March 1923) were 62,432 against 14,188 in the corresponding quarter of the preceding year. Thus, an excess of 48,244 rats was destroyed.[77]

"**PREDILECTION FOR THE POOR AND THE UNDERNOURISHED**"

In 1935, there was a sharp outbreak of cholera. 311 cases were reported all over Delhi out of which 181 people died. The worst hit area was the New Delhi Municipality with 253 cases of which 144 died. In fact after tuberculosis which killed 1,028 people in 1935, cholera within a span of one month i.e., July 1935 was the major cause of death among the people in the Province.[78] A dispute regarding where the epidemic had actually begun arose between the health authorities of Delhi City and New Delhi in 1935. The health authorities of New Delhi stated that long before cholera broke out in New Delhi, Delhi City was already infected. The justification given by the health authorities of Delhi City that cholera started in New Delhi as a result of the leakage of the sewage water into unfiltered water used by the coolies was incorrect. The health authorities of Delhi City, on the other hand, maintained that cholera first broke out in New Delhi and the contamination of the unfiltered water with the sewage water resulted in seven deaths in a coolie camp within 3 hours. The unfiltered water supply was cut off only after forty people had succumbed to cholera.[79] Forty-seven cases with twenty-three deaths were reported within a short span of time from 25 June to 6 July 1935. The archival details of some of these forty-seven cases will establish the fact that people who were diagnosed with cholera belonged to the lower socio-economic strata of the society.[80] In the words of David Arnold cholera had a "predilection for the

[77] File No. 6(7)/1923, Part B, Chief Commissioner's Record, Delhi, Department of Education. Preventive Plague Measures in the Delhi Province, Volume II, DSA.
[78] File No 6(1), 1936, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province, DSA.
[79] 'Cholera Shows no Sign of Abatement', *Hindustan Times*, Thursday 18 July 1935.
[80]File No. 6(37), 1935, Part B, Chief Commissioner's Record, Delhi, Department of Education. Measures to Prevent the Outbreak and Spread of Cholera in Delhi, DSA.
Out of the 47 persons affected with cholera, 21 were labourers by profession, 5 were mali, 4 were servants, 2 were cook, 2 were carpenter, 2 were peon, 1 was chowkidar, 1 was dhobi and 9 were children out of which 8 were children of the labourers. Predominantly men were affected. Their number being 38. Majority of the cases occurred between the age groups of 10 to 29.

poor and undernourished"[81]. To cite few examples, a "mali" (gardener) residing at 13 Barakhamba Road succumbed to cholera on 25 June 1935. He took food from Paharganj market. On 27 June a cook attached to the construction work in the civil aerodrome area near Safdarjung died. He took his food supplies from Paharganj and ate ice-cream from a hawker on 26 June. On 28 June three cases occurred. The first case occurred in peon quarters, "Panchquin" Road (Panchkuian Road). The person involved was the guest of the peon. The peon drank unfiltered water on 27 and used the same water for bathing and washing his clothes. The second case was that of a "chowkidar" (watchman) in Panchkuian road. He also obtained his food supplies from Paharganj. The third person was a bearer in "Fereozsah" Road (Feroz Shah Road) he took sweets and "sharbats" (sweet fruit drinks) in Pharganj on 27 and 28 June.[82]

On 29 June four cases occurred. Of these only one case was that of a child of a well-to-do family in Queen Mary's Avenue (Pandit Pant Marg), suffering from acute diarrhea and vomiting. The case turned out to be that of cholera. This child went to the bazaar with a servant who was also attacked at the same time. The servant ran away from the house, but he was traced at the menial's quarters in Talkatora Club on 30 June. The servant drank unfiltered water on 28 June. The child also drank unfiltered water while out with the servant. The third case occurred in Feroz Shah Road and a male child aged 6 years died. The child drank unfiltered water. The fourth case was of a mali who also resided at Feroz Shah Road and drank unfiltered water.[83]

On 30 June, two cases occurred. One case occurred at Prithviraj Road and the other in the cooly camp attached to the construction work in the agricultural institute at Pusa road. The one at Pusa institute was a labourer who drank unfiltered water. The other case at Prithviraj Road was that of a kitchen servant who bathed and washed his clothes in the unfiltered water supply.[84]

On 1 July, two cases occurred. The first case was that of a chowkidar at Talkatora Road who drank and used unfiltered water for domestic purposes. The second case occurred at the cooly camp and the person took his food from a hawker. On 2 July twelve cases of cholera occurred. Of these eight were labourers who drank unfiltered water. Regarding the rest of the

[81] Arnold, *Colonising the Body: State Medicine and Epidemic Disease in Nineteenth Century India,* p. 166.
[82]File No. 6(37), 1935, Part B, Chief Commissioner's Record, Delhi, Department of Education. Measures to Prevent the Outbreak and Spread of Cholera in Delhi, DSA.
[83] *Ibid.*
[84] *Ibid.*

four cases, one was a mali who worked at Safdarjunj, the other was a carpenter, the third was a chowkidar, and the fourth was a female child of two years. All these people got their food supplies from Paharganj and drank unfiltered water.[85]

Thus, from the details of the above cases, it is clear that the majority of the cholera-stricken people were from deprived background. They were either labourer who had peripatetic existence or worked as servants, mali or chowkidars in affluent neighbourhoods. These people lacked access to safe drinking water and hygienically prepared food. They used unfiltered water for drinking, bathing, and washing to a very great extent which the authorities attributed to the "superstition" of the "poorer people", who believed that unfiltered water coming directly from the "holy Jumna" (Yamuna) was sweeter and scared.[86] The old quarries and the low-lying lands on the outskirts of Pharaganj were used for the dumping of the city refuse and were also used as latrines on account of the privacy and seclusion it offered.[87] Therefore, the poor sanitary condition under which the articles of food and drink were sold in Paharganj market was a real menace to the health of the public. The lower middle classes and the poor people heavily patronized the Paharganj market. Except a single child of a well-to-do family who contracted cholera from the servant employed in the house, not a single person, men, women, or child of that class was attacked.

With the outbreak of cholera in 1935 pumping of unfiltered water from the Yamuna River was stopped. Perchlorone and un-slaked lime (calcium hydroxide) were used to disinfect the river water. The pits which contained unfiltered water in all the construction works were treated with perchlorone. As the labourers were illiterate they were notified by the beating of the drums about the dangers of drinking unfiltered water. This was done twice. The anti-cholera inoculations were provided free of cost at Willingdon Hospital and a ban on the sale of cut fruits was imposed. Notifications were also issued in the press about the dangers of cholera, how to prevent it, and what to do during the outbreak.[88] Major A.C. Chatterjee, I.M.S, the Assistant Director of Public Health, Delhi Province, issued a bulletin regarding the prevention of acute diarrhea and cholera. In the bulletin, he stated that the Health Officers of New Delhi and Delhi

[85] *Ibid.*
[86] 'Cholera Shows no Sign of Abatement', *Hindustan Times*, Thursday 18 July 1935.
[87] 'Dumping of the City Refuse: An Explanation', *Hindustan Times*, Friday 16 August 1929.
[88] 'Cholera Shows no Sign of Abatement', *Hindustan Times*, Thursday 18 July 1935.
Willingdon Hospital was renamed Dr. Ram Manohar Lohia Hospital after Independence.

City were to be notified when a case of cholera occurred in a house. The staff of the health department would remove the patients to the isolation hospital. The bulletin, also had detailed provisions for people who took care of cholera patients. Some of these provisions were that a person who looked after a patient must scrupulously wash their hands with carbolic lotion which consisted of 1part of carbolic to 20 parts of water. Also, the person should use "essential oil mixture" of Spirit Ether, Cajuput Oil, Juniper Oil, Carophyil Oil, and Menthae Pipera Oil for 10 days. All clothing used by the patients was to be soaked in phenyl lotion for 2 hours before it was given to the dhobi (washer man). The clothing and the bedding that was heavily soiled was to be destroyed by burning.[89]

THE PILGRIM RAVAGES

The festivals which attracted numerous people from the various parts of the country and the movement of the pilgrims played a great part in spreading this devastating disease.[90] The mass ablution performed by the Hindu pilgrims in the sacrosanct rivers and the practice of sipping water which was considered pious and revered by the Hindus (even till date) furnished ideal conditions for the transmission of cholera which was further enhanced by the devotees bringing back contaminated water "for relatives and friends to drink. This was particularly ironic, given that water from the Ganges was thought of as especially pure and holy, having special medicinal and protective powers." [91] Leonard Rogers, in the course of a lecture in England in April 1927 on forecasting and control of cholera epidemics in India stated that one of the important factors in the spread of cholera which he stated could be controlled was the movement of "20 million pilgrims yearly in India." He suggested that the local government should watch the "cholera position, the rainfall, and absolute humidity" from day to day by means of charts which were to be kept in the offices of the Directors of Public Health. As soon as it became evident on account of the climatic condition that attendance at any pilgrimage or fair was likely to spread cholera the government should issue proclamations forbidding any pilgrims to leave their districts for the fairs until they had been inoculated. The certificates with thumb impressions were to be given to all the inoculated pilgrims.[92] His suggestion was not implemented in 1927 due to the volatile

[89] 'Prevention of Cholera: Major Chatterji's Bulletin', *Hindustan Times*, Tuesday 2 July 1935.
[90] Report of the Health Survey and Development Committee. Volume I.
[91] Arnold, *Colonising the Body: State Medicine and Epidemic Disease in Nineteenth Century India,* p. 184.
[92] 'Fight Against Cholera: Success of Mass Inoculation', *Hindustan Times*, Thursday 28 April 1927.

political atmosphere in Delhi. In 1936 Government of Bombay introduced compulsory inoculation of the pilgrims who attended Pandharpur festival. In fact Bombay was one of the few provinces unaffected by 1938 cholera outbreak.[93] It was only in 1945 that anti-cholera inoculation was made mandatory for the pilgrims who made religious trips to the Haridwar Kumbh Mela.[94] The outbreak of cholera epidemic in Swat State, North Western Frontier in 1937 was due to the contamination of "nullah" (drain) water in Mingora town. A number of Hindu sadhus (sage) visited Swat at the end of May 1937. Their objective was to reach Ilm, a mountain 9,000 feet high near Mingora town which was one of the places Lord Ram visited during his long fourteen years exile. It was a place of pilgrimage for the sadhus. The sadhu bathed in a stream above the Mingora town which led to contamination of nullah water.[95]

The "Hardwar" (Haridwar) Fair in April 1938 was responsible for a serious outbreak of cholera in India. Many provinces of India like the United Province (Uttar Pradesh), Central Province, Punjab, Orissa (Odisha), Madras, Delhi, and Bihar were in the grip of cholera epidemic which the returning pilgrims distributed to their provinces. As Haridwar was located in the United Provinces, it was the worst affected Province where weekly death rates were in thousand.[96] A press note issued by the Chief Health Officer of Delhi Province stated that "the few cases of cholera that have been reported in Delhi Province have all been imported from Hardwar or else have been in direct contact with cases from Hardwar".[97] The spread of the disease was facilitated by the fact that the epidemic occurred in Delhi during the marriage months of April and May, with its many parties travelling between villages. This situation made the control of the disease difficult. In total 318 cases of cholera outbreak with 182 deaths were reported from the Province. The worst affected areas were Delhi City with 139 cases and 89 deaths and the rural area with 148 cases and 67 deaths. The Section 2 of the Epidemic Disease Act, 1897 was implemented which prevented the import of large quantities of milk from the neighbouring villages of Punjab and the United Province to Delhi.[98] In fact the notices brought out by the Chief Health Officer of the Delhi Province warned against the danger of drinking

[93] File No. 6(82), 1940, Chief Commissioner's Record, Delhi, Department of Local Self Government. Compulsory Inoculation against Cholera of Pilgrims Entering Delhi, DSA.
[94] Arnold, *Colonising the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, p. 198.
[95] 'A cholera Epidemic in Swat State, N.W.F, 1937', *Indian Medical Gazette*, October 1938.
[96] 'A Cholera Scourge', *Times of India*, 23 June 1938.
[97] 'Beware of Cholera in Delhi Province', *Hindustan Times*, Tuesday 3 May 1938.
[98] File No. 6(1), 1940, Chief Commissioner's Record, Delhi, Department of Local Self Government. Annual Public Health Report of Delhi Province, DSA.

unboiled milk from "doubtful sources". The notice stated that unless the milk was bought from a reputable firm and was adequately pasteurized and delivered in hermetically sealed bottles it should not be consumed.[99]

Along with the Hindu pilgrimage sites, the European States "viewed pilgrimage to Hedjaz as the most important mode of disseminating cholera"[100] and the pilgrims from the Indian Subcontinent, were in particular, viewed as the transmitter of the disease. This was essentially because the "Ganges delta was the natural home of cholera and the Indian pilgrims owing to their almost professional filthiness acted as exceptional dangerous vectors of transmission".[101]It was through this route that the "disease travelled to Europe" and fashioned the "pilgrims into a dangerous class requiring special measures for their regulation and surveillance".[102] In the year 1926 a protocol was signed between the Government of Great Britain, Northern Ireland, and India on one side and the Government of Netherland on the other side. The protocol was related to the administration of the Kamaran Quarantine Station and the treatment of the pilgrims who travelled to Hedjaz. Its provisions "were calculated to secure for the pilgrims all the amenities of safe and healthy travel". Some of the provisions of the protocol were that in case of an outbreak of an epidemic such as cholera, plague or yellow fever in the port of departure of a pilgrim ship, embarkation would not take place unless the government of the country to which the port belonged had taken measures of "immunization, segregation or observation" which intended to ensure that none of the pilgrims embarked were to be attacked by one of these diseases. There was to be no contact between the pilgrims who disembarked and those who embarked at the sanitary stations. The disembarked pilgrims were to be distributed in small groups. The pilgrims were to be supplied with wholesome drinking water either from the local sources or by distillation. Latrines fitted with a flushing apparatus or with a tap water were to be provided on the ship. Some of the latrines were to be reserved exclusively for women. Every pilgrim ships were to carry medical remedies, disinfectants, and appliances as were necessary for the treatment of the sick. It should also carry anti-cholera, anti-smallpox vaccines, and other "specific immunizing agents". A properly qualified medical officer was to be on every pilgrim ship and

[99] 'Beware of Cholera in Delhi Province', *Hindustan Times*, Tuesday 3 May 1938.
[100] Polu, *Infectious Disease in India 1892-1940: Policy-Making and the Perception of Risks*, p. 32.
[101] Saurabh Mishra, 'Beyond the Bounds of Time? The Haj Pilgrimage from the Indian Subcontinent, 1865-1920' in *The Social History of Health and Medicine in Colonial India*, (eds.) Mark Harrison and Biswamoy Pati, New York: Routledge, 2009,p.32.
[102] Arnold, *Cholera and Colonialism in British India*, p. 141.

when the number of the pilgrims exceeded 1000 the ship was to have a second medical officer. These medical officers were to attend all the "details of health and hygiene". The ships that were bound for Hedjaz were to put up at the Kamaran quarantine station. The ships that were found "healthy" on medical inspection were given free pratique. In case of infected ships i.e., those which had on board cases of plague within 7 days or of cholera within 5 days of the date of the arrival the following procedures were prescribed. Persons suffering were disembarked and isolated in a hospital. The other passengers were also disembarked and isolated in small groups, in order that if cholera or plague broke out in one group the whole party would not be affected by the outbreak. The passengers remained there for 5 or 7 days in case of cholera and plague respectively. In the event of a fresh case the period was extended by a similar term. A ship found infected on return journey from Hedjaz was similarly treated.[103]

The provisions of the protocol were not followed as in 1931, Dr Mir Hidayat Ullah, former Vice-President of the Amritsar Medical School who returned from the Hajj pilgrimage stated that there was overcrowding in the ship. There was not enough breathing space and also there was no place for walking and exercise except the boat deck, which was accessible to only very few passengers. The ventilation arrangements were unsatisfactory, while the heat on the second and the third deck was unendurable. Good food was not provided to the pilgrims. The doctor also complained that the staff of the ship did not allow the passengers to keep their fruits in the refrigerators and even a first class passenger was not given "iced fruits" on payment.[104]

On 11 September 1928 a Hajj Inquiry Committee was appointed by the Legislative Assembly to inquire into the entire questions of the facilities for the pilgrims proceeding to Hedjaz from Calcutta, Bombay, and Karachi and to make recommendations. H.B. Clayton, C.I.E., I.C.S., was the Chairman of the Committee. The other members of the Committee were Haji Abdullah Haji Kasim, M.L.A., Haji Abdullah Haroon, M.L.A., Ebrahim Haroon Jaffer, M.L.A., Fazal Ibrahim Rahimoola, M.L.A., Hasanally P. Ebrahim, M.L.A., Chowdhuri Mohammad Ismail Khan, M.L.A., Mohammad Shafee Daoodi, M.L.A., Syed Murtuza, M.L.A., Sayyad Rajan Baksh, M.L.A., The Committee assembled in Delhi on 2 April 1929 and framed a questionnaire. From 5 June to 22 August members of the Committee were continuously on tour

[103] 'Treatment of Pilgrims to Hedjaz, Need for Safe and Healthy Travel. Recent Protocol, Kamaran Quarantine Administration', *Hindustan Times*, Thursday 19 February 1931.
[104] 'Doctors Hajj Experiences', *Hindustan Times*, 26 May 1932.

and visited Bombay, Calcutta, Karachi, Lahore, Lucknow, and Patna. Oral evidences were recorded at all these centres. A sub-committee also visited Quetta. Special inspectors were appointed to check the facilities provided for the pilgrims at Bombay, Calcutta, and Karachi. Two sub-committees travelled as deck passengers on the pilgrim ships from Bombay to Karachi in order to gather first hand information of the conditions under which the pilgrims ordinarily travelled. It submitted its report to the Government of India on 30 January 1930.[105]

The Hajj Inquiry Committee revealed that the British Consul at Jeddah was responsible for the welfare of the pilgrims not only from India but also from Malay States and other British possessions. The British Consul's activities were, to some extent, curtailed by the restrictions placed upon the Non-Muslims in Hedjaz. A Non-Muslim could not visit Mecca and Medina, or indeed travel more than a few miles beyond the city of Jeddah. After passing through the quarantine station at Kamaran the pilgrims arrived at Jeddah. The sanitary conditions and the public medical services provided by the Governments of Jeddah and Mecca towns were abysmal. Conservancy was practically an unknown art, and it was "recognised as a sentence of death" to be sent into the Hedjaz Government's hospital at Jeddah. The private medical practitioners of Jeddah, Mecca, and Medina were not well qualified. For this reason the Government of India had provided on a limited scale medical assistance at Hedjaz for the benefit of its pilgrims. One qualified doctor was permanently attached to the Consulate at Jeddah and proceeded to Mecca as the pilgrims gathered there. Arrangements were also made for a permanent renting of a house at Mecca for the doctor. The doctor was assisted by a second medical officer recruited for the pilgrim season only. A dispensary was established at Jeddah with a sub-assistant surgeon and the medical officer of the consulate in charge.[106]

The Hajj Inquiry Committee made numerous recommendations to improve the medical facilities at Jeddah, Mecca, and Medina. Some of the recommendations were that there should be two medical dispensaries at Mecca, located in suitable buildings permanently hired or bought in principal streets, one at each side of the Kaaba. Each dispensary was to be staffed by one assistant surgeon, one sub-assistant surgeon, and one compounder. An Indian doctor was to be made available in Medina with a compounder and a permanent building. Permanent building was

[105] File No. 27, 1930, Part B, Chief Commissioner's Record, Delhi, Department of Education. Activities and Report of the Hajj Inquiry Committee, DSA.
[106] *Ibid.*

necessary in all the cases, as otherwise it was difficult for the pilgrims, even if they had to make inquiries, to avail themselves of the doctors services. The private practices by these medical officers were to be strictly forbidden during the Hajj season. The Committee recommended that the medical staffs should be increased to 2 assistant surgeons, 4 sub-assistant surgeons, and 4 compounders.[107]

Of all the recommendations made by the Hajj Inquiry Committee (some of which are mentioned above) the only recommendation implemented by the State was the introduction of compulsory immunization against cholera and small pox of the pilgrims who proceeded to Hedjaz from India.[108] This was more due to the Iraq Government's insistence that pilgrim passes were to be given to only those pilgrims who could produce certificates of inoculation and vaccination from the government medical officers. These certificates were called Certificates of Medical Inspection which certified that a pilgrim was not suffering from any infectious or contagious disease.[109] In September 1930, two cases of cholera were reported from Bombay, the Iraq health authorities ordered that only those passengers and crew of the vessels should be allowed to enter Basrah who could produce certificates of anti-cholera inoculation with an interval of at least five days between the doses and not more than three months from the date of arrival at Iraq. Even those who travelled by air to Iraq were allowed to deplane only after they had produced inoculation certificate.[110] The Hajj Inquiry Committee recommended that a pilgrim should be vaccinated against smallpox within three years prior to their embarkation and inoculated against cholera within one month or three months prior to the embarkation.[111] Initially the arrangements for inoculation and vaccination were made at the ports of Bombay, Calcutta, and Karachi. The Committee recommended that a pilgrim should be vaccinated against smallpox near their village and the arrangements for inoculating them against cholera should be made when they applied for their pilgrim pass. No charges were to be made from the pilgrim for inoculation. In Delhi, the Chief Medical Officer vaccinated against small-pox and inoculated against cholera for the pilgrims.[112] The other recommendations of the Committee were not

[107] *Ibid.*
[108] *Ibid.*
[109] File No. 90/1931, Deputy Commissioner's Record. Mecca Pilgrims Rules, Volume II, DSA.
[110] 'Precaution Against Cholera: Ban on Landing in Iraq', *Hindustan Times*, Friday 5 September 1930.
[111] File No. 90/1931, Deputy Commissioner's Record. Mecca Pilgrims Rules, Volume II, DSA.
[112] File No. 27, 1930 Part B, Chief Commissioner's Record, Delhi, Department of Education. Activities and Report of the Hajj Inquiry Committee, DSA.

implemented as it augmented the state expenditure and moreover Hajj in India was performed by the Indian Muslims and not by the British who practiced Christianity.

CONCLUSION

Cholera in Delhi Province was caused due to the contaminated water supply, unsatisfactory disposal of night soil, insanitary condition under which articles of food and drink were prepared and sold by the hawkers. The sewage farming at Kilokri was responsible for the 1929 outbreak. The sewage in Delhi was not treated before being used for cultivation. In spite of a Fatwa being issued against the sewage farming the Government did not stop the sewage cultivation for financial reasons. It was only after the 1929 outbreak that the vegetables and the fruits cultivated on the sewage farm was stopped. Along with these factors movement of the pilgrims also played an important role in the spread of cholera. More than the Hindu pilgrim sites like the Haridwar it was the performance of Hajj by the Muslims that alarmed the state. It was the shortest route through which cholera travelled to Europe. There was also international pressure which led to the signing of protocol and setting up of committee to ensure that no infected person performed Hajj. The letters written to the editor of the *Hindustan Times* reveal that certain sections of the population were aware that cholera was caused due to the poor drainage and the sanitary situation in Delhi. The sanitary condition of the Delhi City was abysmal. Only those areas which were inhabited by the rich Europeans and the influential Indians like the Civil Line and Chandni Chowk were under salubrious conditions. Inoculation was done selectively. The rate of inoculation was much higher in New Delhi compared to Delhi City or the rural areas of the Province. Unlike any other epidemic the victims of cholera mostly hailed from the lower socio-economic strata of the society as they resided under insalubrious environment. The Epidemic Disease Act 1897 which was frequently used during the cholera outbreak was draconian in nature as there was no provision in it to reimburse the financial losses incurred by the petty businessmen. The Act endangered the livelihood of the traders and the merchants as it gave power to the Deputy Commissioner or any other local officials to stop the export, import as well as the production of those products which were responsible for the outbreak of cholera.

CHAPTER 2

TUBERCULOSIS: AN INSTITUTIONAL HISTORY

Tuberculosis as an infectious bacterial disease was discovered by Robert Koch in 1882 when he identified tubercle bacillus, a bacterium that causes tuberculosis in 1882.[1] Prior to this discovery tuberculosis was viewed as a "complex, constitutional, and hereditary affliction".[2] In India the existence of tuberculosis was ascertained by the Europeans in the 1840s, but there was a widespread belief that the Indian masses "enjoyed a partial immunity" which was attributed more to the robust living especially of the "outdoor life, vegetarian diet, comparative absence of alcohol" in Indian foods rather than due to any inherent genetic attribute.[3] The notion that the disease was a result of the hereditary transmission was believed in India till the late nineteenth century. In the West, the immensity of the problem of this disease was first realized by the European and the Scandinavian countries in the mid-nineteenth century. These advanced countries effectively dealt with the disease by employing various measures such as health education, mass chest survey to discover the early cases of tuberculosis, medical care for all the cases with active tuberculosis and segregation at the sanatoriums, setting up of rehabilitation and after-care committees and also providing economic protection to the tuberculosis subjects and their dependents by providing monetary help.[4]

In India, some of the major causes of tuberculosis are malnutrition and under nutrition, unhygienic housing and environmental conditions, and certain occupations, particularly those associated with the inhalation of dust containing fine particles of silica.[5] All these factors were equally responsible for the causes of tuberculosis in Delhi Province but from the 1920s and the

[1] 'Problem of Tuberculosis Control and B.C.G. Vaccination', *Indian Medical Gazette*: *A Monthly Journal of Medicine, Surgery, Public Health, and General Medical Intelligence Indian and European*, Calcutta Thacker's Press and Directories, Ltd, May 1949. (Hereafter *Indian Medical Gazette*)
[2] Mark Harrison and Michael Worboys, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara Marks and Michael Worboys, London: Routledge, 1997,p.95.
[3] *Ibid*., p.110.
[4] 'Problem of Tuberculosis Control and B.C.G. Vaccination', *Indian Medical Gazette*, May 1949.
[5] Report of the Health Survey and Development Committee. Published By: The Manager of Publications, Delhi. Printed By: The Manager, Government of India Press, Calcutta 1946. The Chairman of the Committee was Joseph Bhore.

1930s tuberculosis was seen as a "class disease" by the medical authorities of Delhi. Its effects could be mitigated with the improvements in the general sanitation, personal hygiene, nutritive diet, and living in properly ventilated houses which the rich and the well-to-do people could afford unlike the poor and the underprivileged who were more susceptible to tuberculosis.[6] People succumbed to this disease "in the prime of working life, and during the marriageable ages deeply affecting the core social structures of family and labour".[7] In the year 1930, 835 people died due to tuberculosis in Delhi. 439 deaths or more than half of the phthisis deaths occurred between the ages of 21 and 30 years, 281 people died between 16 and 20 years of age and 225 people died between 31 and 40 years of age. Thus, the age groups between the years 21 to 30 were most vulnerable to tuberculosis. It is usually between these ages that one starts working and gets married. In comparison to men, a large number of women died due to tuberculosis. The death rate per mille for the males and the females in 1930 were 1.15 and 1.97, respectively. The larger percentage of deaths amongst the females were largely due to the prevalence of certain social customs like early marriage, and childbirth, "purdah" (veil) system and also due to the insanitary and the congested housing conditions.[8]

This chapter is divided into four sub-sections. The first sub-section will deal with overcrowding and congestion as one of the causes of tuberculosis. The second sub-section will look at the formation of the King George V Thanksgiving (Anti-Tuberculosis) Fund. The third

[6] 'Havoc Done by Tuberculosis in Delhi: Dr. K.S. Sethna Note on Tuberculosis in Delhi', *Hindustan Times*, Saturday 2 November 1935.
Dr. Muthu, a tuberculosis expert, was of the opinion that the main causes of tuberculosis in India were poverty, insanitation, overcrowding, and lack of nourishing food. He was particularly anxious about the consumption of polished rice as staple food in the Eastern, Southern and parts of the Northern India which he said was nothing more than starch with very little nourishing property and therefore it should be condemned by every household in India. The ideal diet according to him should include flour, milk and its product, eggs, fresh leafy vegetables, green salad and fruit with (or without) small quantity of meat which was not absolutely necessary if animal protein can be supplied by milk, egg, and cheese.
[7]Alison Bashford, *Imperial Hygiene: A Critical History of Colonialism, Nationalism and Public Health*, Basingstoke: Palgrave Macmillan, 2004,p.66.
[8] File No. 6(1), 1932, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province, Delhi State Archives (hereafter DSA)
Tuberculosis in the past was also called phthisis. It was argued by Dr. S.N. Malhotra, Chief Medical Officer of Jubbal State that the incidence of the disease was greater in those cities where purdah system was followed because it deprived women of sunshine and open air both of which were essential in the prevention and the treatment of tuberculosis.
According to the Bhore Committee, the effect of the purdah on the health of those who observed this custom was erroneous and based upon insufficient information of the practice of purdah. No scientific investigation was carried out anywhere in India to evaluate the effects of purdah alone on health generally and rate of incidence of tuberculosis particularly.

sub-section will deal with the establishment of the major tuberculosis clinics, hospitals, and the sanatoriums with special reference to the Ramakrishna Mission Free Tuberculosis Clinic, the Queen's Road Tuberculosis Clinic, and the Silver Jubilee Tuberculosis Hospital and Sanatorium (renamed as the Rajan Babu Institute of Pulmonary Medicine and Tuberculosis) and the fourth sub-section will trace the role played by Lady Linlithgow in combating the scourge of tuberculosis.

OVERCROWDING AND CONGESTION IN DELHI

The majority of the writers who wrote on tuberculosis in the twentieth century propounded the view that tuberculosis was due to congestion and overcrowding.[9] In 1934, Dr. K.S. Sethna prepared a note on the causes of tuberculosis in Delhi. In the note, he stated that one of the causes of tuberculosis in Delhi were increased congestion and overcrowding which was a result of the shifting of the Capital to Delhi in 1911 which attracted large influx of population.[10]The following table shows the increase in the population of Delhi for six decades from 1881 to 1931[11]

Year	**Population**	**Increase of the Period or Decade**	**Increase per cent on the previous census**
1881	1,73,393	18,976	12.30%
1891	1,92,579	19,186	11.05%
1901	2,08,575	15,996	8.32%
1911	2,32,837	24,262	11.65%
1921	2,46,987	14,150	6.05%
1931	3,47,592	1,00,605	40.70%

In 1881 the population of Delhi was 1,73,393. Over two decades later (1881-1901) it had not increased by one lakh. In the twenty years from 1911 to 1931, the increase exceeded

[9] Mark Harrison and Michael Worboys, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara Marks and Michael Worboys, London: Routledge, 1997, p.111.
[10] File No. 4(166), 1935, Part B, Chief Commissioner's Record, Delhi, Department of Education. Note on Tuberculosis by Health Officer, Municipal Committee, Delhi, DSA.
[11] Report on the Relif Congestion in Delhi, Volume I, Government of India Press, Simla, 1936, DSA.

1,14,000. The major reasons for the increase in the population in the decade from 1901 to 1911 were the convergence of the several railway systems which opened up fresh prospects of trade. The cotton and the flour mills were built which enhanced the employment opportunities of the people and led to the increased migration of the population from the neighbouring areas to Delhi.[12] The Delhi Cloth Mills employed 6,000 people. The Birla Cotton Mills, the Delhi Textile Manufacturing, and the Delhi Flour Mills provided housing accommodation on a limited scale for their employees.[13] The Birla Mills was the only industry in which an arrangement existed for the payment of the sickness relief. Half payment was granted in the first month, one-third in the second and the third month after which the payment ceased. This scheme was in operation since 1931 but as careful records of the effects of the scheme were not maintained the management was unable to state whether the absentee rate among the workers had risen since the introduction of the scheme. The sickness benefit was paid in the cases where the worker was absent for more than 9 days and the benefit continued for three months.[14]

The repercussion of this increased population was a shortage of the housing accommodations. In order to overcome the scarcity of housing accommodations buildings were erected haphazardly. Major Webb, the Assistant Director of Health was struck by the lack of control over the building activities especially in the narrow streets which he summed up in the following words "your city with its narrow streets, closely packed houses, generally overcrowded living rooms and lack of fresh air and sunlight, must be regarded as an ideal mode for the growth of tuberculosis. We are all aware that this disease thrives happily under such conditions".[15]

The municipal building bylaws were very defective as they did not ensure the provision of adequate light and air in the houses. The building bylaws permitted the construction of two-storeyed buildings in lanes 8 feet wide and three-storeyed buildings in lanes 15 feet wide which

[12] *Ibid*.
[13] File No. 6(1), 1935, Chief Commissioner's Record, Department of Education. Annual Public Health Report of the Delhi Province., DSA.
[14] File No. 6(1), 1940, Chief Commissioner's Record, Department of Local Self Government. Annual Public Health Report of the Delhi Province, DSA.
[15] File No. 6(23), 1928, Part B, Chief Commissioner's Record, Delhi, Department of Education. Increase for the Prevention and Treatment of Tuberculosis in Delhi, DSA.

augmented the congestion in the city and worsened the living conditions of the population.[16] The case of Sheikh Allah Bukhsh will demonstrate how building bylaws were violated not only by the public who started constructing their houses even before their building plans had been passed by the municipal committee (and in some cases even before the submission of such plans) but also by the members of the municipal committee who overlooked such important matter by accepting bribe. On 31 August 1929, Sheikh Allah Bukhsh filed an application before the municipal committee to make alteration in his second storey building at Garhiya. The building was constructed even before the permission was granted. Only the staircase in the second storey was not built. The building was located at a site where the roadway was 4 feet and 2 inches wide. The staircase was at "B" in the plan but had been built without permission at "A". The matter was ignored by the municipality after Sheik Allah Bukhsh paid a bribe of Rs. 50/- to the authorities.[17]

Dr. K.S. Sethna further stated in the note that several new "basties" (slum dwellings) such as Hathi Khana, New Chabdrawal (Chandrawal), Mankapur had been built without obtaining permission. As these newly constructed localities were devoid of drainage, the waste water discharged from the houses and the latrines stagnated and putrefied on the unleveled streets which endangered the health of the residents. The residential buildings were not merely inhabited by the human beings but also by the milch cattle huddled together in the rooms and the narrow lanes of the already congested localities. The municipality instead of completely removing the cattle from the inhabitable quarters imposed taxation on the milch cattle which was not sufficient to provide "more breathing space to human beings".[18]

Overcrowding and congestion were not just confined to the residential localities but also to the schools and the jails of Delhi. With the introduction of compulsory education in Delhi in 1926 congestion in the classrooms markedly increased as the students were huddled together

[16] File No. 4(166), 1935, Part B, Chief Commissioner's Record, Delhi, Department of Education. Note on Tuberculosis by Health Officer, Municipal Committee, Delhi, DSA.
Further in the note Dr. Sethna stated that the city of Delhi abounded in one-room tenements and in large majority of the cases every such tenement was occupied by several members of a family. The rooms in general were small, ill-ventilated and therefore afforded greater opportunities for the contact and the spread of communicable diseases.
[17] 'Delhi Building Bye-Laws: How they are Honoured in the Breach', *Hindustan Times*, Sunday 13 October 1929.
[18] *Ibid.* According to Lankester Report bovine tuberculosis was uncommon in India except in Kashmir where intensely cold winter required the shutting up of cows in rooms, which were too often without ventilation.

inside the classrooms which in most cases led to setting in of intractable diseases.[19] Most of the municipal schools in Delhi were located in houses situated in the inner most streets where fresh air was impossible to get, or at places which were surrounded by unhealthy environment. To cite an example there was one municipal school which was located at Kashmiri Gate near the dumping ground which was also used by the school children as a playground. This had an adverse impact on the health of the school going children who were devoid of fresh air. As a result, most of the children contracted diseases like tuberculosis.[20] In 1926 the Government of India inquired from the Delhi Government about the extent to which the jails in Delhi were overcrowded and the measures taken by the local administration to relieve overcrowding. The Government also wanted to know the number of tubercle patients admitted to the jail, the manner in which they were treated, and whether they contracted tuberculosis prior or after their admission to the jail. The inquiry revealed that the district jail of Delhi had an accommodation capacity for 672 prisoners but was generally overcrowded at times with 1,010 prisoners lodged in it. The overcrowding was chiefly due to the transfer of the surplus prisoners from Punjab who were accommodated in the Delhi district jail. Since 1922 eight prisoners had contracted tuberculosis and they were then transferred to Shahpur tubercle jail in Punjab as the jail in Delhi did not have an isolation ward. The jail authorities were unable to provide information regarding whether these prisoners contracted tuberculosis prior or after their admission to the jail as the records were doubtful.[21]

As Delhi City (Old Delhi) was "hemmed" by the Civil Lines on its north side, the Fort and the Jumna (Yamuna) river on its east side, and New Delhi on its south and south-western side the only way to relieve the congestion in the City according to Dr. Sethna were the westward extension in the direction of "Qarol Bagh" (Karol Bagh) and the northward extension

[19] *Ibid*. In Delhi compulsory education was initially only for the boys and only in the 1930s it was extended to the girls.

[20] 'Insanitary Schools', *Hindustan Times*, Thursday 12 March 1936.

[21] File No. 2(13), 1926, Part B, Chief Commissioners Record, Delhi, Department of Home. Questions Arising Out of the Indian Jails Committee Report, DSA.
The Report stated that the provincial death rate for tuberculosis among the prisoners was highest in Madras (Tamil Nadu). The special accommodation at Bellary and Trichinopoly was only for advanced cases of tuberculosis. The scheme for a tuberculosis jail at Madanapalle had been abandoned due to financial reasons. Between the years 1915 to 1924, 11,553 prisoners contracted tuberculosis out of which 3, 494 died in prison, nearly one-third of the number admitted. In the jails of Central Provinces there was no overcrowding and there was also provision of segregation of tuberculosis patients at Chindwara.

in the direction of Sabzimandi.[22] Both these schemes were a failure as will be illustrated. Originally the Western Extension Area formed a part of the Imperial Capital City Extension Project, but the Secretary of State's sanction was obtained to treat the area separately and deal with it locally. The Chief Commissioner considered the development of this area to be urgent as it would provide a solution for the congestion in Delhi, and he recommended that it should be administered by the Delhi Municipal Committee, and its finances formed a separate branch of the Committee's account.[23] The objective of the expansion was to provide housing facilities for the poorer classes and the labouring population.[24] By 1934, 15,000 people inhabited the Western Extension without proper drinking water and drainage facilities with the result that sullage water from the houses flowed over the lanes and collected in depressions which eventually dried up. There was no outlet for drain water and after a heavy downpour, the whole place was flooded causing a number of houses to collapse each year. For drinking water, the population was dependent on the wells.[25] The Northward Extension towards Sabzimandi also happened unevenly without laying any emphasis on the drainage system. As a result, during the monsoon, the lanes got muddy and the water remained stagnant in the pools for several days making it impassable for the pedestrians and provided a breeding ground for the mosquitoes. Thus, there were frequent outbreaks of malarial cases in Sabzimandi.[26]

Apart from expanding the City which Major Web also suggested particularly the need of developing the Paharganj area which he said "gives the impression of no man's land of a deserted battle field with its shell holes and general insanitary state" Webb emphasized the importance of recruiting a full time paid staff in order to carry out educational awareness for the prevention of tuberculosis. The other suggestions made by him were that the public should be educated by means of magic lantern lectures, elementary hygiene course should be introduced as a compulsory subject in the school curriculum, opening up of tuberculosis dispensaries,

[22] File No. 4(166), 1935, Part B, Chief Commissioner's Record, Delhi, Department of Education. Note on Tuberculosis by Health Officer, Municipal Committee, Delhi, DSA.
[23] Report on the Relief of Congestion in Delhi, Volume 1, Government of India Press, Simla 1936, DSA.
[24] 'Three Year Plan to Improve Old Delhi, Government Sanctions Loan of a Crore. Clearing of Slums, Clean Up of Ajmeri Gate Area', *Hindustan Times*, Friday 18 March 1938.
[25] 'Pitiable Living Conditions in Delhi City', *Hindustan Times*, Saturday 6 January 1934.
[26] 'Two Sabzimandi Grievances', *Hindustan Times*, Sunday 25 June 1933.

formation of an improvement trust in order to combat congestion, and strict action should be taken against those who violated the building bylaws.[27]

Overcrowding and congestion were one of the causes of tuberculosis in Delhi Province. Delhi City where the cases of tuberculosis were more than other parts of the Province like the New Delhi and the Civil Lines was densely populated. In order to provide accommodation for the increased population unplanned houses were constructed which augmented congestion in the City. These houses where neither fresh air nor sunlight could penetrate were inhabited by the economically deprived people of the City. These people could not afford nutritive diet and their pitiable living conditions made them vulnerable to tuberculosis.

THE FORMATION OF THE KING GEORGE V THANKSGIVING (ANTI-TUBERCULOSIS) FUND

Before 1914 accurate data on tuberculosis could not be obtained as there was no independent category under which the disease was recorded in the health reports.[28] Even after 1914 the precise statistics on tuberculosis could not be attained. This was because the registrations of the causes of deaths were notified by the relatives of the deceased or the sweepers who generally subscribed the causes of deaths either to fever or cough.[29] The first survey of tuberculosis in India was done by Dr. Arthur Lankester, whose report entitled the Report of the Tuberculosis in India was published in 1920. The Report embodied the result of an enquiry conducted from July 1914 to April 1916, under the auspices of the Indian Research Fund Association. In the absence of the reliable statistics, he based his opinion mainly on the evidences given by the medical officers and the administrations in the different parts of the country.[30] The Report stated

> The problem of the spread of tuberculosis is so closely bound up with some of the most widespread of India's social customs and the habits of life that any practical measures would be doomed to disaster which were founded

[27] File No. 6(23), 1928, Part B, Chief Commissioner's Record, Department of Education. Increase for the Prevention and Treatment of Tuberculosis in Delhi, DSA.
Magic lantern was early type of image projector which employed picture on sheets of glass.
[28] Mark Harrison and Michael Worboys, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara Marks and Michael Worboys, London: Routledge, 1997,p.111.
[29] File No. 4(37), 1926, Chief Commissioner's Record, Department of Education. Grant-in-aid to the Municipal Committee Delhi for the Employment of Sub-Assistant Surgeons for the Verification of the Causes of Deaths in the Delhi City, DSA.
[30] Report of the Health Survey and Development Committee. Volume I.

> merely upon the Western experience and not corrected with most sympathetic caution, by reference to the Eastern prejudice and feeling.[31]

The conclusion he reached was that the incidence of the disease steadily increased.[32]

Dr. Lankester emphasized that the best chances of success were in establishing a co-operation between the government enterprise and the voluntary efforts of the individuals as well as the institutions in combating tuberculosis. He suggested the formation of an All India Anti-Tuberculosis Association.[33] This proposal was executed in 1929 when it was resolved that Rs. 9,50,000/-[34] collected by the public subscription to venerate the recuperation from the illness of King George V during the winter of 1928-29 were dedicated to the promotion of the anti-tuberculosis work in the country. This led to the formation of the King George V Thanksgiving (Anti-Tuberculosis) Fund and Committee. The organization consisted of a Central Committee at New Delhi and of Branch Committees in the Provinces and the States. The Central Committee employed an Organizing Secretary who travelled around the provinces and the states delivering lectures at the public meetings which focused attention on the problem of tuberculosis. Its other activities included the organization of special training courses in tuberculosis for medical men at the All India Institute of Hygiene and Public Health and at a number of provincial centres as well as the preparation of awareness material for the distribution to the provincial branches.[35] It also made use of a travelling cinema lorry which was fully equipped with a standard size projector, a homelite generating set, films and literature, and there was also a qualified lecturer attached to it.[36] The two important movies shown by the lorry were the Posture and the Consequences. The first film Posture had two reels which showed the effects of tuberculosis on the body. The other film on Consequences was based on the slogan "Early Discovery-Early Recovery" showing in a vivid manner the "causes, diagnosis, and cure of tuberculosis".[37] Through these movies, an

[31] Report of the Tuberculosis in India, By: A. Lankester, M.D., London Printed By: Government Monotype Press, Simla, 1915.
[32] Report of the Health Survey and Development Committee. Volume I.
Indian Research Fund Association was a registered association. It had three important functions. First was to initiate, aid, develop and co-ordinate medical scientific research in India. Second was to promote special inquiries and to assist institutions for the study of diseases, their prevention, causation, and remedy. Third was to propagate knowledge regarding the causation, mode of the spread and the prevention of the diseases, especially those of communicable nature.
[33] 'King George Thanksgiving (Anti- T.B) Fund: History', *Indian Medical Gazette*, April 1937.
[34] *Ibid.*
[35] Report of the Health Survey and Development Committee. Volume I.
[36] 'King George Thanksgiving (Anti T.B Fund): Annual Report', *Indian Medical Gazette*, November 1936.
[37] 'King George Thanksgiving (Anti-T.B) Fund: Fourth Annual Report', *Indian Medical Gazette,* October 1935.

attempt was made to educate the people on the causes of tuberculosis, and the importance of getting the early treatment done.

ESTABLISHMENT OF MAJOR TUBERCULOSIS CLINICS, HOSPITALS, AND A SANATORIUM

As a disease tuberculosis received scant attention or fund from the Government because it did not "directly effect the government or the economy".[38] Delhi City where the cases of tuberculosis were most prevalent was densely populated marked by congestion and overcrowding which provided a fertile ground for tuberculosis to flourish and thrive compared to the Civil Lines and the New Delhi which were sparsely populated and inhabited majorly by the rich European population and the influential Indians. Therefore, the tuberculosis predicament of Delhi City was slow to attract the attention of the Government.[39] In 1910 Pardey Lukis, the then Director-General of the Indian Medical Service submitted a "very interesting and illuminating report" to the Government of India regarding the measures that were to be adopted for the purpose of combating tuberculosis. A few of the recommendations which were contained in the report were, the need for the sanatorium to treat the early cases, hospital or wards for the advanced cases, dispensaries to treat the patients living in their homes, farm colonies, open-air-schools, promotion of philanthropic agencies such as the anti-tuberculosis societies, and the improvement of the school hygiene.[40] The government was skeptical to establish tuberculosis hospitals and sanatoriums in Delhi as it entailed significant government expenditure.[41] This can best be reflected by the fact that until 1933 Delhi Province did not have a separate clinic to treat tuberculosis cases. Up till 1933 tuberculosis patients were treated in the other hospitals of the

[38] Mark Harrison and Michael Worboys, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara Marks and Michael Worboys, London: Routledge, 1997,p.113.
[39] Stephen Legg, *Spaces of Colonialism: Delhi's Urban Governmentalities*, Oxford: Blackwell Publishing, 2007, p.157.
[40] File No. 6(5), 1927, Part B, Chief Commissioner's Record, Delhi, Department of Education. Conference to discuss the Provisions of Tuberculosis Hospitals, Sanatoriums and Institutions for Training Practitioners in the Treatment of Tuberculosis, DSA.
[41] Mark Harrison and Michael Worboys, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara Marks and Michael Worboys, London: Routledge, 1997,p.113.

municipality and the advanced cases were treated at the Infectious Disease Hospital at Paharganj and Kingsway.[42]

Prior to 1933 four efforts were made in Delhi Province to establish two tuberculosis dispensaries in the years 1919 and 1928, one sanatorium in 1928, and one hospital in 1930. The plans for setting up of dispensaries were deserted due to the paucity of the funds and the site for the construction of the tuberculosis hospital at Jhandewala was found unsuitable. In 1919 the Chief Commissioner made a grant of Rs. 3,000/-. This sum was inadequate for the "vast amount of work" that was to be done. There was also no provision to meet the recurring expenses. The Civil Surgeon was also of the opinion that the grant was insufficient to meet the requirements of the City, therefore, no action was taken and the plan to build the tuberculosis dispensary was abandoned.[43]

In 1928 Major Webb, the Assistant Director of Public Health suggested that a tuberculosis dispensary should be established at Hauz Qazi, with a well paid and an experienced doctor in charge. This dispensary was to be a central point for the "intensive preventive work" against tuberculosis and aimed at educating the public on the "precautionary measures" to be adopted to check its growth. To enlighten the public on tuberculosis it was decided to appoint a lady doctor of the sub-assistant surgeon rank in the wards 6, 7, 8, and 9 of the Hauz Qazi area. The work of the lady doctor was to "deal essentially with women and children as well as with men" by visiting the houses and coming in contact with the patients especially the purdah women who seldom visited a dispensary. The fundamental work of this tuberculosis dispensary was to know personally every men, women, and children living in the area and to ascertain the exact prevalence of tuberculosis in the wards 6, 7, 8, and 9 which were very congested areas. The other important works were to render medical aid, educational awareness, and conduct "practical means" for the prevention of the spread of the disease in the area. The scheme for the

[42] 'City Father Discuss Needs of Residents: Opposition to Proposed Tuberculosis Hospital', *Hindustan Times*, Friday 1 March 1929.
[43] File No. 4(166), 1935, Part B, Chief Commissioner's Record, Delhi, Department of Education. Note on Tuberculosis by the Health Officer, Municipal Committee, Delhi, DSA.

establishment of the dispensary was to cost the municipality Rs. 9,487/- and a recurring expenditure of Rs. 21,024/-.[44]

When the matter was discussed before the Delhi Municipal Committee some of its members opposed the plan of the establishment of the tuberculosis dispensary. Dr. Hari Ram, a member of the Committee, opposed the idea on the ground that the tuberculosis patients were treated in the other hospitals of the municipality, and, secondly, a congested locality like Hauz Qazi was not a place to start a tuberculosis dispensary. K.B. Abdul Rahman, another member of the Committee, opined that no medical treatment was discovered to kill the tuberculosis germs. Good air and good food were the real requirements of the patients suffering from tuberculosis. He did not favour the idea of starting a dispensary at Hauz Qazi. After heated discussion the members agreed to the proposal and Dr. Sethna, the Health Officer explained the compelling requirement of a special tuberculosis dispensary, which was needed more for educating the people than for the treatment.[45]

Mr. Sohan Lal, the Secretary of the Delhi Municipal Committee asked the Chief Commissioner to give the Committee an initial grant of Rs. 4,743/8/- to start the dispensary and a recurring annual grant of Rs. 10,512/- to maintain it. The Chief Commissioner was able to make the initial grant of Rs. 4,743/8/- but the Government of India due to "financial stringency" was unable to meet the recurring expenditure and hence this plan was also abandoned.[46] In 1928 Dr. D.N. Kumar and Dr. Raghubir Chand , members of the Tuberculosis Sub-Committee of the Delhi Health and Social Service Union recommended three sites for the construction of a tuberculosis sanatorium.[47] The sanatoriums were principally meant for those incipient cases

[44] File No. 6(23), 1928, Part B, Chief Commissioner's Record, Department of Education. Increase for the Prevention and Treatment of Tuberculosis, DSA.
The recurring expenses were incurred in paying an adequate staff that would run the dispensary and were hence more than the establishment cost.

[45] 'City Father Discuss Needs of Residents: Opposition to Proposed Tuberculosis Hospital', *Hindustan Times*, Friday 1 March 1929.

[46] File No. 6(3), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Opening of a Tuberculosis Dispensary at Hauz Qazi, DSA.

[47] File No. 6(11), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Activities of the Delhi Health and Social Services Union, DSA.
Delhi Health and Social Service Union were divided into seven units. These units were: 1. Maternity and Child Welfare, 2. Prostitutes and Venereal Diseases, 3. Tuberculosis, 4. Education and Publicity, 5. Children Act, 6. Overcrowding and Economic Survey and 7. Beggar and Poor Houses. A sub-committee was appointed for each of these seven sections to study the subject more thoroughly and to make a proposal. The Chief Commissioner of Delhi was its President and Vice-President was the Civil Surgeon and the Chief Medical Officer of Delhi Province.

which did remarkably well with the change in the environment. The patients stayed in the sanatorium for 3 to 6 months or even longer.[48] An attempt was made in the sanatorium "to recreate idealized conditions of childhood: increasing weight and open-air living, plus close supervision, education in hygiene, freedom from worries and responsibilities and no sex".[49] The three sites selected were Okhla spur near the Kalka Temple, Tuglaqabad Ridge, and Mehrauli Ridge. These three sites were then subsequently inspected by Dr. K.S. Sethna, Dr. Raghu Nath, Dr. D.N. Kumar, Dr. Raghubir Chand, and Mr. K.R. Bedi and it was decided that Okhla spur near Kalka temple was the best site for the construction of the tuberculosis sanatorium. The plan to build the sanatorium was relinquished as the land was a "private and expensive property" thereby entailed a longer acquisition process.[50] In 1930 proposal to construct a tuberculosis hospital at Jhandewala was made. A committee was appointed for the selection of a suitable site for the construction of the tuberculosis hospital. The committee inspected "a fine breezy site south-west of the Idgah" but the site was found unsuitable as the connection of the main water supply for the area was located near the site.[51]

In the year 1932 Delhi Municipal Committee acquired 6 square yards of land free of cost from the North-Western Railway in order to build an anti-tuberculosis clinic at the junction of the Burn Bastion Road and the Queen's Road (Shyama Prasad Mukherjee Road). The expenditure was estimated to be Rs. 25,000/- for the construction of the building, Rs. 10,000/- for the equipment, and Rs. 14,160/- as the recurring charges per annum for running the clinic. The clinic was to be managed by a sub-committee consisting of the civil surgeon as the chairperson, the health officer as the secretary, and the two vice-presidents of the Delhi Municipal Committee.[52] The residents of the Burn Bastion Road protested against the decision of

[48] 'Pitiable Living Conditions in Delhi', *Hindustan Times*, Saturday 6 January 1934.
[49] Mark Harrison and Michael Worboys, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara Marks and Michael Worboys, London: Routledge, 1997,p.97.
[50] File No. 6(11), 1929, Part B, Chief Commissioner's Record, Delhi, Department of Education. Activities of the Delhi Health and Social Services Union, DSA.
[51] File No. 5(46), 1930, Part B, Chief Commissioner's Record, Delhi, Department of Education. Proposed Construction of an Infectious Diseases and Tuberculosis Hospital at Jhandewala, DSA.
The members of the Committee were the Chief Commissioner John Thompson, the Deputy Chief Commissioner J.N.G. Johnson, the Chief Medical Officer Lt-Col. C.H. Reinhold, the two Vice-Presidents of the Delhi Municipal Committee Lala Sri Ram and K.B. Maulvi Abdur Rahman, the Health Officer of Delhi Dr. K.S.Sethna and Municipal Engineer. The name of the committee is not known.
[52] File No. 4(94), 1933, Part B, Chief Commissioner's Record, Delhi, Department of Education. Transfer of Nazul Land on Burn Bastion Road to the Municipal Committee, Delhi for the construction of a tuberculosis clinic, DSA.

the Delhi Municipality to establish an anti-tuberculosis clinic on the ground that such a dispensary situated "in the heart of the town" would attract large number of patients leading to overcrowding of the patients which would only serve the purpose of disseminating the infection of tuberculosis to the surrounding areas "just as a tubercular patch in the lung does to all the other parts of the body". The staff of the railway clearing account office accommodated in the Clive building located near the Burn Bastion Road were also perturbed for the same reason. C.M. Kika ex-employee of the Indian Medical Service recommended that such institutions should be located in a segregated area away from the thickly populated localities, government offices, and heavy traffic.[53]

Mr. Sohan Lal, the Secretary of the Municipal Committee in a letter to the Deputy Commissioner A.H. Layard explained that the opposition to the opening of the anti-tuberculosis clinic was based on the misunderstanding of the function between a clinic and a hospital. The primary function of the clinic was "to give advice" to the patients suffering from tuberculosis and this could only be achieved if it was "located within easy reach of the persons whom it is intended to serve" and the proposed site was accessible to the people residing at Sabzimandi, Kashmiri Gate, and Mori Gate. The clinic was opened in 1934 and it was named the Queen's Road Tuberculosis Clinic.[54]

The first[55] tuberculosis clinic in Delhi Province was started by the Delhi Branch of the Ramakrishna Mission Trust in a small rented house at Paharganj in October 1933. It was very congested and poor area. The clinic was named the Ramakrishna Mission Free Tuberculosis

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The six square yards of land was given free of cost to the Delhi Municipality on the condition that a refund of proportionate amount of rent of the land should be afforded to the railway. Some of the members of the Delhi Municipality were against the opening of the clinic like Haji Rashid Ahmad believed that the Delhi Municipality should enforce birth control, which he believed was the best remedy to end congestion in the city and thereby stop the progress of tuberculosis which on account of congestion and over-population was rapidly increasing. Lala Shri Ram opposed the opening of the clinic and urged that the municipality should adopt measures which would prevent the disease, as for instance, he said the city extension scheme, the supply of pure milk, better sanitation, better nourishment, and an abundant supply of pure air was required to face the invasion of the disease. He concluded "tackle the root cause, if you earnestly want to wipe out the disease". Lala Lachhman Das, opposing the clinic scheme, said that if the municipality provided drainage in Karol Bagh area, thousands of people living in Delhi City would migrate to Karol Bagh, thus congestion would be removed from the city. Dr. Hari Ram was of the opinion that unless the city was not demolished and a new city erected in its place one cannot tackle tuberculosis. Dr. Mohammad Siddiq opposed the clinic on the ground that the people of Delhi were so poor that they would not be able to carry out the instructions given to them by the authorities at the clinic.

[53] 'Tuberculosis Dispensary for Delhi: A Few Suggestions', *Hindustan Times*, Tuesday 13 September 1932.

[54] File No. 5(35), 1933, Chief Commissioner's Record, Delhi, Department of Education. Proposed Opening of a Tuberculosis Clinic near the Railway Clearing Accounts Office, DSA.

[55] www.rkmdelhi.org. [Data accessed on 30 January 2016.]

Clinic (hereafter the Clinic).[56] The objective of the Clinic was the free treatment of the poor consumptive patients irrespective of their "caste, creed and race".[57] Thus, the Clinic did not discriminate people on the bases of their ascriptive traits. In August 1934 the Clinic was shifted to a comparatively spacious house near the Jama Masjid. This place was found unsuitable and in September, 1935, the management transferred the Clinic to a building known as the Hanging Bridge near the Edward Park close to Daryaganj post office. It was a spacious, well ventilated, and a well lighted building which was "very suitable for an institution of this nature".[58]

The Clinic was managed by a working committee appointed by the local committee of the Delhi Ramakrishna Mission. The committee was composed of eight people. These people were Swami Sharvananda, the President of the institute, Lieu-Col. W.C Paton, I.M.S., the Chief Medical Officer Delhi, Dr. K.S. Sethna, the Medical Officer of Health, Delhi Municipality, Major A.C. Chatterjee, I.M.S, Major A.R. Chowdhury, B.Sc., M.B., Dr. S.K. Sen, M.B. Mr. S.C. Majumdar was the Treasurer of the Mission and Swami Satprakashananda was the Secretary of the Mission. The Mission availed the services of the several leading physicians and the surgeons of Delhi including the specialists in bacteriology and x-ray who offered their services without any remuneration. Their medical staff included Dr. N.C. Joshi, the Consulting Surgeon, Dr. S.C. Sen., M.B., D.M.R.E., Radiologist, Dr. A.C.W. Dessa, Radiologist, Dr. S.K. Sen, M.B., Bacteriologist, Dr. S.K. Sen, M.B., Attending Physician, Major A.R. Chowdhury, B.Sc., M.B., Attending Physician, Dr. Nadkarni, B.S., M.B., Lady Doctor and Dr. C. Solomon, B.S., M.B., Lady Doctor. The x-ray examinations of the patients were done either free or at a "nominal cost" by Dr. S.C. Sen and Dr. A.C.W. Dessa. Between the years 1933 to 1935, the chest x-ray examinations of 511 patients, spinal column x-ray examinations of 2 patients, and the hip joint x-ray examinations of 2 patients were done free of cost by the Clinic.[59] As between the years 1933 to 1935, 511 chest x-ray examinations of the patients were done, thus, pulmonary tuberculosis was more common in Delhi than non pulmonary tuberculosis. Till 1936 Delhi Province only had 27 patients suffering from non pulmonary tuberculosis and these patients were treated in the civil

[56] 'Tuberculosis Dispensary at Delhi: Opened by Ramakrishna Mission, Free to all, Appeal for Financial Assistance', *Hindustan Times*, Wednesday 20 September 1933.
[57] *Ibid*.
[58] File No. 28, 1937, Chief Commissioner's Record, Delhi, Department of Local Self Government. Application for Land in Daryaganj for the Ramakrishna Mission for the Building of a Free Tuberculosis Dispensary, DSA.
[59] *Ibid*.

hospital.[60] The laboratory examinations of sputum, sedimentation rate of the blood cells, the total count of the red blood cells and the white blood cells, normal routine urine test and the cultural urine tests were done by Dr. S.K. Sen, M.B., Bacteriologist free of charge.[61] The treatment of pneumothorax was performed. Pneumothorax was done by the insufflation of air into the pleural cavity. The lung was collapsed and thereby immobolised. The effect of the collapse was that the toxins contained in the lungs were squeezed out. This caused sharp rise in the temperature on the day of the insufflation. After the toxin was neutralized the temperature reduced.[62]

Till 1936 the Clinic was maintained by a monthly subscription and a "small donation" from the general public. It also received a grant-in-aid of Rs.1,050 from the King George Thanksgiving (Anti-Tuberculosis) Fund. Gajapati Maharajkumar Vijayananda of Vizianagram donated Rs. 2,000/-. Seth G.D. Birla, New Delhi donated a sum of Rs. 500/-. A friend from Bombay (Mumbai) and Poona (Pune) donated Rs.500/- and Rs.300/- respectively.[63] Since 1937 the Clinic received a grant of Rs. 600/- from New Delhi Municipal Committee for the treatment of the patients residing within New Delhi Municipality. This amount was increased to Rs. 1,200/- in 1940 as the Clinic was permanently shifted to Karol Bagh which was located near the New Delhi Municipality. The shift benefitted the patients residing within the New Delhi Municipality.[64] The Clinic also received a grant of Rs. 1,200/- from the Delhi Municipal Committee from 1937 in recognition of their "commendable services" done for the residents of Daryaganj.[65]

The Clinic maintained the records of the patients. Initially the patient's houses were visited from time to time. The booklets giving "necessary instructions" to the tuberculosis patients and their relatives were published in Hindi and Urdu and distributed free of cost. All the patients were regularly examined. In 1934, the Clinic obtained a grant of Rs. 1,050/- from the King George Thanksgiving (Anti-Tuberculosis) Fund for this purpose. A paid lady doctor was

[60] 'Surgical Wards in Tuberculosis Hospital', *Hindustan Times*, Monday 14 September 1936.
[61] File No. 28, 1937, Chief Commissioner's Record, Delhi, Department of Local Self Government. Application for Land in Daryaganj for the Ramakrishna Mission for the Building of a Free Tuberculosis Dispensary, DSA.
[62] 'Artificial Pneumothorax Treatment in India', *Indian Medical Gazette*, May 1928.
[63] File No. 28, 1937, Chief Commissioner's Record, Delhi, Department of Local Self Government. Application for Land in Daryaganj for the Ramakrishna Mission for the Building of a Free Tuberculosis Dispensary, DSA.
[64] File No. 3(76), 1939, Chief Commissioner's Record, Delhi, Department of Local Self Government. Questions of the Grant-in-Aid by the New Delhi Municipal Committee to the Proposed Model Tuberculosis Clinic in Delhi, DSA.
[65] 'Tuberculosis Clinic Ramakrishna Missions Appeal', *Hindustan Times*, Friday 8 July 1938.

engaged to visit the patient's house. In 1935, the Committee discontinued the grant on the ground that a lady health visitor was not employed for doing the work. It was very difficult for the Mission to secure the service of a lady health visitor and the service of the lady doctor was discontinued due to the shortage of funds. Owing to the rapid increase in the number of the patients visiting the Clinic, the staff found it impossible to pay adequate attention to the preventive work. Moreover, the Clinic did not have a permanent staff and it depended on the voluntary services of the people. The visit to the patient's houses were discontinued and with the exception of the distribution of the booklets titled "Instruction to Tuberculosis Patients" nothing substantial was done in the preventive work.[66]

Since its inception, the Clinic was located in a rented house as it was very difficult to find a suitable house. The owners hesitated to rent their houses for a tuberculosis clinic. The first floor of the Hanging Bridge was not suitable for a tuberculosis clinic as the patients found it difficult to go upstairs and also the lease of the building expired on 31 March 1938. Edward Jenkins, the Chief Commissioner of Delhi who visited the Clinic emphasised the problem faced by the Clinic due to its insufficient accommodation. In the visitor's book, he wrote[67]

> I visited the Ramakrishna Mission Free Tuberculosis Clinic. Good work is being done in spite of financial difficulties and rather cramped accommodation. Tuberculosis is now a first class problem in India and the number of the sufferers in the Delhi City alone must be appallingly large. The Clinic is deserving of public and government support.[68]

The other visitors also expressed their concern. Lady Linlithgow who visited the Clinic wrote in the visitor's book

> The Ramakrishna Mission deserves a great deal more help than they are getting in maintaining of the free clinic for tuberculosis. They are doing extremely good work and are very anxious to open a hospital with which they could do so much more to alleviate this terrible scourge. Appeal to all those who may see this book to help them in carrying out this project. Many cases of tuberculosis are treated at the clinic which should be in a hospital

[66] File No. 28, 1937, Chief Commissioner's Record, Delhi, Department of Local Self Government. Application for Land in Daryaganj for the Ramakrishna Mission for the Building of a Free Tuberculosis Dispensary, DSA.
[67] *Ibid.*
[68] *Ibid.*

> but there is nowhere to go. It is my earnest wish that money will be forthcoming to enable the Ramakrishna Mission to expand further.[69]

In spite of the "cramped accommodation" the number of the patients who attended the Clinic between October 1933, when it was started to June 1937 is represented in a tabular form below:-[70]

Time Period	**Patients Attendance**
October to January 1933	305
January to December 1934	4,157
January to December 1935	10,007
January to December 1936	6,934
January to June 1937	5,356

The number of the patients who attended the Clinic reached its peak during the year 1935 when the Clinic was shifted to Drayganj. In the year 1935, 10,007 patients attended the Clinic. It was very difficult for the Clinic to manage such a humongous number of patients. So on 6 August 1936, the Secretary of the Ramakrishna Mission applied to the office of the Chief Commissioner through the Chief Medical Officer for a plot of land measuring 4,173 square yards in Daryaganj for free. The Chief Commissioner rejected the application of the Mission on the pretext that the allotment of the land in Daryaganj depended on the development of the area, the plans for which were under consideration. The chief reason for the rejection was that A.P. Hume, the Chairman of the Delhi Improvement Trust informed the Chief Commissioner that land in Daryaganj was extremely valuable as the Trust had decided to develop the area into a residential and a commercial locality. Therefore, it was not feasible to give away the land free of cost. Further Hume stated that a tuberculosis clinic was unsuitable for a residential and a commercial locality.[71]

[69] *Ibid.*
[70] *Ibid.*
[71] *Ibid.*

In March 1937 the Secretary of the Ramakrishna Mission directly applied for the allotment of land at Daryaganj to the office of the Delhi Improvement Trust. The Trust informed the Mission that it was impossible to give the land free of cost. In fact when on 14 April 1937 A.P. Hume the Chairman of the Delhi Improvement Trust visited the Clinic he acknowledged the problem faced by the Clinic. In the visitor's book he wrote[72]

> The Clinic is housed in premises on a lease the terms of which is unsatisfactory and gives no security of tenure. The Mission has applied more than once for land on long lease from government in Daryaganj, on which to build a clinic more in conformity with their expanding requirements. I have explained to the Secretary that government land in Daryaganj is now managed by the Delhi Improvement Trust, who is spending money to provide the vacant areas with essential public services. Thereafter land will be available for disposal and the Mission's claim will be considered.[73]

Again in July 1937 the Secretary of the Mission applied for 500 square yards of land at Daryaganj to the Delhi Improvement Trust through the office of the Chief Medical Officer. The Mission was willing to pay Rs. 1000/- for the plot if it could not be given free. The application of the Mission was turned down as the minimum market value of the land was estimated by the Delhi Improvement Trust to be Rs. 2,500/- or Rs. 5/- per square yard. There was also a possibility of this estimated minimum market price going up after the completion of the Daryaganj Development Scheme. The Ramakrishna Mission was not the only institution anxious to acquire land in Daryaganj at a concessional rate. Dr. Shroff's Charity Eye Hospital also wanted to acquire land in Daryaganj at a concessional rate to construct their out-patients dispensary. Even their application was rejected by the Delhi Improvement Trust which financially wanted to benefit from the Daryaganj Development Scheme. The Trust recommended three alternative sites to the Mission where they could build their clinic. The first site was located north of the Daryaganj inside the Fort Defence Zone and measured 5,400 square yards. It was used as a playground by the Jain orphanage. The army department refused the permission to build a tuberculosis clinic. The second site was located at the back of the government post office,

[72] *Ibid.*
[73] *Ibid.*

overlooking the Bela Road measuring 7,322 square yards. The third site was found to be unsuitable as it was located near the burning ghat.[74]

In 1939 the Delhi Improvement Trust offered 500 square yards of land to the Ramakrishna Mission behind the government post office, overlooking the Bela Road instead of the entire 7,322 square yards of land which both the Chief Commissioner E.M. Jenkins and the Chairman of the Trust thought was a "large area" for an urban clinic. The 500 square yards of land was not sufficient as the Mission wanted to build a single-storeyed clinic consisting of 7 rooms and also quarters for the servants and the nurses. So they pleaded with the Trust to grant them 1000 square yards of land. The Trust offered 930 square yards of land to the Mission at a concessional rate of Rs.12 per annum on a 90 year lease. The market value of the plot was Rs. 13,950/- or Rs. 15/- per square yard. The condition attached to the lease was that the building was to be used only for the purpose of a charitable tuberculosis clinic, its design was to be approved by the Chief Health Officer, proper arrangements were to be made for the disposal of the infected sputum, and the location of the clinic was not objected by the Delhi Municipal Committee. But before the final plan for the construction of the clinic could be sanctioned the Chairman of the Trust A.P. Hume at the suggestion of the Chief Health Officer proposed that the Clinic should be constructed in the Western Extension Area instead of Daryaganj. The reason behind this suggestion was that Delhi Province would be served by three tuberculosis clinic well spaced out, one in the Western Extension Area, one at the Queen's Road, and third one at the Irwin Hospital (which will be discussed later in the chapter) rather than all the tuberculosis clinics being concentrated in and around Daryaganj area.[75]

The Ramakrishna Mission agreed to the proposal of the Chief Health Officer to shift the Clinic in the Western Extension Area as it believed that it would "better serve the cause of the people of this province". The Mission selected a plot of 1,100 square yards of land at Karol Bagh in the Western Extension Area. The freehold value of the land was Rs. 11,000/- or Rs. 10/- a square yard. Initially the Delhi Improvement Trust decided to give the land to the Mission at a monthly rate of Rs.10/-. As the Clinic was exclusively dependent on "public and private charity" and had "no other resources" to fall back upon the Mission pleaded with the Trust to give them

[74] *Ibid*.
[75] *Ibid*. Irwin Hospital is renamed as Lok Nayak Jai Prakash Narayan Hospital.

the entire plot of land at a concessional rate of Rs.12/- per year. This was also the rate at which the previous plot behind the government post office, overlooking the Bela Road was allotted to the Ramakrishna Mission. It was due to the intervention of the Chief Commissioner Edward Jenkins who believed that the Ramakrishna Mission was doing "genuine anti-tuberculosis work and the concession was justified" that the Delhi Improvement Trust at a meeting held on 26 September 1939 decided to sanction 1,100 square yards of land to the Ramakrishna Mission for a tuberculosis clinic, at a concessional rate of Rs.12/- per annum on a 90 years lease. The condition attached to the lease was that the building constructed on the site was to be used for the purpose of a charitable tuberculosis clinic and for no other purpose, the location of the tuberculosis clinic at the site was not objected by the Delhi Municipal Committee, and the design was approved by the Chief Health Officer before it was submitted to the Trust and the Delhi Municipal Committee for approval.[76] The Mission got the ownership of the land on 11 March 1940 and the construction of the tuberculosis clinic was completed only by the end of 1947.[77]

The residents of Karol Bagh protested against the decision of the Delhi Improvement Trust to shift the Ramakrishna Mission Free Tuberculosis Clinic to Karol Bagh. In a letter written to the Chief Commissioner on 15 December 1939, the residents stated that they were not "convinced" of the need for a tuberculosis clinic in the midst of the residential houses. From the letter of the authorities which the residents received it appeared that the land was allotted to the Ramakrishna Mission for the tuberculosis clinic at Karol Bagh because the area "needed" it. The need for such a clinic was not established by any "formal enquiry". No statistics of tuberculosis in the area was collected, nor had the area shown any sign of predisposition towards the disease. In the absence of any such enquiry the site was allotted not because there was actually a need for it, but, "a site had to be given to the Mission somewhere and unfortunately it has, as if by mere chance, fallen to the lot of this area to bear the brunt of the charitable instincts of the Mission". Further in the letter the residents wrote that after consulting the medical opinion, they were convinced that tuberculosis clinic was a "miniature tuberculosis hospital with a regular stream of discharged tuberculosis cases which would develop the area into a breeding ground for tubercle bacilli". They reminded the Chief Commissioner that when he was the Health Officer of "Simla" (Shimla) he ordered the fixing of spittoons on the road side, but these had to be removed as the

[76] *Ibid*.
[77] www.rkmdelhi.org. [Data accessed on 30 January 2016].

public could not be compelled to use the spittoons. In the same manner due to the absence of a "legislative measure or countrywide education of sanitary laws" it would be difficult to force the tuberculosis patients to spit in their handkerchief or the spittoons. The residents feared that they would fall prey to tuberculosis due to "indiscriminate spitting". In the letter they gave the example of the clerks working in the railway clearing accounts office who were diagnosed with tuberculosis as a result of their office being situated adjacent to the Queen's Road Tuberculosis Clinic which was the predisposing cause for all the "misery and ruins" amongst the employees of the office. They requested the Chief Commissioner to allot a "secluded place and at distance from the population" for the clinic.[78]

Questions were also raised in the Legislative Assembly by Bhai Parmanad M.L.A., on 13 March 1940 and by Mr. Muhammad Azhar Ali, M.L.A., on 28 March 1940 regarding the shifting of the Clinic to Karol Bagh. Both the M.L.A. raised the question of resentment among the residents regarding the shifting of the Clinic to Karol Bagh. They also raised some pertinent questions as to why there was no public announcement or notice issued by the Delhi Improvement Trust before the allotment of the site for the tuberculosis clinic in the area was finalized. What difficulties the Trust encountered in not acceding to the general request of the residents for shifting the location of the tuberculosis clinic in Karol Bagh to some "secluded place". Mr. Muhammad Azhar Ali suggested that the tuberculosis clinic should be located at a distance of "at least 1000 yards from an inhabitable house". The Government replied that it was aware of the dissent among the residents of Karol Bagh who were "ignorant" about the functions of a tuberculosis clinic. The idea of the clinic was not to make a particular locality "a special resort of tuberculosis patients from all over the country", but to provide "advise and treatment for patients actually living in the neighbourhood". The site of the Clinic was approved by the Ramakrishna Tuberculosis Committee which included medical men who were specialists in tuberculosis and it was impossible for the Clinic to perform its function in a "remote and lonely place".[79]

[78] File No. 1(72), 1939, Chief Commissioner's Record, Delhi, Department of Local Self Government. Lease of Land to Shri Ramakrishna Mission for a Charitable Tuberculosis Clinic, DSA.
The resident of Karol Bagh received the letter from the authorities on 24 November 1939.
[79] File No. 1(54), 1940, Chief Commissioner's Record, Delhi, Department of Local Self Government. Questions in the Legislative Assemble Regarding the Conversion of a Green Grassy Plot of Land into Plots for Houses in Karol Bagh and Allotment of Land at a Secluded Place to a Tuberculosis Clinic, DSA.

It was only in 1935 that the first tuberculosis hospital and sanatorium was established by the Delhi Municipal Committee at Kingsway. The Silver Jubilee Tuberculosis Hospital was built on 64 acres of land acquired from the Kingsway railway station property and building. The Delhi Municipal Committee wanted to name it as the "King George Silver Jubilee Tuberculosis Hospital" as they thought it was a befitting memorial to a sovereign who had throughout the twenty-five years of his "beneficent" rule made the alleviation of the sufferings of his subjects his special care and concern. The Government of India considered the proposed naming of this hospital as "unduly long and cumbrous" and renamed it as "Silver Jubilee Tuberculosis Hospital" (hereafter the Hospital) which "would perhaps sufficiently meet the desire for commemoration, while at the same time affording a title convenient for general use".[80]

The Hospital had accommodation facilities for 68 patients, 56 in the general wards, and 12 in the private cottages. There were 6 private cottages. Each cottage consisted of two private semi-detached quarters. Each quarter consisted of two rooms with a verandah, kitchen, and a private compound with a bathroom. The rooms were furnished in a simple style for the treatment which entailed a "life in fresh air". The patients in the private cottages with the permission of the Resident Superintendent could bring with them one relative or attendant, one servant, and a cook. There were three general wards to accommodate 56 patients.[81] Unlike the amenities which a patient received in the private cottages, the accommodation facilities in the general wards were not substantial. During the summer months the patients in the general wards had to remove their beds to the verandahs in the evening as the fans were not sufficient in number. In May 1938 the Resident Superintendent issued an order that the patients could not remove their beds to the verandahs as the beds were "getting damaged" on account of being removed from the narrow doors of the general wards. On repeated requests from the patients the Resident Superintendent withdrew this order on the condition that the patients had to bear the cost of the beds if it was damaged in removing.[82]

The Hospital was under the supervision of the Civil Surgeon of Delhi. There was one Tuberculosis Medical Officer known as the Resident Superintendent who was assisted by two

[80] File No. 5(52), 1935, Chief Commissioner's Record, Delhi, Department of Education. Question of Naming the New Municipal Hospital at Kingsway as "King George Silver Jubilee Tuberculosis Hospital", DSA.
[81] 'Kings Tuberculosis Hospital', *Hindustan Times*, Friday 11 October 1935.
[82] 'Tuberculosis Hospital at Kingsway', *Hindustan Times*, Tuesday 31 May 1938.

medical officers. The Resident Superintendent was in charge of the running of the administration of the Hospital. There were nine nurses and x-ray assistants. In addition to these there were two honorary physicians and one honorary radiologist. These honorary physicians were required to "attend the hospital regularly and as frequently as required to attend to the patients under them". The physicians and the radiologist were given a car allowance of Rs. 60/- per month each. The selection of the honorary staff was done by the Civil Surgeon from a panel of names submitted to him by the Delhi Medical Association. Only those physicians and radiologist were recommended by the Delhi Medical Association who had eight years of experience.[83]

The Hospital was initially established for the treatment of the patients suffering from tuberculosis of the lungs, particularly in the early stage of the disease but later on patients suffering from various diseases were admitted to the Hospital. In March 1945 Mrs. Pyster, the wife of Inspector Pyster, who was in charge of the Viceregal Police Guard, was admitted to the Hospital for hemorrhage treatment. Her husband complained about her "very uncomfortable time" at the Hospital to Evan Jenkins who was the Private Secretary to the Viceroy. There were no arrangements for providing her with European food or nursing and her bed was not arranged for three days. Her husband had to employ an "ayah" (helper) to take care of her. Mr. Pyster complained about Dr. Krishna, the Resident Superintendent who made "European patients as uncomfortable as he can". A confidential enquiry was made by the Chief Medical Officer and the Deputy Commissioner. The enquiry revealed that as the European patients were seldom admitted to the Hospital, (the average was one in two years) so to appoint a European cook was not feasible as it would incur an additional expenditure. The Europeans who were admitted to the Hospital had to provide their own cook and the reason why Mrs. Pyster was not disturbed in the bed for three days was that she had to be kept absolutely still, for the fear of another hemorrhage. Further the Deputy Commissioner recommended that the European patients in "future" should be admitted into the Hindu Rao Hospital where there was a ward reserved for them.[84] Since 1921

[83] 'Kingsway Tuberculosis Hospital Near completion', *Hindustan Times*, Saturday 16 March 1935.
[84] File No. 52, 1945, Part C, Chief Commissioner's Record, Delhi, Confidential Branch. Complaints Regarding the Bad State of Affairs of the Silver Jubilee Tuberculosis Hospital, DSA.

the European gazetted officers and the upper subordinates of the Government of India along with their family members were treated at the Hindu Rao Hospital.[85]

As it was the only tuberculosis hospital in Delhi it became full as soon as it was opened and about 100 patients were on the waiting list. Dozens of telephonic enquiries were made by the anxious patients and many went to the Hospital to enquire about the availability of the accommodation. In the view of the inconveniences and the difficulties which the patient had to undergo in order to get an accommodation in the Hospital, the Delhi Municipal Committee in March 1936 decided to set up a small sub-committee of two municipal commissioners to help the citizens in getting admission to the Hospital. The matter was referred to the Civil Surgeon who was of the opinion that the sub-committee of the two municipal commissioners was of not much help as the doctors had to decide which cases required and would benefit from admission to the Hospital. Thus, the plan of appointing a sub-committee with the two municipal commissioners was not implemented by the municipality.[86] The admission in the Hospital was given only to those patients recommended by the doctors of the Queen's Road Tuberculosis Clinic.[87]

The Hospital was initially solely financed by the Delhi Municipal Committee which was finding it increasingly difficult to meet the expenses as it received no government grant towards its maintenance. The patients residing in the other local bodies of Delhi as well as those residing outside the Delhi Province were also treated in the Hospital. These local bodies made no financial contribution to meet the recurring expenses of the Hospital. By February 1936 there were 56 patients in the general ward of the Hospital out of which 45 patients were residents of the Delhi Municipality, 5 were residents of the New Delhi Municipality, 1 was resident of the Civil Lines, 1 was resident of the District Board, and 4 resided outside Delhi Province. The municipal secretary in February 1936 proposed that the patients who resided outside Delhi Province were not to be admitted into the Hospital and the other local bodies of Delhi had to pay for the treatment of their patients. This proposal was unanimously approved by the Delhi Municipality.[88] In November 1936, the Secretary of the Delhi Municipal Committee sent a note to the New Delhi Municipal Committee and the Civil Lines stating that if they "desired to make

[85] File No. 10, 1929, Part A, Chief Commissioner's Record, Delhi, Department of Home. Levy and Disposal of Fees from Paying Patients admitted into Government Hospital, DSA.
[86] 'Hospital Visitors', *Hindustan Times*, Tuesday 24 March 1936.
[87] 'Kings Tuberculosis Hospital', *Hindustan Times*, Friday 11 October 1935.
[88] 'Kingsway Hospital', *Hindustan Times*, Thursday 11 February 1936.

use of the hospital" for the treatment of their patients then they had to contribute towards the maintenance of the Hospital. The Health Officer of the New Delhi Municipality suggested that "grant be paid on patient's basis" and 4 beds were to be reserved in the Hospital for the patients from the New Delhi Municipality. The Health Officer's suggestion was approved by the Delhi Municipality and per patient cost was estimated at Rs. 125/- per month.[89] The New Delhi Municipal Committee paid Rs. 6,000/- per annum to reserve four beds in the Hospital for the treatment of its residents and the Civil Lines paid Rs. 3,000/- per annum to reserve two beds for the treatment of its residents. The policy of the reservation of the beds by the New Delhi Municipality and the Civil Lines continued until April 1946 when the Government of India took over the administration of the Hospital.[90] The accommodation and the treatment in the Hospital were not provided to the residents of those local bodies in Delhi who made no financial contribution. The result was that even if beds were vacant in the Hospital the patients from the Fort and the rural areas were not admitted. A case in point was Amir Singh who in 1938 was refused accommodation in the Hospital on the ground that he was a resident of the District Board which made no financial contribution towards the maintenance of the Hospital. In another case an employee of the Delhi Municipal Committee was turned out of the Hospital because he was a resident of the Fort Area. [91]

For the health of the city it was important that the patients "discharging tubercle bacilli from their system" were to be admitted and treated in the hospital. This was only possible if accommodation was made available for them. Marie Willingdon who visited the Hospital on 24 March 1936 wrote in the inspection remark "I was delighted with my visit to this hospital and thought it charming and most beautifully arranged in every way. The only criticism is that it ought to be bigger".[92] The question of the extension of the Hospital evoked a lengthy discussion in the meeting of the Delhi Municipality held on 2 July 1936. Sohan Lal, the Secretary of the Delhi Municipality stressed the need to extend the Hospital in order to accommodate more patients. Some of the members were against the expansion of the Hospital as they felt that Delhi Municipality had "already spent a large amount on the hospital and could not afford to spend

[89] 'Tuberculosis Hospital: Payment for New Delhi Patients', *Hindustan Times*, Thursday 12 November 1936.
[90] File No. 130/51, Part C, Chief Commissioner's Record, Confidential. Acquisition of Land between the Mall and S.J.T.B. Hospital, Near Kingsway Post Office for Tuberculosis Patients, DSA.
[91] File No.215/1938, Department of Deputy Commissioner, Delhi, Volume 1. Lady Linlithgow's Anti-Tuberculosis Fund 1938, DSA.
[92] *Ibid.*

more on the staff and the other requirements of the new ward". Mr. Raj Narain Khanna said that the municipality had spent Rs. 1,00,000/- per annum on 68 patients and the addition of a new ward meant "great burden".[93] Since the time of its inception in October 1935 till September 1936 the non-recurring expenses incurred by the Delhi Municipality on the Hospital was Rs. 2,71,548/- which included[94]:-

Items	**Expenditure in Rupees**
Paid to North Western Railway for the Kingsway Property	Rs. 93,700/-
Addition and Alteration to the Building	Rs. 1,37,848/-
Equipment	Rs. 40,000/-
Total	Rs. 2,71,548/-

The Secretary of the Delhi Municipal Committee Sohan Lal persuaded the other members of the municipal committee to accept the grant of Rs. 25,000/- by Seth Ram Lal Khemka, President of the Mercantile Association to construct a new block to accommodate 18 patients as "such offers did not come every day"[95]. The maintenance of the new block was estimated by the civil surgeon to be Rs. 27,000/- per annum.[96] Thus, the State promoted philanthropy by private individuals to establish hospital, in this case, a new block to the Hospital but the recurring expenses of the block was not met by the private individual but by the municipality "who funded them from local taxes".[97] For the maintenance of the Hospital as well as the Queen's Road Tuberculosis Clinic the Delhi Municipal Committee spent Rs. 1, 50,000/- per annum. Against this expenditure was the meager income of Rs. 9,000/- through the reservation of 4 beds for the treatment of the patients residing in the New Delhi Municipal Committee and 2 beds for the

[93] 'Tuberculosis Hospital Extension', *Hindustan Times*, Friday 3 July 1936.
[94] File No. 5(43), 1937, Chief Commissioner's Record, Delhi, Department of Education. Question of a Payment of Government Grant to the Silver Jubilee Tuberculosis Hospital, Kingsway, DSA.
[95] 'Tuberculosis Hospital Extension', *Hindustan Times*, Friday 3 July 1936.
[96] File No. 5(43), 1937, Chief Commissioner's Record, Delhi, Department of Education. Question of a Payment of Government Grant to the Silver Jubilee Tuberculosis Hospital, Kingsway, DSA.
[97] Biswamoy Pati and Mark Harrison, 'Introduction' in *Health, Medicine and Empire: Perspectives on Colonial India*, (eds.) Biswamoy Pati and Mark Harrison, New Delhi: Orient Longman, 2001,p.7.

treatment of the patients residing in the Civil Lines. Apart from Rs. 9,000/- the Hospital also earned Rs. 12,937/- from the patients admitted in the 12 private cottages of the Hospital and Rs. 1,197/- from the paying general wards. The total revenue of the Hospital was Rs. 23,134/- per annum which was not sufficient to meet the construction of the staff quarters, proper drainage system as well as the expansion of the Hospital. The drainage system of the Hospital was antiquated.[98] The Hospital did not have water-borne latrines. The dirty water of the Hospital was pooled and then carried away in the carts. Some of these carts leaked "leaving behind dangerous germs" and foul smell. The patients were deprived of fresh air. The pumping out of water commenced at about 8 p.m. every evening just when the patients were taking their meals which made "it a very unpleasant task to finish". The cart men were generally busy till 1 in the morning and sometimes till 3 a.m. before all the water was taken away. The patients could not get sound sleep due to the movement of the carts on the gravel road. The patients were thus deprived of complete rest and fresh air which were "absolutely essential" for a "successful cure".[99]

The Delhi Municipal Committee appealed to the Government of India for financial help to extend the Hospital as well as to contribute to the recurring expenditure. The Deputy Commissioner recommended that the government grant should be given to the Hospital. The matter was referred to the Chief Medical Officer who recommended that the government grant should be given to the Hospital only if the municipal committee would make the general wards of the Hospital entirely free, "and throw them open to any suitable cases" from Delhi Province, whether from Delhi City, Civil Lines, New Delhi, or the District Board. Since September 1936 the Hospital charged a fee of Rs. 1/- per day from the tuberculosis patients treated in the general ward of the Hospital, which some members of the Delhi Municipality alleged was being utilized by the "rich people". A sub-committee was appointed for this purpose. The committee had Hafiz Abdul Aziz, Mr. Harish Chandar Lal, Ram Prasad, Haji Rashid Ahmad, Lala Shankar Lal, and Dr. Hari Ram as its members. Hafiz Abdul Aziz insisted that the patients in the general ward must pay for their treatment as "they were rich people and were enjoying luxurious comforts at the expense of the municipality". He further stated that the patients from outstations rushed to Delhi, took temporary lodgings and "posed as Delhiwallas" to get admission to the Hospital free

[98] File No. 5(43), 1937, Chief Commissioner's Record, Delhi, Department of Education. Question of a Payment of Government Grant to the Silver Jubilee Tuberculosis Hospital, Kingsway, DSA.
[99] 'Kingsway Hospital Sanitation', *Hindustan Times*, Saturday 13 June 1936.

of charge. Dr. Hari Ram opposed the charging of the fee of Rs. 1/- from the patients in the general ward as he "strongly believed" that it was "against the spirit of a public hospital which was meant to give free treatment to everybody". He feared that the poor people would be deprived of the treatment in the Hospital while some "well-to-do people with influence" would be able to come in and "usurp the quota allotted to the poor people". Lala Shankar Lal suggested that either the treatment should be absolutely free or the charges should be in "consonance with the services given to the patients". He said it was "ridiculous" to charge Rs.1/- from a patient who could afford to pay all the expenses.[100]

The Delhi Municipal Committee in its meeting held on 17 September 1936 decided that out of the total 56 beds in the general ward only 18 beds would be free. These 18 beds would be free only to those patients who were residents of the Delhi Municipality. 6 beds at the cost of Rs. 9,000/- per annum were reserved for the patients from the New Delhi Municipality and the Civil Lines. For the rest of the 32 beds the patient had to pay a fee of Rs.1/- per day. With the charging of the fee of Rs. 1/- per day on 32 beds of the general wards, a "considerable number" of beds in the Hospital were vacant which the Chief Commissioner attributed to the inability of the patients to pay the fee. This deteriorated the "usefulness" of the Hospital as there was a long waiting list for the admission to the small number of free beds. The special sub-committee of the Delhi Municipality which was constituted to enquire into the matter in January 1937 was of the opinion that the fall in the number of the in-patients was not solely due to the charges which were made for their food. There were other contributory factors like the refusal of the resident surgeon to admit the advanced cases on the ground that the Hospital would get a bad name if there were deaths. The opening up of the clinics like the Ramakrishna Mission Free Tuberculosis Clinic in 1933 and the Queen's Road Tuberculosis Clinic in 1934 also contributed to the decline in the number of the in-patient as "medicine and expert advice was given free" in these clinic. Moreover 4 out of 12 beds in the private cottages were also vacant where there was no increase in the fee. A patient had to pay Rs. 100/- per month in the private cottage which only included charges for the accommodation and the treatment with "ordinary medicine". The x-ray, electricity, and the food were separately charged.[101]

[100] 'Close Municipal Schools Rather than Spread Disease', *Hindustan Times*, Saturday 19 September 1936.
[101] File No. 5(43), 1937, Chief Commissioner's Record, Delhi, Department of Education. Question of a Payment of Government Grant to the Silver Jubilee Tuberculosis Hospital, Kingsway, DSA.

In February 1937 the Delhi Municipality appointed a sub-committee to enquire into the question of charging of fee in the general ward of the Hospital and the arrangements to be made with the other local bodies in connection with the admittance of their patients in the Hospital. Dr. Hari Ram who was a Civil Surgeon and Sohan Lal the Secretary of Delhi Municipality were the members of the sub-committee. On the recommendation given by the sub-committee the Delhi Municipality passed a resolution in which out of the total number of 56 beds in the general ward 36 beds were free and 14 beds were allotted to the patients paying anna 8/-. The free accommodation in the general ward was given to the "most deserving patients", provided they produced "certificates of poverty to the satisfaction" of the Resident Superintendent who was to give reasons for their free admission in the registers kept for this purpose. The free admission was given only to the residents of the Delhi Municipality. The Delhi Municipal Committee was "exceedingly jealous of its privileges" and regarded the Hospital as the "preserve" of the residents of the Delhi City. The patients from the other municipal areas were admitted only to the beds specifically reserved for them. Six beds were reserved for the patients residing in the New Delhi Municipality and the Civil Lines at the cost of Rs. 9,000/- per annum. There was no provision for the treatment of the patients residing in the rural area as the District Board was unable to pay for the reservation of the beds. The Chief Medical Officer recommended a government grant for the hospital on the condition that 4 beds were to be reserved for the rural patients. The Delhi Municipality refused to reserve 4 beds for the rural patients because the additional income of Rs. 9,000/- which it earned through the reservation of 6 beds for the patients residing in New Delhi and the Civil Lines would be "wiped off". The government on account of "financial stringency" was incapable of giving financial grant to the Hospital.[102]

No government grant was received by the Delhi Municipal Committee in the maintenance of the Hospital since its inception in 1935. The recurring expenditure incurred by the committee in maintaining the Hospital for 1938-39 and 1939-40 was Rs. 90,653/- and Rs. 84, 462/- respectively. The municipal committee financed the recurring expenditure through the "local taxes" which it collected. Apart from this the Hospital earned a revenue of Rs. 13,730/- per annum in fees and Rs. 6,000/- and Rs. 3,000/- from the reservation of the beds for the treatment of the patients who resided at the New Delhi Municipality and the Civil Lines. The

[102] *Ibid.*

total revenue earned by the Hospital was Rs. 22,730/-. An appeal was made to the Government of India to "provincialise" the Hospital. The committee handed over the Hospital to the Government on 1 April 1946 on the condition that the Hospital was to be "substantially enlarged". As the Hospital was previously maintained by the Delhi Municipality, so certain number of beds were to be reserved for the patients from the Delhi Municipal Area. Fifty-eight beds were reserved for the bona fide residents of the Delhi Municipal Area. The bona fide residents included those who owned property in Delhi City, who had taken up permanent residence within the municipal limits and were engaged in business or trade and those who were employed in any kind of work and lived in the city for the last 5 years.[103]

LADY LINLITHGOW'S FINANCIAL APPEAL

Apart from the initiative taken by the Delhi Municipality to open up the clinics, hospital, and a sanatorium for the treatment of the tuberculosis patients, there were few influential personalities who due to their close proximity with the Government played an important role to fight against the peril of tuberculosis. One of the influential personalities was Lady Linlithgow, who by the virtue of her marriage to the then Viceroy Lord Linlithgow made a financial appeal to the people of India in 1937 to "finance a determined and continuing campaign against the spread of the disease". The fund was named the King Emperor's Fund. In the appeal she stated that the people of India were "well-known for their charity and benevolence to suffering humanity" and therefore she was confident that as her plea was "earnest and sincere" it would be received with "sympathy" by the public. She believed that "charitable endeavour, strengthened by adequate resources which properly directed could mitigate the impact of tuberculosis in India".[104]

The appeal met with an "excellent response from the people and the princes of India" and 76 lakhs of rupees were collected.[105] In Delhi in connection with Lady Linlithgow's appeal, the municipal committee organized a Flag Day on 19 March 1938. The purpose of the Flag Day was "to catch the man on the street and sell him flag in return for money". The minimum subscription was one anna. The event was extensively covered in the newspapers like the *Hindustan Times*.

[103] File No. 7(122) (a), 1946, Chief Commissioner's Record, Delhi. Proposed Provincilisation of the Silver Jubilee Tuberculosis Hospital, Delhi, DSA.
[104] File No.215/1938, Department of Deputy Commissioner, Delhi, Volume 1. Lady Linlithgow's Anti-Tuberculosis Fund 1938, DSA.
[105] Report of the Health Survey and Development Committee. Volume I.

The radio also broadcasted information about the Flag Day in English and Urdu during the news hour. With the help of the print and the electronic medium an appeal was made to the public of Delhi "to give their might to a good cause and to make Flag Day a success". Haji Rashid Ahmad and S.M. Abdullah were in-charge of Old Delhi. Shanker Lal and Sobha Singh were in-charge of New Delhi. Habib-ur-Rahman was in-charge of the Civil Lines. The Brigadier assisted by the Resident Magistrate was in-charge of the cantonment area.[106] An army of voluntary workers sold the flags at busy thoroughfares such as Chandni Chowk, Connaught Place, Khari Baoli, and Kashmiri Gate. The spirited youths stopped the cars at these busy thoroughfares and "begged the occupants" to buy the flags. Apart from these busy thoroughfares flags were also sold at important educational institutions such as Lady Hardinge Medical College, St. Stephen's College, Hindu College, and Ramjas College. The other places where the flags were sold were the cinema halls namely Regal, Plaza, Capitol, and Raisina cinema halls, Imperial Delhi Gymkhana Club, Talkatora and Chelmsford Club, Imperial and Marina Hotels. The public responded "enthusiastically to the Flag Day appeal" and over 16,000 flags were sold in the Province. In total Rs. 5,000/- was collected by selling flags.[107]

Other important institutions of the Province like the army and the police organized shows for the entertainment of the general public. The money collected from the shows was given to the King Emperor's Anti-Tuberculosis Fund. The police staged a "dacoity (robbery) show" in Bela ground in March 1938. The Viceroy's bodyguard performed musical ride and an attack on the enemy post was carried out by the Second Battalion, Sixteenth Punjab Regiment in the Bela ground in March 1938. All these events provided an "unusual thrill" to the public. The Bela ground arena formed a natural amphitheatre. The reserved seats were priced at Rs. 5/- whereas seats in the stands were priced at Rs.2/-.[108] The members of the Indian Adult Education Society performed a play entitled "Thomas at Taxila" in May 1938 at Purana Qila to raise money for the anti-tuberculosis fund.[109] Prominent individuals like Muhammad Yamin Khan, M.L.A., also raised money for the fund. He organized an All India Exhibition at Chitra Gupta Road near

[106] 'Flag Day March 19: Delhi Plan for Anti-Tuberculosis Fund', *Hindustan Times*, Monday 7 March 1938.
[107] 'Flag Day: Good Response from Delhi Public', *Hindustan Times*, Sunday 20 March 1938.
[108] 'In aid of Anti-Tuberculosis Fund', *Hindustan Times*, Monday 28 March 1938.
[109] File No. 590, 1938, Chief Commissioner's Record, Delhi, Department of Local Self Government. Questions of Organising an Open-Air Play by the Indian Adult Education Society in Aid of the Anti-Tuberculosis Fund, DSA.
The Indian Adult Education society was founded in 1937 by Professor Raju and Mr. Richardson both of whom were lecturers at St. Stephen's College. The aim of the society was adult education in Delhi.

Paharganj police station in February 1939. The exhibition represented the Indian life and the industry and promoted "keynote of progress and modern design" made by the Indian industries.[110]

The total share of Delhi Province in the proceeds of Lady Linlithgow's appeal for the King Emperors Anti- Tuberculosis Fund was Rs. 90,000/-. Out of this Rs. 20,000/- was earmarked by the Delhi Municipal Committee for the expansion of the Silver Jubilee Tuberculosis Hospital. The accommodation in the Hospital was increased from 86 beds to 135 beds by 1945.[111] The other outcome of the financial appeal was the formation of the Tuberculosis Association of India. The Association had a Central Committee in New Delhi and the various State Associations. The Central Committee functioned as an agency "for giving expert advise and for coordinating the activities of the Provincial and the State Associations". The other important functions of the Central Committee were the training of the tuberculosis workers and the stimulation of research, and educating the public in anti-tuberculosis measures. The establishment of the hospitals and the clinics were the responsibility of the Provincial and the State Organizations. Out of the total collection of Rs. 76,00,000/- only 5% i.e., 3,80,000 was handed over to the Central Association and the rest of the 95% i.e., Rs. 72,20,000/- was given to the local association of the provinces and the states.[112] Out of Rs. 3,80,000/- handed over to the Central Committee of the Tuberculosis Association of India Rs. 1,00,000/- was earmarked for the construction of a model tuberculosis clinic in Delhi. The clinic was constructed towards the north-east corner of the Irwin Hospital compound; close to the x-ray block. The reason for the construction of the clinic in the Irwin Hospital was that the clinic formed a "useful adjunct" to the hospital and the Government was saved of the "unnecessary expenditure" of constructing the

[110] File No. 498, 1938, Chief Commissioner's Record, Delhi, Department of Local Self Government. Proposal by Sir Mohammad Yamin Khan, M.L.A., for the Allotment of a Site for the All India Exhibition to be Held in the aid of King Emperor's Anti-Tuberculosis Fund, DSA.

[111] File No. 3(76), 1939, Chief Commissioner's Record, Delhi, Department of Local Self Government. Question of Grant-in-Aid by the New Delhi Municipal Committee to the Proposed Model Tuberculosis Clinic in Delhi, DSA.

[112] Report of the Health Survey and Development Committee. Volume I.
The Tuberculosis Association of India was formed by incorporating the funds of both the King Emperor Anti-Tuberculosis Fund and the King George Thanksgiving (Anti-Tuberculosis) Fund. Viceroy was the patron of the Association. Lady Linlithgow was the President, Major General Jolly, I.M.S., was the Chairman, A.C. Badenoch, I.C.S., was the Treasurer, Dr. C. Frimodt Moller, C.B.E. (HON) M.B., was the Medical Commissioner and Dr. B.K. Sikand M.B., B.S., was the Secretary of the Association.

clinic at another site.[113] The clinic was named New Delhi Tuberculosis Clinic and served as a "model institution" where the under-graduates, the graduates, and the tuberculosis health visitors received their training. It also served as an investigating centre where the "facts about the disease were collected, examined, and correct conclusion would be drawn". The clinic was managed by a committee which consisted of seven members, five of whom were appointed annually by the Tuberculosis Association of India and two were appointed annually by the Government of India.[114]

In 1941 the Government of India sanctioned an annual grant of Rs. 8,000/- to the Provincial Tuberculosis Association of Delhi for inaugurating an experimental scheme of the organized home treatment.[115] The principal reason behind the organized home treatment was "to search out the tuberculosis patients in order to fight the disease where it exists and it spreads".[116] The institutions associated with the working of the scheme were the New Delhi Tuberculosis Clinic and the Ramakrishna Mission Tuberculosis Clinic. The scheme was in operation in certain number of the wards of the Delhi City. The tuberculosis patients from the areas where the organized home treatment scheme was in operation were kept under the observation and were treated at the clinic assigned to each of these areas. The doctors also visited the home of the patients once a month and in some cases twice especially in those cases which required injections for treatment. The doctors also encouraged the relatives and the friends of the patients to come to the clinic for examination as the chances of them contracting the disease was the highest. They also offered advise on salubrious living. The inception of the scheme synchronized with the difficult conditions which arose out of the War. This rendered the provision of suitable housing, proper nourishment, and other amenities much more difficult than during the normal times. Most of the homes of the poorer classes were single room which led to overcrowding. Satisfactory isolation was therefore impossible unless more suitable accommodation were to be found for the whole family.[117]

[113] File No. 7(43), 1940, Chief Commissioner's Record, Delhi, Department of Local Self Government, Proposed Construction of a Model Tuberculosis Clinic in the Premises of the Irwin Hospital, New Delhi, DSA.
[114] 'Anti-Tuberculosis Campaign: Lady Linlithgow's Appeal', *Hindustan Times*, 22 November 1940.
[115] Report of the Health Survey and Development Committee. Volume I.
[116] 'Control of Tuberculosis: Organised Home Treatment', *Hindustan Times*, Saturday 25 May 1940.
[117] Report of the Health Survey and Development Committee. Volume 1.

After Independence in 1953 Ram Sarup Tuberculosis Hospital (renamed as the National Institute of Tuberculosis and Respiratory Diseases) was opened at Mehrauli. It had accommodation facility for 100 patients. The establishment of this hospital was possible due to Lala Ram Sarup Khanna who donated his estate, Moti Bhavan at Mehrauli which measured 8,000 square yards and a cash grant of Rs. 25,000/- with the request that the estate be converted into a tuberculosis institution. The cost of the construction of the hospital along with the equipment was Rs. 6,35,000/- which was borne by the Government of India.[118] By 1953 the accommodation in the Silver Jubilee Tuberculosis Hospital was increased to 380 beds.[119] Another important development was the establishment of the Chest Surgery Teaching Centre at the Silver Jubilee Tuberculosis Hospital with financial assistance from the World Health Organisation in 1953. The purpose of the Chest Surgery Teaching Centre was to provide a service for the surgical treatment of the pulmonary tuberculosis. It was also a training centre for the surgeons, anesthetists, nurses, physiotherapists, and the technicians to learn the procedure and the technique involved in thoracic surgery.[120]

CONCLUSION

Tuberculosis which was the second biggest cause of deaths in India was a "Cinderella disease" as it "lacked both the glamour necessary to sustain political and scientific interest and the economic impact necessary to ensure official intervention".[121] Based on the primary data collected from the archives the majority of the people who were afflicted with tuberculosis were the poor class Indians who resided in Delhi City which was overcrowded and congested. Therefore, it was a class disease and the establishment of a tuberculosis clinic, hospital, and a sanatorium in Delhi Province was never the priority of the Government. The initiative to establish the tuberculosis clinic, hospital, and a sanatorium in Delhi was made by the Delhi Municipal Committee and the Ramakrishna Mission Trust. Till 1933 Delhi did not have a

[118] 'New Tuberculosis Hospital in Delhi: Call for Individual Effort to Fight Disease', *Times of India*, Pro Quest Historical Newspaper 21 July 1953.
[119] Report of the Delhi State Medical and Health Reorganisation Enquiry Committee 1955. The Chairman of the Committee was Dr. M.D.D. Gilder, M.P., Ex-Health Minister, Bombay Government.
[120] File No. 3(58), 1953, Chief Commissioner's Record, Delhi, Confidential and Cabinet Department. Opening of Chest Surgery Teaching Centre at Silver Jubilee Tuberculosis Hospital, Delhi and the Creation of Posts Connected therewith, DSA.
[121]Mark Harrison and Michael Worboys, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara Marks and Michael Worboys, London, Routledge, 1997,p.116.

separate clinic to treat the tuberculosis patients. The Ramakrishna Mission Free Tuberculosis Clinic was the first tuberculosis clinic to be started in Delhi in 1933 due to the efforts made by the Delhi Branch of the Ramakrishna Mission Trust. The Clinic endured tremendous hardships as it received no government grant. It did not have permanent employees, as a result, it had to discontinue with its preventive work. Till 1940 it was located in a rented accommodation as it was very difficult to get a permanent accommodation due to the fear of the infectivity of the disease. Thus, by the twentieth century tuberculosis was seen as an infectious disease rather than as a disease caused due to hereditary transmission. This was manifested on two occasions. In 1940 the residents of the Karol Bagh protested against the decision of the Delhi Improvement Trust to allot permanent site for the clinic at Karol Bagh as they feared that they would fall prey to the disease due to the indiscriminate spitting by the patients. The residents of the Burn Bastion Road were also alarmed when the Delhi Municipal Committee decided to establish the Queen's Road Tuberculosis Clinic for they feared that the entire area would be engulfed with tuberculosis. The residents pleaded with the Government to start these clinics at a secluded spot, away from the human habitation but the Government refused their plea on the ground that it would be unmanageable for the clinics to function at a secluded place. The first tuberculosis hospital and a sanatorium in Delhi, the Silver Jubilee Tuberculosis Hospital was established in 1935. Due to its limited accommodation admission was only granted to those patients recommended by the Queen's Road Tuberculosis Clinic. The Hospital was solely financed by the Delhi Municipality till 1946 when the Government of India took over the administration of the hospital. One peculiar feature of this hospital was that the other local bodies of Delhi Province had to pay money in order to reserve beds for the treatment of their patients. The New Delhi Municipality paid Rs. 6,000/- annually to reserve four beds for its patients and the Civil Lines paid Rs. 3,000/- annually to reserve two beds for its patients. The patients who were residents of the District Board and the Fort Area were turned away from the hospital as these local bodies were unable to pay for their treatment. The Government made no financial contribution to fight against the blight of tuberculosis or even towards the establishment or the maintenance of the clinics and the hospitals. An influential individual like Lady Linlithgow made a financial appeal to the people of India in order to finance, generate awareness, and establish clinic against tuberculosis. The government though encouraged philanthropy by the individuals in order to

construct new blocks or donate estates to construct the hospital but the recurring expenses were met by the municipality and the Government.

Thus, by 1953 Delhi State had 4 tuberculosis clinics. These clinics had the facilities for the early detection and the control of tuberculosis. These were the Ramakrishna Mission Free Tuberculosis Clinic, the Queen's Road Tuberculosis Clinic, the New Delhi Tuberculosis Clinic, and the Chest Clinic at the Silver Jubilee Tuberculosis Hospital. There were only 2 hospitals for the curative treatment. These were the Silver Jubilee Tuberculosis Hospital at Kingsway with 380 beds and the Ram Sarup Tuberculosis Hospital at Mehrauli with 100 beds. Thus, there were only 480 beds for the tuberculosis patients whereas the requirement was estimated to be for 2500 beds in 1953.[122]

[122] Report of the Delhi State Medical and Health Reorganisation Enquiry Committee 1955.

CHAPTER 3

LEPROSY: DISEASE OF THE POOR

Leprosy defined as a chronic, communicable disease with the predilection for the skin and the peripheral nervous system is caused by Mycobacterium leprae which proliferates slowly. It is rarely fatal and difficult to contract. It usually attacks young people between the ages of 10 and 25 years and rarely develops in people under 6 years of age or above 50 years. From the time immemorial this disease was considered loathsome, and the lepers in the Old Testament were excommunicated and had to quit their homes, kinsmen, and their community. The early references to leprosy in the Vedas dated around 1400 B.C.[1]

Jane Buckingham in her book *Leprosy in Colonial South India: Medicine and Confinement* contextualizes the study of leprosy in India as a "part of the wider history of the poor". The poverty-stricken deprived Indian people reduced to begging after contracting leprosy were exceedingly visible to the British.[2] This was in sharp contrast to leprosy among the affluent sections of the population who had means to hide their disease.[3] She argues that the Colonial State's engagement with leprosy was tenuous. She gives two reasons for this argument. The first reason is that the transmission of leprosy required close and prolonged contact with the infected person and therefore it did not spread with the rapidity of the diseases like cholera and to certain extent tuberculosis. The other reason was that it mostly affected the "Indians and Eurasians"[4] than the Europeans who had the "option" of returning to England once they were diagnosed with leprosy. This could probably be the reason behind the "very low" prevalence of leprosy among the Europeans in India.[5]

[1] Ernest Muir, 'Leprosy: Diagnosis, Treatment and Prevention', *Indian Medical Gazette*: *A Monthly Journal of Medicine, Surgery, Public Health, and General Medical Intelligence Indian and European.* Calcutta Thacker's Press and Directories, March 1937. (Hereafter *Indian Medical Gazette*)
[2] Jane Buckingham, *Leprosy in Colonial South India: Medicine and Confinement*, Basingstoke: Palgrave Macmillan, 2002,p.6.
[3] *Ibid*., p.19
[4] *Ibid*., p. 4.
[5] *Ibid*., p. 27.

Biswamoy Pati and Chandi P. Nanda argue that in Orissa (Odisha) leprosy was viewed as a class disease which was reflected in the comment of the Civil Surgeon who ascribed the disease to "the lower classes [of] Uriyas are a dirty race and have no ideas of cleanliness and sanitation".[6] Dispossessed of "any private space" to conceal their disease, the roving poor meandered on the street; as opposed to the prosperous classes who could hide it "in their personal private space".[7] The government primarily due to the fear that these patients would cause inconvenience to the other non-leprosy population of Orissa wanted to segregate and "invisiblize" them. It was in this context that the proposal to construct a leprosy asylum acquired momentum in Orissa.[8]

Through this chapter, the writer wants to demonstrate that the history of leprosy in Delhi is that of the history of the impoverished and the destitute leprosy sufferers. For this purpose, the chapter is divided into three sub-sections. The first sub-section deals with the causes and the cure of leprosy. The majority of the causes were attributed to the dietary habits of the Indian people especially the lower caste Hindus and the Muslim population who consumed putrid fish and beef meat. As for the treatment in the second half of the nineteenth and the early twentieth-century gurjon oil and chaulmoogra oil were used and it was only in the 1950s that Dapsone an anti-bacterial sulphone drug was used. The second sub-section looks at the condition of the leprosy patients in Delhi Province during the British rule with reference to the implementation of the Lepers Act 1898 and setting up of the leprosy asylum. The British government was skeptical to implement the Lepers Act 1898 as it feared that the Act would drive away the lepers from Delhi Province and since there were very few lepers in the Province, the State did not consider establishing an asylum in the Province as its priority. The third sub-section deals with the condition of the leprosy patients after Independence. In the year 1952, the Delhi State Government implemented the Lepers Act 1898 with a view to drive away the lepers from the other states who had settled down in Delhi. Since there were very few lepers in Delhi the government was reluctant to establish an asylum and it was only after the negotiation with the

[6] Biswamoy Pati and Chandi Nanda, 'The Leprosy Patient and Society: Colonial Orissa- 1870s-1940s' in *The Social History of Health and Medicine in Colonial India*, (eds.) Mark Harrison and Biswamoy Pati, New York: Routledge, 2009, p.115.
[7] *Ibid*., p.124.
[8] *Ibid*., p.115.

Meerut Government failed that the first leprosy asylum was established in Delhi at Tahirpur village in Shahdara in the year 1957.

THE CAUSES AND THE CURE OF LEPROSY

Throughout India various theories were postulated on the causes of leprosy. The conjectural "discourses on its causes included racist assumptions that linked it to the diet and eating habits of the colonized race".[9] In the year 1876 J.F. Beatson, the Surgeon General of Bengal in a letter to the Officiating Secretary to the Government of Bengal stated that among the Muslims, the "julahas" who were weavers by occupation mostly contracted leprosy. This was due to their "filthy habits, dissolute manners" and their consumption of low-quality beef meat. Among the Hindus, he observed, that those communities which lived on snake, mice, and frog diet and were "inattentive to clothing and thus exposed to all vicissitudes of weather" were afflicted with leprosy.[10] According to H.W. Hill, the Civil Surgeon of "Monghyr" (Munger) leprosy was "mostly among the lowest classes of the society". It was particularly common amongst the "lower orders of the Muhammadans than those of the Hindus". This was due to the difference in the "habits and the nature of the food". The Hindus according to him were physically clean as they regularly bathed and occasionally consumed fish or meat diet. The "Mussalmans" on the other hand did not bathe regularly and lived mostly upon "fish and putrid flesh, such as beef or buffalo's flesh".[11]

In 1877 Babu Rajkumar Doss a native doctor in-charge of "Ghattal" (Ghatal) district after a conscientious examination of the patients came to the conclusion that the disease was contracted in two ways "primary and secondary". In the "primary attacks" the "disease had its origin from syphilitic disorders with injudicious administration of mercurials by native quacks". In the secondary cases, it had either occurred 'by contagion or hereditary influence".[12]

James Greene, the Civil Medical Officer at Serampore had no ambiguity in the fact that leprosy was transmitted through sexual intercourse and was "mistaken at first for venereal

[9] *Ibid*., p. 113.
[10] Distribution and Causation of Leprosy in British India 1857. Indian Papers. Medicine. Disease. National Library of Scotland. Permanent URL: http://digital.nls.uk./74457530. Letter was written on 27 July 1876. [Data accessed on 10 April 2016].
[11] *Ibid*.
[12] *Ibid*.

disease". He also observed that most of the sufferers were "homeless classes" and the "beggars" who survived through begging. These people were given "grain of the cheapest and the worst kind". The grain dealers distributed "damaged and worm-eaten grains to this class" as a result they contracted leprosy.[13] Thus, according to James Greene leprosy was not only a sexually transmitted disease but was also due to the consumption of the substandard grains. The view of James Greene was also reiterated by T. Farquhar a retired surgeon of the Bengal Medical Service who stated that leprosy was unusual in "districts where high-quality wheat grain" was cultivated.[14]

In 1893 the *Report of the Leprosy Commission in India 1890-91* was published. According to this Report, leprosy was a "disease sui generis, it is not a form of syphilis or tuberculosis, but has striking aetiological analogies with the latter". It was not a result of the hereditary transmission, neither was it a result of the consumption of "any particular article of food, nor by any climatic or telluric conditions, nor by insanitary surroundings, neither does it peculiarly affect any race or caste". It was circuitously affected by the "insanitary surroundings, such as poverty, bad food or deficient drainage or ventilation". The Report identified three types of leprosy in India. These were the tuberculated, the anaesthetic, and the mixed types. In the tuberculated type, the skin was primarily affected, in the anaesthetic type the peripheral nerves were affected while the mixed type was a combination of both the tuberculated and anaesthetic leprosy. Finally, the Report stated that the disease was "contagious and inoculable".[15]

In spite of the fact that the Report of the Leprosy Commission made it clear that leprosy was not caused due to consumption of "any particular article of food",[16] in the early twentieth century Mr. Jonathan Hutchinson, who was a surgeon, writer, and the President of the Royal College of Surgeons propounded the theory that leprosy was due to the eating of decomposed fish. On 7 June 1903, Mr. Jonathan Hutchinson wrote in *The London Times* that Christianity was responsible for the prevalence of leprosy in Europe during the Middle Ages. He added that wherever the Catholic missions were successful there was an increase in leprosy. Conversion

[13] *Ibid*.
[14] Buckingham, *Leprosy in Colonial South India: Medicine and Confinement*, p.16.
[15] Report of the Leprosy Commission in India 1890-91. Calcutta: Printed by the Superintendent of Government Printing India 1893. Indian Papers. Medicine. Disease. National Library of Scotland. Permanent URL: http://digital.nls.uk./74463060. [Data accessed on 10 April 2016].
[16] *Ibid.*

from Hinduism to Roman Christianity increased the risk of becoming a leper. This risk was due to the compulsory use of fish on the fast days.[17] He further estimated

> That a catholic convert runs twenty times as much risk of leprosy as an unconverted Hindu. There is no danger whatever from sound fish whether fresh or cured. The danger comes when decomposition commences. In hot climates fish soon becomes tainted, salt is apt to be dear, and partly decomposed fish is in some places preferred for its flavour to fresh.[18]

From the late nineteenth century onwards, the missionaries began to carry out medical work; this was done more with the objective of "gaining legitimacy with a view to religious conversion".[19] The tremendous difficulties which involved in converting the caste Hindus and the Muslims to Christianity in India had the missionaries focus "their activities on the more marginal social groups, notably untouchables and adivasis".[20] Methodical attempts were made by the missionaries to provide medical relief to the leprosy patients as they were shunned as outcastes by the society as well as their families. Mr. Wellesley Bailey, who came to India as a police officer in 1869, was drawn to the leprosy work and immersed himself enthusiastically into it. He established the Mission to Lepers in Chamba at Punjab in 1875. In the following years the Mission extended its activities to such an extent that in 1937 when Mr. Bailey died, there were 32 institutions in the different parts of the country under its control providing accommodation for 8,000 leper patients.[21]

Dr. Ernest Muir a Leprologist wrote an article in the *Hindustan Times* on 23 January 1925 on "How do People Get Leprosy". In it, he wrote that there were three main theories associated with the origin of leprosy. The first theory was that it was contracted from the parents before the birth of the child. The frequency with which the children of the leper parents suffered from the disease led to this theory. The children who were separated early from their leper

[17] 'Leprosy and Christianity', *New York Times* (1857-1922) 7 June 1903. ProQuest Historical Newspaper.
[18] *Ibid*.
[19] David Hardiman, Christian Therapy: Medical Missionaries and the Adivasis of Western India, 1880-1930 in *Healing Bodies, Saving Souls: Medical Missions in Asia and Africa*, Ed. David Hardiman, New York: Editions Rodopi, 2006, p.137.
[20] *Ibid*., p. 143.
[21] Report of the Health Survey and Development Committee. Published By: The Manager of Publications, Delhi. Printed By: The Manager, Government of India Press, Calcutta 1946. The Chairman of the Committee was Joseph Bhore.

parents seldom or never contracted leprosy, while children of the healthy parents who lived in a house where there was a leper servant often developed the disease.[22]

The second theory of Dr. Muir was originally advocated by Dr. Hutchinson who "brought forward the theory that leprosy was due to eating of fish especially putrid fish". When Hutchinson observed that leprosy was due to a germ living and growing in the tissues of the body, he said that such germs were present everywhere and "all that was necessary to produce leprosy was the eating of putrid fish". Dr. Ernest Muir supporting Dr. Hutchinson's view wrote that there was certain amount of truth in his "Putrid Fish Theory" because eating of stale fish or for that matter any kind of stale food lowered the resistance of the body which formed a suitable soil for the leprosy germ to grow in.[23] Regarding diet, Dr. Ernest Muir stated that the leprosy patients must eat "fresh food". Tinned, salted, and preserved foods were to be avoided. Overcooked, re-cooked, highly spiced, and stale foods were harmful. Only fresh meat and fish was to be consumed in "small quantities". Food which was difficult to digest was to be avoided. Fresh vegetables should be "eaten freely, especially those that can be eaten raw such as lettuce and tomatoes". Plenty of fruits were to be eaten. Fresh dairy produce, milk, butter, and eggs (raw or slightly boiled) were very valuable. Too highly milled rice and grains were to be avoided, as the part removed by over-milling had "valuable qualities". Alcohol was to be absolutely avoided. Tea, coffee, and tobacco were to be consumed in restricted quantities. Excessive eating by the leprosy patients was harmful and "the patient should aim at still feeling hungry when he has finished his meals". Meals were not to be hurried and "plenty of time should be taken to thoroughly masticate each mouthful". A short rest before and after the meals was "advantageous".[24]

The third theory proposed by Dr. Muir was that leprosy was transmitted through the contact with the infected lepers. All the lepers were not infectious. The most repulsive looking lepers were not always the most dangerous; indeed some of the most repulsive of all who displayed their deformities to elicit alms were not at all dangerous as the "germs" had died leaving only the deformities and the sores. It was found that leprosy though a contagious disease,

[22] 'How do People Get Leprosy', *Hindustan Times*, Friday 23 January 1925.
[23] *Ibid*.
[24] File No.7/1921, Part B, Chief Commissioner's Record, Department of Home. Leper Problem, Delhi State Archives (DSA).

was not highly so. "The longer the contact and closer the contact the more likely is the disease to be transmitted".[25] This theory of Dr. Muir holds relevance even in contemporary time.

According to Dr. Isaac Santra, an Indian Physician the "immediate cause" for the existence of leprosy was the "lack of nutritive food" for the people, non-observance of the "principle of hygiene" and the failure to arrest the disease in its early stage which was mostly due to the "concealment of its existence" by "some ignorant people".[26]

Regarding the treatment of leprosy, Dr. Ernest Muir wrote an article in the *Hindustan Times* titled "Is there a Cure for Leprosy". In the article he wrote that "there was a treatment" which when carried out thoroughly in the early cases caused the disappearance of all the signs of the disease and the patient had "a reasonable assurance" provided they led an active, healthy life, and kept free from other diseases which would weaken them, they would never see any signs of leprosy on their bodies. He further wrote that if a person who suffered from leprosy visited a doctor who could diagnose the disease in its initial stage and treat them thoroughly according to the "latest methods, the disease would disappear from India and from the world within a generation". There were three hindrances according to him which prevented the rapid eradication of leprosy. The first was the ignorance of the doctors about leprosy. Many qualified doctors in India were unable to diagnose the disease from its "early signs", or to treat it efficiently once it was diagnosed. The second was the ignorance of the people and this was due to the fact that the early signs did not cause pain or inconvenience to the patient, so the patient was under the impression that it was a trivial ailment and did not seek the advise of a doctor. The third was the societal prejudice regarding leprosy which was seen as a sign of the displeasure of the Gods or to be hereditary instead of being what it really was "a disease caused by a small organism growing in the skin and nerves of the body". This erroneous conception caused great injustice to the people who suffered from leprosy, causing them to lose their employment, to be outcast and despised by their fellowmen even though the disease was in its earliest stage and appeared no more than a "small patch of ringworm and was less contagious than ringworm". In the initial stage, he wrote, there was "absolutely no danger" of the patient to anyone else.[27]

[25] 'How do People Get Leprosy', *Hindustan Times*, Friday 23 January 1925.
[26] 'Leprosy in India: Question of Treatment', *Hindustan Times*, Saturday 12 October 1929.
[27] 'Is there a Cure for Leprosy', *Hindustan Times*, Saturday 24 January 1925.

Dr. Isaac Santra stated that in the treatment of the disease "great importance" was to be paid to the physical exercise and the diet. The leprosy patients were not to be given animal diet as it was not good for them. Their ideal diet was to be "natural diet containing natural salts and vitamins". The only way leprosy "could be stamped out from India" was through the treatment of "each case separately".[28]

According to Dr. R.C Acharya of Calcutta (Kolkata), the most important treatment for the leprosy patients was to maintain "personal hygiene" especially "sanitation of the skin". Regular bathing in the tropics was necessary "for the sake of cleanliness" particularly during the hot months when there was much more "chance for various skin diseases due to the blocking of the pores of the skin which may aggravate the infection of leprosy". The cleanliness of the teeth and the gum was also important as the food particles "lodged there undergo fermentation and are converted into acids which act on the enamel of the teeth and corrode them exposing the dentine" this led to pyorrhea which interfered in the treatment of leprosy. Along with maintaining the personal hygiene, daily exercise was also important for the leprosy patients. Exercise made muscles strong, improved digestion, and absorption of the food which augmented the "resisting power of the body to fight away diseases like leprosy".[29]

In India the most common form of treatment for leprosy in the second half of the nineteenth and the early twentieth century was the use of the gurjon oil and the chaulmoogra oil. The gurjon oil was a "slow acting medicine" and it was only after prolonged use its effects were visible. The Civil Surgeon of "Dhulia" (Dhule) gave an example of a prisoner who was treated with gurjon oil. Khandu Wullud Rana came into the Dhulia jail on 6 January 1876. His age was 25 years and he was diagnosed with "well-developed tubercular leprosy". He was treated with gurjon oil which was applied both internally as well as externally. Within two months of its use, the "ulceration of the tips of the fingers and toes and on several other parts of hands and feet's and severe cracks on the soles healed". The swelling on his face also reduced. He put on "3 pounds in weight" as he was "fairly well fed on the usual prison ration with wheat, bread, and mutton" and did not perform any manual labour. However this improvement in his health was not permanent and after his release, he again suffered from the "sores".[30] In the late nineteenth

[28] 'Leprosy in India: Question of Treatment', *Hindustan Times*, Saturday 12 October 1929.
[29]R.C. Acharya, 'Treatment of Leprosy', *Indian Medical Gazette*, July 1935.
[30] Distribution and Causation of Leprosy in British India 1857.

century, Dr. Dougall undertook the task of treating 25 convict lepers with gurjon oil at Port Blair for 6 months. After applying the gurjon oil for six months on the convict lepers he said[31]

> The time has been long enough to show that leprosy, both tubercular and anaesthetic, can only be arrested, but the condition of the lepers can be greatly ameliorated; and men here who have not for years been able to do more than drag out a miserable helpless existence are now able and willing to work, and every sore is quite healed.[32]

Dr. Dougall's success was more due to the fact that he dealt with a "colony of convict lepers" under strict control and was, therefore, capable of executing his treatment plan far more scrupulously which was not possible in an asylum as the patients were disinclined to "any therapeutic measures which involves the least exertion".[33] When the gurjon oil treatment was carried out for more than six months at a leper asylum about 10 miles from Sialkot, the treatment was "pronounced worse than useless" by the patients submitted to it.[34] The use of the chaulmoogra and the hydnocarpus oils in the treatment of leprosy goes back to some 3000 years when, legend had it that Rama, a King of Benares (Varanasi), claimed to have cured himself of the disease by subsisting on a diet of the seeds of the Kalaw tree (from which the oil is obtained). The chaulmoogra oil was given both orally as well as in the form of intramuscular injection.[35] An advance was made in the use of chaulmoogra oil in 1913 when Dr. Victor Heiser, the Director of Health for Philippine Islands reported four cases of leprosy to have been cured by the intramuscular injections of the oil. The systematic treatment of the chaulmoogra oil was carried out in Madras (Tamil Nadu) during the first half of the twentieth century where oil pressed from the seeds of gynocardia odorata were given twice daily in an ounce of milk. It was claimed that "anaesthesia cleared up" and the skin became smoother.[36] The use of chaulmoogra oil had its own drawbacks. It had a nauseating effect[37] and caused "such gastric disturbances due to its irritating effect" that it was almost impossible to administer it for a sufficient length of time to produce good clinical results.[38] It was only with the use of dapsone in the 1950s "an anti-

[31] Report of the Leprosy Commission in India 1890-91.
[32] *Ibid.*
[33] *Ibid.*
[34] Distribution and Causation of Leprosy in British India 1857.
[35] 'Medical Therapy of Leprosy', *Indian Medical Gazette,* July 1948.
[36] Ernest Neve, 'A Report on the Gynocardate and Morrhuate Treatment of Leprosy Based on Forty Cases in the Kashmir State Leper Hospital', *Indian Medical Gazette,* April 1920.
[37] John Lowe 'The Epidemiology of Leprosy', *Indian Medical Gazette,* March 1937.
[38] 'Medical Therapy of Leprosy', *Indian Medical Gazette,* July 1948.

bacterial sulphone drug" which was efficient against "leprosy bacillus that leprosy sufferers in India could begin to hope for a complete cure."[39]

The Conference of the Leper Asylum Superintendents was held in Calcutta from 3 to 6 February 1920 under the auspices of the Mission to Lepers in India. The Conference included delegates from all parts of India who had practical experience in dealing with the problem of leprosy, and was attended by the medical officers "with the best expert knowledge of the disease". The Conference adopted the unanimous findings of the special medical sub-committee. These findings were that leprosy was a contagious disease with a long incubation period. In the majority of the cases it was caused by the "escape of causative bacillus in the nasal discharges" as a result many of the early cases did not have outwardly visible ulceration. The disease was not directly hereditary; the children were free from infection at birth but were highly susceptible to contagion from an early age. The committee recommended segregation as the most effective measure for reducing the prevalence of leprosy. It further recommended facilities to be provided for the training of the medical assistants in the diagnosis and the treatment of leprosy in order to enable the "best methods" to be more generally used in the asylums and also in the hospitals and the dispensaries. The leper institutions were to be provided with the facilities for microscopical examination. In view of the considerable degree of the fecundity of the lepers, especially of the females and the excessive danger of contagion to the children of the lepers, the committee recommended separation of the sexes as far as possible. Wherever segregation was not found to be practicable the married lepers were allowed to live together on the condition that any children born to them were to be separated from their infected parents at the earliest possible age.[40]

By 1920 the authorities realized segregation as the most potent measure to diminish the prevalence of leprosy, but this was not the case in the nineteenth century. In 1878 G. Hewlett the acting Sanitary Commissioner of Bombay (Maharashtra) Province in a letter to the Chief Secretary to the Government of Bombay stated that "any measures of segregation of lepers throughout the country would be impracticable as a state measure". Instead, he suggested enhancing "hygienic condition" under which the majority of the people in India lived. The "filth" which engulfed the villages in India acted as a deterrent in combating the disease.[41] The Leprosy

[39] Buckingham, *Leprosy in Colonial South India: Medicine and Confinement*, p. 106.
[40] File No.7/1921, Part B, Chief Commissioner's Record, Department of Home. Leper Problem, DSA.
[41]Distribution and Causation of Leprosy in British India 1857.

Commission was also against the mandatory or voluntary segregation of the lepers as it was not an efficient method to totally eradicate or to cause a decline in the leper population. The Commission believed that the only way through which leprosy could decline was through "improved sanitation and good dietetic conditions".[42] In the Western World leprosy was "stamped out" largely as a result of segregation. Even in the Philippine Island the best method of prophylaxis for leprosy was segregation. The Americans on their occupation of the Philippine Island noticed "large numbers of lepers frequenting public places and engaged in occupations which rendered them a danger to the general community". The Island was inhabited by 11 million people, and it was estimated that there were 10,000 lepers on the Island or, roughly 1 in every 1,000 was a leper. In the year 1906, they removed this "menace by the deportation of all bacteriologically positive lepers" to Culion, an island 200 miles to the south-west of Manila.[43] The colony had 500-bed hospital, dormitories for 2,000 patients, clinic building, and laboratories. There were also physicians, nurses, and the administrative assistants who lived in houses separated from the main colony. The patients were encouraged to take up vocational activity; some managed retail shops, others were engaged in fishing, some cultivated small farms on the outskirts of the town, and sold their products in the colony. As a result of this policy of segregation, there were 3,500 lepers on the Island in the year 1920.[44]

CONDITION OF THE LEPROSY PATIENTS IN DELHI PROVINCE DURING THE BRITISH RULE

The earliest leprosy survey in Delhi was done in the year 1890. Eleven people were found to be suffering from leprosy. One interesting aspect of this survey was that the religious affiliations, as well as the marital status of the lepers, were given. In the later surveys conducted in Delhi in the 1920s and the 1940s the religious affiliations as well as the marital statuses of the lepers were not mentioned. Out of the 11 lepers in the year 1890, 6 were Hindus belonging to the low castes of the "chamar" (tanners) and the weaver. Five were Muslims. Nine lepers were married and had 33 children in all. Except one leper all the other lepers were frequent fish-eaters. There was a

[42] Report of the Leprosy Commission in India 1890-91.
[43] Ernest Muir, 'Report on a Visit to the Leper Islands of Culion and on the Anti-Leprosy Work in the Philippine Islands', *Indian Medical Gazette*, June 1925.
[44] File No.7/1921, Part B, Chief Commissioner's Record, Department of Home. Leper Problem, DSA.

common belief in Delhi that if fish was eaten and "then milk drunk directly afterwards, then probably leprosy will be produced". [45]

According to the 1921 census Delhi Province had only 8 lepers. In the year 1929, leprosy survey was done in Delhi Province by Dr. Isaac Santra. The Delhi Municipality and a few villages around it were visited. Out of the nine villages surveyed, they found only one case of leprosy in the village of Dakha. In the year 1924, he came from "Bulendshar" (Bulandshahr) to work as a coolie in Delhi. He was an A2 case, which basically meant he was non-infectious. Many of the villagers said that they had never seen a leper. They were surprised to find a college student who did not understand what was meant by the word leper. He said that in none of his school or college books he had come across the word leper. As leprosy survey was rare in the villages they engaged themselves in the survey of the municipal area. The number of the lepers residing within the municipal area was 53 out of which 31 were non-infectious cases and 22 were infectious cases.[46] As Delhi Province did not have "enough lepers" the Chief Medical Officer recommended that the "pauper lepers" could be "temporarily" admitted into the Infectious Disease Hospital at Paharganj and "better classes Indians and Europeans" could be admitted into the Infectious Disease Hospital at Kingsway. The recommendation of the Chief Medical Officer could not be implemented due to the "shortage" of beds at both these hospitals.[47] In another survey which was done in the year 1940 Delhi Province had 75 lepers. After Independence, by 1955 Delhi State had 253 lepers.[48]

The total number of leprosy patients residing in Delhi from 1890 to 1955, is represented in the tabular form below

[45] Report of the Leprosy Commission in India 1890-91. Delhi in 1890 was the district of Punjab. It became a Province in 1912 and State in 1952.
[46] File No. 6(5), 1931, Part B, Chief Commissioner's Record, Delhi, Department of Education. Annual Public Health Report of the Delhi Province for the year 1929-30, DSA.
[47] File No.7/1921, Part B, Chief Commissioner's Record, Department of Home. Leper Problem, DSA.
[48] File No. 27(14)/55, Chief Commissioner's Record, Delhi State Secretariat. Construction of Leprosy Home, DSA.

Year	Number of Leprosy Patients
1890	11
1921	8
1929	53
1940	75
1955	253

From the above table, it is clear that the number of leprosy patients residing in Delhi decreased in 1921 to 8 patients from 11 patients in 1890. From 1929 to 1955 it increased from 53 patients to 253 patients. The major reason for this increase was that it was only in 1952 that the Delhi State implemented the Lepers Act 1898 (this Act will be discussed in detail later in the chapter).[49] Under this Act, it was compulsory to arrange for the segregation and the maintenance of the leprosy patients in an asylum. As Delhi did not have an asylum till 1957,[50] so it was easy for the leprosy patients from the other provinces and the states to settle and beg on the streets of Delhi.

In order to adopt a "more active policy in dealing with the leper problem" and also due to the fear of the infectivity of the disease, the Government of India in 1920 decided to control the travelling of the lepers by the rail and the steamers. In this connection the Chief Commissioner of Delhi Province informed H. Tonkinson, the Additional Deputy Secretary to the Government of India that Delhi Province did not have inland steamers, therefore, there was no danger of the leprosy patients travelling and spreading the disease through the inland steamers. Regarding the railways, he stated that according to the Indian Railway Act 1890 bubonic fever, cholera, diphtheria, leprosy, measles, scarlet fever, small pox, typhus fever, typhoid fever, and whooping cough were "deemed to be infectious or contagious disorders". No passengers suffering from an "infectious or contagious disorders" were carried in any train unless that person reserved an entire compartment for themselves and their attendants. Further according to the Section 71 of the Indian Railway Act such an infected person was only allowed to enter or travel in a railway

[49] File No. 27(13)/52, 1952, Chief Commissioner's Record, Delhi. Extension of the Lepers Act 1898 to the State of Delhi, DSA.
[50] File No. 27(14)/55, Chief Commissioner's Record, Delhi State Secretariat. Construction of Leprosy Home.

with the special permission of the station master or another railway employee in charge of the place.[51]

In a meeting held at the Metcalf House in Delhi on 29 January 1925, Viceroy Reading "launched his appeal for moral and financial support from all classes of India in an endeavour to remove the menace of leprosy". The meeting was attended by the members of the Viceroy Executive Council, members of the Council of State and the Legislative Assembly, prominent citizens of Delhi, and the members of the medical profession. In the appeal, he stated that[52]

> Never was there a more ironical case of locking the door after the steel was stolen than this segregation of the lepers in the advanced stage of his disease, when the deformities and the sores which disfigured his body showed only too plainly the nature of his ailment. For it is now known that leprosy is most infectious and therefore most dangerous in its early stages, and that when a leprous patient has reached the stage of deformities his power to infect others no longer exist.[53]

He further stated that scientific research had discovered that leprosy was not due to "obscure or unknowable cause" but due to bacillus known as the Bacillus Leprae. Therefore, an "ardent campaign of enlightenment" that would bring the elementary facts of this disease as revealed by the scientific research to the knowledge of the whole Indian community was needed. For this, he stated the work that was immediately ahead of the Government was to promote further research into the causes and the treatment of leprosy, to devise means whereby the results of the research could be effectively communicated to the medical profession throughout India, the establishment of the outpatient skin clinics and the dispensaries for the treatment of the patients by the new methods, and also the extension of the existing institution and the foundation of the new ones wherein those "very numerous cases of leprosy, which constitute a positive danger to the public may be segregated" were needed.[54] The Government needed money to sponsor all these activities, therefore, the Viceroy requested the general public of India in his appeal to contribute financially in order to combat the scourge of leprosy.

[51] File No.7/1921, Part B, Chief Commissioner's Record, Department of Home. Leper Problem, DSA.
[52] 'Relief the Lepers, Viceroy's Appeal', *Hindustan Times*, Thursday 29 January 1925.
[53] *Ibid*.
[54] *Ibid*.

As a result, of this appeal six collecting boxes for collecting money were put up at conspicuous places of the Province where the rich British and the influential Indians frequented. These places were Cecil Hotel, Maiden Hotel, Alipur House, Delhi Club, the Imperial Delhi Gymkhana Club, Kingsway and the Imperial Delhi Gymkhana Club, Raisina. The collecting boxes were made of "double lock tin, enamelled post office red all over" with two suspending loops, one at the top and the other one at the bottom for firmly securing it to a wall. It had no lock and was cut open to remove the money. The idea behind the collecting boxes was to encourage the public to donate money for leprosy. These boxes were returned on 28 March 1925. On opening, they contained a sum of Rs. 20/4/-. This was a meagre amount when one takes into account that these 6 places were frequented by the rich British and the influential Indians. Thus, the cause of the eradication of leprosy was not the priority of the economically well off sections of the society. In comparison to Rs. 20/4/- collected from the boxes few individuals and organisation made generous voluntary contributions like Lala Nanak Chand, the Magistrate of "Chaori Bazaar" (Chawri Bazar) made a munificent contribution of Rs. 1,000/- for the leprosy fund. His contribution was wrongly credited to Lala Banwari Lal in the list of the subscriptions published by *The Pioneer* on 13 February 1925 which was later corrected. Lala Bishambar Dayal son of Lala Bhiwani Parshad Kayastha resident of Gali Mata, Dayal Bhawan, Delhi made a contribution of Rs. 100/- to the leprosy fund. On 2 October 1925, some members of the Punjab Chamber of Commerce contributed a cheque of Rs. 845/- to the Viceroy's Leprosy Relief Fund. These members were Mohammad Ismail Maula Baksh who contributed Rs. 100/-, R.B. Boota Singh and Sons Limited, Delhi, Rs. 25/-, Shahdara-Saharanpur Railway Rs. 500/-, Mr. Madan Gopal of Delhi Rs. 20/-, Mr. Motiram Mehra of Amritsar Rs.25/-Amritsar Distillery Corporation Rs. 25/-, R.J. Wood, and Co., Delhi Rs. 100/-, and P. Mukerjee and Co., Delhi Rs. 50/-.[55]

One important development of this appeal was the formation of the Indian Council of the British Empire Leprosy Relief Association. As a result of this appeal Rs. 20 lakhs were collected and the interest from this amount constituted the funds for the activities of the Association. It had its central office in New Delhi while the branches existed in the different provinces. The main activities of the Provincial Branches were to carry out the leprosy surveys and the establishment and the maintenance of the treatment centres. The Central Organization, on the other hand, was

[55] File No. 6(1), 1925, Part B, Chief Commissioner's Record, Delhi, Department of Education. Orders Regarding the Treatment of Lepers, DSA.

concerned mainly with the promotion of the leprosy research, the provision of the facilities for the special training of the doctors in the diagnosis and the treatment of leprosy, awareness work, and co-ordination through the provincial branches of the governmental and the voluntary effort in the campaign against the disease.[56]

In the 1930s, the government contemplated over the idea of implementing the Lepers Act, 1898 and opening an asylum in Delhi to provide accommodation for the lepers of the Province. In this connection series of letters were exchanged between the Chief Commissioner, the Chief Medical Officer and the Assistant Director of Public Health. In a letter dated 4 August 1937 to Lieutenant-Colonel W.C. Paton who was the Chief Medical Officer of Delhi, the Chief Commissioner E.M. Jenkins inquired about the data on the number of "pauper lepers" and expressed his concern for the establishment of a leper asylum to accommodate the leper beggars who according to him were a "common and rather distressing feature in parts of Delhi City".[57]

Lieutenant-Colonel W.C. Paton replied in a letter to E.M. Jenkins, that the only information he had regarding the number of the pauper lepers in Delhi was the survey done in the year 1929 by Dr. Santra. He had found 53 cases in Delhi City. He further wrote that if arrangements were made for an asylum, one had to 'rely on persuasion to induce them to enter the asylum". The public health authorities were of the opinion that most of the pauper lepers who lived by begging were "burnt-out cases" which meant that they were no longer infectious and were, therefore, not important from the public health point of view. Compulsory isolation according to him was not necessary as it would prevent the early and the infectious cases from coming to the clinic for the treatment. He recommended that "from the social point of view it is certainly desirable that there should be some sort of asylum for the pauper lepers if they can be persuaded to go to it. I do not think anything more can be done in this matter".[58]

In another letter written to Major W.H. Crichton, the Assistant Director of Public Health E.M. Jenkins suggested that there were only two ways of dealing with the pauper lepers of Delhi. The first was by compulsory segregation under the Lepers Act 1898 and the second was by voluntary segregation. Both the medical and the administrative opinions were opposed to the

[56] Report of the Health Survey and Development Committee. Volume I.
[57] File No. 6(40), 1936, Part B, Chief Commissioner's Record, Delhi, Department of Education. Anti-Leprosy Campaign in India, DSA.
[58] *Ibid*. The date of the letter is not known.

"local application of the Lepers Act" because the effect of this Act would frighten the pauper lepers out of Delhi and "prevent lepers generally from offering themselves for treatment". Any scheme for voluntary segregation depended upon the willingness of those concerned to enter an asylum and E.M. Jenkins was very doubtful about this.[59] The above-mentioned letters reflect the concern of the authorities with regard to the pauper lepers only. The authorities wanted to segregate the pauper lepers so that they do not cause inconvenience to the other citizens of the Province. The authorities were in a dilemma with regard to the implementation of the Lepers Act 1898. On one hand if they implemented the Act it would deter the lepers from getting treated and on the other hand if they did not implement the Act they were doubtful whether the lepers would willingly enter the asylum.

The Lepers Act passed in 1898 was "an Act to provide for the segregation and the medical treatment of the pauper lepers and the control of the lepers". The Section 2 of the Act defined the pauper leper as a person who publicly solicited alms and exposed "sores, wounds, bodily ailment or deformity with the object of exciting charity or obtaining alms" and "who is at large without any ostensible means of subsistence". Under the Section 3 of this Act, the State Government by notification in the Official Gazette could select any place as a leper asylum if it was satisfied that sufficient arrangements could be made for the accommodation and the medication of the lepers. The State Government also indicated the local areas from which the lepers were to be sent to the asylum. Within the local area which was selected by the state government as a leper asylum, "any police officer (or any other person specially empowered by the state government by order in writing) may arrest without a warrant any person who appears to him to be a pauper leper". The arrested pauper leper was to be produced before the Inspector of Lepers. If the Inspector found that the arrested person was not a leper under Section 2 of the Act, the person was released, but if the person was found to be a pauper leper under section 2 of the Act, the person was taken to a Magistrate who had authority under this Act. The Magistrate had the power to send the pauper leper to an asylum where the leper was confined until released by a Board which had three members, one of whom was a medical officer of the government.[60]

[59] *Ibid*. The letter was written on 16 August 1937.
[60] *Ibid*.

The 1898 Lepers Act was arbitrary in nature as is gave power to a police officer or to any other local officer to arrest a person who appeared to them as a pauper leper. No arrest warrant was needed to arrest the pauper lepers. Historians like Jane Buckingham have criticized the Act on the ground that it was more an endeavour to "control vagrancy" than to "check the spread of leprosy". The provision for the incarceration of the pauper leper in the Act was formulated to ensure "that the destitute had some means of relief as well as to clear the Indian streets of repulsive sight and nuisance of leprous beggars".[61] The Special Committee of the Central Advisory Board of Health considered that "this Act appears to be based mainly on consideration of public sentiments which cannot be ignored".[62] Under the Act, the people suffering from leprosy were "treated not as patients but as prisoners".[63] The imprisonment of the pauper lepers implied that "poverty was a criminal condition".[64] The exclusion from compulsory detention for "those leprosy sufferers of a better socio-economic position was a form of class discrimination"[65] in this Act. Further the Act only dealt with certain classes of the patients namely the beggars with leprosy and it also prevented the lepers from selling "any article of food or drink or any drugs or clothing", debarred them from bathing, washing clothes or taking water from any public well or tank, from using "public carriage plying for hire other than a railway; or exercise any trade or calling which may by notification in the Official Gazette be prohibited".[66]

In 1941, the Delhi Anti-Leprosy Society in order to make better housing provisions for the lepers who lived in and around Jumna village had asked for "some land at concession rates" in Jumna Village to the Delhi Improvement Trust. The Chief Commissioner of Delhi sanctioned the improvement scheme known as the Jumna Village Improvement Scheme framed by the Delhi Improvement Trust. The Trust gave 90 years lease of about 2,400 square yards of land at Jumna village to the Delhi Anti-Leprosy Society at the "standard concession rate for poor class re-housing purposes of Rs. 1/- per 100 square yards per month for accommodating the lepers". The market value of the land was estimated at Rs. 3/- per square yard. The condition attached to the

[61] Buckingham, *Leprosy in Colonial South India: Medicine and Confinement*, p.171.
[62] Report of the Health Survey and Development Committee. Volume I.
[63] Biswamoy Pati and Chandi Nanda, 'The Leprosy Patient and Society: Colonial Orissa- 1870s-1940s' in *The Social History of Health and Medicine in Colonial India*, (eds.) Mark Harrison and Biswamoy Pati, New York: Routledge, 2009, p.115.
[64] Buckingham, *Leprosy in Colonial South India: Medicine and Confinement*, p.166.
[65] *Ibid*., p. 162.
[66] File No. 6(40), 1936, Part B, Chief Commissioner's Record, Delhi, Department of Education. Anti-Leprosy Campaign in India, DSA.

lease was that the land was to be used only for building a leper colony, the unit permitted to be used for a house was 80 square yards, houses were to be built in accordance with the "detailed plot wise layout", the prior approval of the Trust was needed before any construction work was done and the Society was not entitled to sub lease or transfer their lease rights in the land. The architectural assistant had prepared "a sample standard plan" of a house with two rooms and a verandah, the kitchen had a "pucca (firm) brick floor" and there was also a "bore hole pit" for the sullage disposal.[67]

The Delhi Women League's petition to the local government in 1939 drawing their attention to the presence of a colony of beggars, large number of whom were suffering from leprosy on the banks of "Jumna" (Yamuna) acted as the catalyst that led to the formation of the Jumna Village Improvement Scheme. These lepers were carrying on trade in toys in the local bazaars in addition to their regular profession of begging. The League requested the local government to instruct the health department to take "immediate steps to remove this danger spot in the interests of the public and offered its cooperation to the authorities in doing the needful".[68]

Since the early 1920s, 60 lepers had established a colony at Bela Road near the bank of the river Yamuna. In the Hindu tradition the river Yamuna is considered extremely sacred where every morning and evening people gather for prayer and bathing. The lepers usually congregated around religious places as it was easy to get alms.[69] John Lowe who was a research worker in leprosy with the British Empire Leprosy Relief Association in the course of a lecture at the Calcutta School of Tropical Medicine in the year 1937 stated that the "religious sentiment" which regarded leprosy not as an infectious disease but as a "visitation of the gods, a man's fate which cannot be avoided" had an important bearing on the prevalence of leprosy in India. The "religious sentiment" encouraged the giving of alms to the beggars, particularly to the lepers, as a religious duty. This fact encouraged the wandering of enormous numbers of lepers all over India, particularly to the religious centres.[70] The presence of a leper colony near the Yamuna River was considered a "danger" to the health of the public by the municipal authorities. Their

[67] File No. 1(51), 1942, Chief Commissioner's Record, Delhi. Proposed Lease of Land in Jumna village to the Anti-Leprosy Society, DSA.
[68] File No. 59, 1939, Chief Commissioner's Record, Delhi, Department of Local Self Government. Measures to Control the Spread of Leprosy in Delhi, DSA.
[69] 'The Leper Problem in Delhi', *Hindustan Times*, Sunday 26 August 1934.
[70] John Lowe, 'Epidemiology of Leprosy', *Indian Medical Gazette*, March 1937.

only means of subsistence was begging.[71] As Delhi Province did not have a leprosy asylum so the Deputy Commissioner in the year 1929 wrote letters to the superintendent of the leper asylums at Subathu, Meerut, Ambala, and the Secretary of the Indian Mission for Lepers in Bihar in order to accommodate these lepers in their asylums. All the four institutions expressed their inability to "find room for Delhi's lepers, because of want of accommodation". The Secretary of the Indian Mission for Lepers in his reply added that sometimes the implementation of the Lepers Act for the segregation of the pauper lepers led to the departure of the lepers from the municipality where the Act was applied to the other towns where the Act was not applied. He further wrote that[72]

> This needs to be borne in mind before embarking on the provision of special accommodation. Our effort as a Mission is to serve lepers before they get to that state, where, driven to beggary, they ultimately become hardened to it and do not desire to desist because of its lucrative results.[73]

The Delhi Municipal Committee by resolution number 6 dated 16 October 1929 decided to "take steps to have the Lepers Act extended to Delhi". The case was placed before the municipal committee on 23 July 1930. Sohan Lal the Municipal Secretary pointed out that if the Act was extended to the Delhi Province then the committee had to "appoint someplace" under Section 3 of the Act as a leper asylum and also had to specify the area from where the lepers were to be sent to it. Colonel Wilson, a member of the municipal committee proposed accommodation for at least 100 beds and the wards of the asylum were to be divided on the basis of the patient's religion and sex. He recommended 40 beds for the"Mohammedan" patients, 30 for the males and 10 for the females. Another 40 beds for the Hindus patients, 30 for the males and 10 for the females and finally 20 beds for the Christian patients, 15 for the males and 5 for the females. Sohan Lal found Colonel Wilson's proposal as "extravagant" and instead suggested that a leper asylum should be opened at Kingsway with 30 beds. Haji Rashid, another member of the municipal committee suggested that the proposed asylum should "run as an experimental measure" and its accommodation should be limited to 10 beds. The setting up of the leper asylum in Delhi Province could not materialize due to the "paucity of funds".[74]

[71] 'The Leper Problem in Delhi', *Hindustan Times*, Sunday 26 August 1934.
[72] 'An Asylum wanted, Problem of Leper in Delhi', *Hindustan Times*, Sunday 13 October 1929.
[73] *ibid*.
[74] 'The Leper Problem in Delhi', *Hindustan Times*, Sunday 26 August 1934.

CONDITION OF THE LEPROSY PATIENTS IN DELHI STATE AFTER INDEPENDENCE

Post Independence the question of leprosy was actively taken by Delhi State Government. The health authorities in a meeting held on 8 August 1952 decided to implement the Lepers Act 1898 to Delhi State. Initially, Dr. Mathur suggested the establishment of a leper's colony in Delhi but the suggestion was mooted out as more lepers would be attracted to Delhi. The best thing according to the authorities was to extend the Lepers Act to Delhi State. The lepers were to be segregated and sent back to their states. Regarding the establishment of a leper asylum under Section 3 of the Act, Dr. Pran Nath Behl Dermatologist at the Irwin Hospital suggested construction of an asylum in Delhi. In a letter written to Sushila Nayyar, the Health Minister of Delhi, he expressed the ordeals of the leprosy patients who lived in "congested houses" where the conditions did not permit "effective isolation". They were "too poor to afford proper diet and drugs". As this disease carried an "awful stigma" the leprosy patients were not employed with the result that they became "burden to the family and society". In the letter, he advocated setting up of "leprosarium" on "modern lines" which he felt could solve "all their difficulties" and was a "right answer to help" the patients. Dr. Pran Nath Behl's proposal was turned down by Sushila Nayyar. In a letter written to him, she expressed that[75]

> Leprosy is not common in Northern India and if a leprosarium is started here (Delhi), it will attract leprosy cases from elsewhere in India. The Mission for Lepers was running a leprosarium at Meerut which they gave up for this very reason. There is a clinic for treatment at Jama Masjid where they received injections, medicine, and dressing materials.[76]

With regard to the lepers of Delhi the Health Minister decided to make "suitable arrangements" with the other states that were "well advanced in the treatment of leprosy" or were "running homes for leprosy cases and give suitable grant-in-aid to them for cure, care, and maintenance".[77] Thus, unlike during the British period when the Government was skeptical to implement the 1898 Lepers Act on the ground that the Act would frighten the pauper lepers out

[75] File No. 27(13)/52, 1952, Chief Commissioner's Record, Delhi. Extension of the Lepers Act 1898 to the State of Delhi, DSA.
Dr. Pran Nath Behl wrote the letter to Sushila Nayyar on 6 September 1952. Sushila Nayyar replied to Dr. Pran Nath Behl's letter on 12 October 1952.
[76] *Ibid.*
[77] *Ibid.*

of Delhi and "prevent lepers generally from offering themselves for treatment"[78] the Independent Delhi State Government implemented the Act with a view to send away the lepers who came to Delhi from the other states.

In another meeting held on 6 October 1952, the Minister for Health Dr. Sushila Nayyar wanted enquiries to be made through the District Collector from the authorities in Meerut who had started a leper asylum as on what terms were they prepared to accept the lepers from Delhi State. Dr. P.C. Bhattacharya, the Medical Officer of Health, New Delhi had prepared a list of all the leper asylums throughout India and had sent the list to Mrs. Pahwa, the Lady Magistrate in Delhi. She corresponded with a few of them but each of them insisted on payment of "Rs. 40/- per mensem for a lepers residence".[79]

The Grace Mayne Leprosy Home situated on Meerut-Delhi Road was owned by the Mission to Lepers. Due to the financial stringency, the authorities of the institution could not manage to run this Home and it was closed down on 31 October 1951. The building of this Home consisted of twenty rooms and was capable of accommodating forty patients. There was also 3 ½ "bighas" (unit for measuring land) of land around the Home. About 23 leprosy patients lived in the Home, completely uncared for. They were reluctant to leave their surroundings and insisted upon living in the building where they resided for the last 12 to 14 years. The leprosy patients, who received a sum of Rs. 12/- per month per head until 31 October 1951 went to the city which was 4 miles away from the Home to beg for their livelihood. This was found to be "objectionable" by the Uttar Pradesh authorities as there was a great danger of spreading the disease to the public through their contact. Due to the urgent need for the leprosy hospital at Meerut to cater to the needs of the area, the adjoining districts, and also to segregate the leprous inmates who were living in the Home uncared for, the Meerut Government purchased the Home from the Mission and ran it as a state institution.[80]

The Government of Delhi was also interested in acquiring the land and the building of the Home with a view to accommodate 150 leprosy patients of Delhi State. Sushila Nayyar made an

[78] File No. 6(40), 1936, Part B, Chief Commissioner's Record, Delhi, Department of Education. Anti-Leprosy Campaign in India, DSA.
[79] File No. 27(13)/52, 1952, Chief Commissioner's Record, Delhi. Extension of the Lepers Act 1898 to the State of Delhi, DSA.
[80] *Ibid*.

offer on behalf of the Delhi State Government towards the maintenance of the Home. A sum of Rs. 9,300/- was ear-marked for this purpose. However, the proposal for the joint scheme for establishing a leprosy home for the lepers in Meerut could not materialize. The Chairman of the Improvement Trust and the Land Acquisition Collector was directed by the Ministry of Health, Delhi State, to acquire 50 acres of land to build the leprosy asylum in Delhi. Out of the 50 acres, 25 acres was proposed to be used for the accommodation of the lepers and the other 25 acres for the farming purposes so that the colony was as far as possible, self-sufficient in the supply of "cereals and vegetables" for the inmates.[81]

An appeal was presented to the Government of Delhi on 20 March 1955 by 200 leprosy patients, most of whom were refugees from Pakistan. They were abandoned by their families and resided at Naya Basti, Bela Road, in small huts constructed by them beside the river Yamuna. The majority of the patients were crippled, disabled to do any work, so they earned their livelihood by begging on the streets of Delhi. They requested the Minister of Health to establish a colony exclusively for the leprosy patients at Delhi where they would be provided with "food, clothing, and medical aid". In this connection, they pointed out that the Bombay Government in Sholapur district had provided a colony for fifty leprosy patients. The expenditure of the colony was jointly met by the Bombay Government and the municipality. In the civil hospitals of Bombay and Madras, there were arrangements for admitting the leprosy patients in the isolation wards for "treatment of sickness of serious nature". In Delhi the capital of "Hindustan", there was no arrangement for hospital except for a dispensary at Jama Masjid which was "insufficient" for the "serious" patients who required admission to the inpatient ward for the treatment of "reaction, chronic ulcers, and other serious troubles". Further in the appeal, they made two requests to the Health Minister. The first was to provide employment to the "non-infectious" leprosy patients without disfigurement according to their "qualifications and capabilities". This would help them to earn their livelihood. The second was to "stop catching of leprosy patients" by the health department of the municipality. The authorities of the Old Delhi and the New Delhi Municipalities due to the fear of contagion caught hold of the leprosy patients when they saw them begging on the streets and took them to "distant places about 20 to 25 miles away from the limits of the city" and left them in the "jungles". At times, there were instances when the menial

[81] *Ibid.*

staffs of the municipality would extract money by threatening them.[82] The appeal reflected how the lepers in Delhi encountered social ostracism. They were abandoned by their families and since they had no means of livelihood, they resorted to begging on the streets of Delhi. At times, they were caught by the health department authorities who transported them to the outskirts of the city from where it was difficult for them to come back to the city. As the Government did not devise any employment opportunities for the leprous patients so in the appeal for the first time the patients requested the government to provide employment to the non-infectious leprosy patients without any deformity so that they could sustain themselves in a dignified manner.

On 9 October 1955, 253 lepers were brought from the Yamuna banks on account of the flood to the temporary lepers colony at Mehrauli. This site was not found suitable for the lepers colony. It was a source of infection to the population of Mehrauli. There was only one drinking water well, the Shamshi Talab with sweet water which was used by the lepers. The Shamshi Talab was a public water tank where the Mehrauli public bathed and washed their clothes. So there was a close proximity between the lepers and the public of Mehrauli for the transmission of the infection to the public in general and the children in particular. There were some trench latrines near the colony. As these latrines had no privacy, they were seldom used. Some supply of old clothes and blankets were made by the Young Women's Christian Association, but still blankets and clothes were required for hundred lepers. Few clusters of huts were constructed which were not sufficient to accommodate all the lepers.[83]

The Young Women's Christian Association, General Secretary, Miss Aley Mathew also expressed her concern over the lack of permanent homes for the lepers in Delhi. In a letter to Mr. Bhiman, who was the Secretary, Rehabilitation, Delhi State she wrote that the situation of the colony was "not satisfactory". The Association in its efforts to supply the lepers with "rations, clothes, etc.," did not receive any "assistance" from the Delhi State Government. As the lepers did not have "work for them to do" they went to the town to beg. She concluded the letter by stating that "unless a permanent home is found for them it is impossible to direct them to a

[82] *Ibid*.
[83] File No. 27(14)/55, Chief Commissioner's Record, Delhi State Secretariat. Construction of Leprosy Home, DSA. Young Women's Christian Association was a voluntary social welfare agency. The membership and facilities were open to women and girls of all nationalities, creeds, and classes. Their motto was "By love serve one another".

suitable occupation. It is very necessary that the government scheme for rehabilitating the lepers be expedited".[84]

In the year 1956, the Delhi Government decided to shift the leprosy home from Mehrauli to its permanent site at Tahirpur Village in Shahdara. The refugee leprosy residents of Naya Basti protested against the decision of the Delhi Government to shift them to Tahirpur Village. They submitted a "humble" petition to the Chief Commissioner in which they expressed their grievances in detail. In the petition, they stated that since the Partition of India in 1947 they resided at Delhi. They took shelter in the lower Bela Road. This place was originally a "maidan" (open ground) occupied by no one. So with the "kind" permission of the "Patwari" (government land record keeper) and Chawdhury Shri Netharam, they build huts. During the first election in the year 1952 the Delhi Municipal Authorities and the State Authorities visited their place and "promised to make arrangement" with "proper facilities", but nothing was done. In the year 1954 during the fire accident about 85 huts were completely burnt. The municipal authorities and the State Government helped them to rebuild their huts at Rs. 30/- per hut. In the year 1955, the Health Minister and the other officials visited their area and "promised to make proper arrangements". During the Yamuna flood, the authorities shifted them to Mehrauli. They remained at Mehrauli for some days, where they were not properly maintained. They suffered for drinking water, rations, firewoods, and shelter. Although the Delhi Chief Commissioner and the Mehrauli Tehsildar (Tax Inspector) personally visited them and "promised to make proper arrangements" nothing was done and some of the leprosy patients returned to their original huts at Bela Road as they found the place "inconvenient". They expressed their agony against the decision taken by the authorities to shift them to Shahdara. The other "non-infective" people who resided along with them did not object to their presence. They claimed to have taken treatment for "years together in several hospitals" and therefore, from the medical and the health point of view they were not contagious. Moreover, like other families, they also maintained families and children. Their children were healthy and not "all were affected" with leprosy. The Health Minister of Delhi State had promised them a "pucca colony" like the one at Sholapur where free quarters, monthly cash allowances for rations, treatment in the adjoining hospital, and education for the children's were provided. The petitioners questioned that without making these

[84] *Ibid*. The letter was written on 12 December 1955.

arrangements how can the authorities ask them to live in "Shahdara desert". They also complained about the ill-treatment meted out to the people of Tahirpur Camp by Mr. Ramanathan who was in-charge of the camp. They requested for his removal. They had reported several times about their "inconveniences" to the Congress President of the Delhi State Subhadra Joshi and the Secretary Om Prakash Behl but it was of "no use". They concluded the petition by requesting the administration to make "proper and pucca" arrangement before shifting them to Tahirpur or else it was "better to take and throw away all of us in the Bay of Bengal with families and children's".[85]

A meeting of the Advisory Committee for leprosy home was held under the Chairmanship of Brij Krishnan Chandiwala on 2 June 1956 where some of the grievances of the refugee leprosy residents of Naya Basti were addressed. The meeting was attended by P.N. Thukral, the Under Secretary at Delhi State Government, Dr. M.S. Chadha, the Director of Health Services, and Dr. R.D. Goyal, the Superintendent, Health Operations, Delhi State. In the meeting it was decided to permanently shift the leprosy home to Tahirpur village. Three families in the leprosy home at Mehrauli were interested in poultry farming. The cost for the poultry farming was estimated to be Rs. 100/- by the Poultry Development Officer which was approved by the Government. A primary school was also started. There were 12 children in the school. The Director of Education was requested to supply "necessary teaching materials". The Social Education Department of the Directorate of Education supplied sewing machine and the Red Cross Society supplied 10 "charkhas" (spinning wheels) and 1 hand loom in order to provide vocational training to the patients. The arrangements were made to send the non-infectious children to Faizabad and Dehradun, but the parents of the children refused to send them. The only alternative was to construct a separate barrack for the children at a little distance from the main leprosy home at the new site, where the children could be looked after by the non-infectious inmates of the leprosy home. Finally, in the year 1957, the leprosy home was shifted to Tahirpur village, Shahdara.[86]

[85] File No. 1(190)/54, Chief Commissioner's Record, Delhi, Department of Local Self Government. Acquisition of 50 Acres of Land for the Construction of Leprosy Hospital in Shahdara, DSA.
[86] File No. 27(14)/55, Chief Commissioner's Record, Delhi State Secretariat. Construction of Leprosy Home.

CONCLUSION

The history of leprosy in Delhi is that of the history of the poor. The leprosy patients were ostracized by their families and neglected by the government. This can best be reflected by the fact that it was only in 1957, a decade after India attained Independence that the first leprosy asylum was established by the Government in Delhi at Tahirpur village in Shahdara. There was no employment opportunity available for the leprosy patients, so they resorted to begging on the streets in order to support themselves. During the British rule they had voluntarily established a colony at Bela Road near the bank of the river Yamuna. This leper colony was an eyesore for the authorities and the Deputy Commissioner in the year 1929 entered into correspondence with the superintendent of the leper asylums at Subathu, Meerut, Ambala, and the Secretary of the Indian Mission for Lepers in Bihar in order to accommodate these lepers in their asylums. Due to the shortage of the accommodation in these four institutes the lepers could not be accommodated. The British Government was skeptical to implement the Lepers Act 1898 as is feared that the implementation of this Act would drive away the lepers from Delhi but the real reason was that under Section 3 of the Act it was compulsory to establish a leper asylum and setting up of an asylum would augment the expenditure of the government for which the government was not ready. After Independence Delhi State implemented the Lepers Act 1898 in the year 1952 with a view to drive away the lepers from the other states who resided in Delhi but it was not willing to set up an asylum. The reason given by the State was that there were very few lepers in Delhi and moreover there was a dispensary for the leprosy patients at Jama Masjid where they received injections, medicine, and dressing materials. The dispensary was unable to treat serious ailments. It was only when the negotiation with the Meerut government failed to accommodate 150 lepers from Delhi State to their asylum that the Government of Delhi established leprosy asylum at Tahirpur village in Shahdara in the year 1957.

CONCLUSION

Delhi in contemporary times has some of the finest medical institutions and hospitals of India like the All India Institute of Medical Sciences (AIIMS), Sir Ganga Ram Hospital, Maulana Azad Medical College, Apollo Hospital, etc., which caters not only to the patients from across the length and the breadth of the country but also from the other parts of the world especially from South Asian Association for Regional Cooperation (SAARC), West Asia, and African countries. In spite of having such fine institutions, the public health history of Delhi is a relatively under- researched area compared to other regions like Maharashtra, Tamil Nadu, Kolkata, etc.

Cholera, tuberculosis, and leprosy were class diseases wherein the people from the lower strata of the society were adversely affected. The major reasons for the outbreak of cholera in Delhi were the sewage framing at Kilokri, polluted water supply, deplorable method of discarding night soil, the insalubrious condition under which articles of food and drink like chholey (spicy boiled grams), chaat (preparation of fruit, etc.,), sharbat (sweet drink made of fruit), etc., were prepared in Paharganj and sold by the hawkers in the different parts of the Province. The lower middle classes and the poor people heavily patronized the Paharganj market; as a result, they were the worst sufferers of cholera. Delhi City (Old Delhi) due to its insanitary environment bore the brunt of the cholera outbreaks. Only those areas which were inhabited by the rich Europeans and the influential Indians like the Civil Lines and the Chandni Chowk were under salubrious conditions. The rate of inoculation was much higher in New Delhi compared to Delhi City or the rural areas of the Province. In 1929, 0.43%, 8.99% and 0.62% of the total population of the Delhi City, New Delhi, and the rural areas of the Delhi Province were inoculated. The total population of Delhi City in 1929 was 2,46,987, New Delhi was 31,456 and the rural area was 2,50,000. The sewage farming at Kilokri was responsible for the 1929 outbreak. The sewage in Delhi was not treated before being used for cultivation. In spite of a Fatwa being issued against the sewage farming the Government did not stop sewage cultivation for financial reasons. It was only after the 1929 outbreak that the vegetables and the fruits

cultivated on the sewage farm were stopped. Along with these factors the movement of the pilgrims also played a significant role in the spread of cholera. More than the Hindu pilgrim sites like Haridwar it was the performance of Hajj by the Muslims that alarmed the state. It was the shortest route through which cholera travelled to Europe. There was also international pressure which led to the signing of protocol and setting up of committee to ensure that no infected person performed Hajj. The Government instead of improving the sanitation of the Province as reflected in the letters written to the editor of the *Hindustan Times* frequently implemented the Epidemic Disease Act 1897 during the cholera outbreak which was draconian in nature as there was no provision in it to compensate the financial losses incurred by the petty businessmen. This Act jeopardised the livelihood of the traders and the merchants as it gave arbitrary powers to the Deputy Commissioner or to any other local officials to stop the export, import as well as the production of those products which were responsible for the outbreak of cholera.

Tuberculosis and leprosy required institutionalized treatment and the apathy of the State can be gauged through the fact that the establishment of the tuberculosis clinic, hospital, sanatorium and leprosy asylum was never the priority of the Government. It was only in the year 1933 that the first tuberculosis clinic, the Ramakrishna Mission Free Tuberculosis Clinic was established in the Province through the efforts of the Delhi Branch of the Ramakrishna Mission Trust. Initially, this clinic had precarious existence as it received no funds from the government. It had no permanent staffs, as a result, it had to terminate its preventive work. Till 1940 the clinic was located in a rented accommodation as it was extremely difficult to get permanent accommodation due to the fear of the infectivity of the disease. Thus, by the first half of the twentieth-century tuberculosis was seen as a contagious disease rather than as a disease caused due to genetic transmission. This was evident on two occasions. The residents of the Burn Bastion Road were distressed when the Delhi Municipal Committee decided to construct the Queen's Road Tuberculosis Clinic as they panicked that the entire neighbourhood would be engulfed with tuberculosis. In 1940 the inhabitants of Karol Bagh raised objection against the decision of the Delhi Improvement Trust to allocate the permanent site for the Ramakrishna Mission Free Tuberculosis Clinic at Karol Bagh as they were terrified that they would contract the disease due to the arbitrary spitting by the patients. The residents of both these areas appealed to the Government to start these clinics at an isolated place, away from the residential areas but the Government repudiated their appeal on the ground that it would be inconvenient for these

clinics to function at isolated places. In 1935 the first tuberculosis hospital and sanatorium, the Silver Jubilee Tuberculosis Hospital was established. Due to its limited accommodation admission was only granted to those patients recommended by the Queen's Road Tuberculosis Clinic. The Hospital was exclusively financed by the Delhi Municipality till 1946 when the Government of India took over the administration of the hospital. One peculiar feature of this hospital (which is not the case in contemporary time) was that the other local bodies of Delhi Province had to pay money in order to reserve beds for the treatment of their patients. The New Delhi Municipality paid Rs. 6,000/- annually to reserve four beds for its patients and the Civil Lines paid Rs. 3,000/- annually to reserve two beds for its patients. The patients who were the residents of the District Board and the Fort Area were not admitted into the hospital as these local bodies made no payment for their treatment. The Government made no monetary contribution to fight against the blight of tuberculosis or even towards the establishment or the maintenance of the clinics and the hospitals. An influential individual like Lady Linlithgow made a financial request to the people of India in order to finance, generate awareness, and establish clinic against tuberculosis.

With regard to leprosy, it was only in 1957 that the first leprosy asylum was established in Delhi State. There were no employment prospects available to the leprosy patients, so they resorted to begging on the streets in order to support themselves. During the British rule they had voluntarily established a colony at Bela Road near the bank of the river Yamuna. This leper colony was a blemish for the authorities and the Deputy Commissioner in the year 1929 wrote letters to the superintendent of the leper asylums at Subathu, Meerut, Ambala, and the Secretary to the Indian Mission for Lepers in Bihar in order to accommodate these lepers to their asylums. Due to the paucity of accommodation in these four institutes the lepers could not be accommodated. The British Government was reluctant to implement the Lepers Act 1898 as is feared that the implementation of this Act would drive away the lepers from Delhi but the real reason was that under Section 3 of the Act it was mandatory to establish a leper asylum and setting up of an asylum would enhance the expenses of the government for which the government was not prepared. After Independence Delhi State implemented the Lepers Act 1898 in the year 1952 with a view to drive away the lepers from the other states who lived in Delhi but it was not eager to set up an asylum. The explanation given by the State was that there were very few lepers in Delhi and furthermore there was a dispensary for the leprosy patients at Jama

Masjid where they received injections, medicine, and dressing materials. The dispensary was unable to treat severe ailments. It was only when the negotiation with the Meerut government failed to accommodate 150 lepers from the Delhi State to their asylum that the Government of Delhi established the leprosy asylum at Tahirpur village in Shahdara in the year 1957.

The limitation of this thesis is that the writer due to paucity of time was unable to consult vernacular sources or conduct interviews as well as extend her time period which would have enriched her understanding of the subject and would have perhaps provided a different viewpoint from the one which is presented in the government archives.

The history of diseases is a thriving field and plethora of work can be done. One can compare Delhi with other states like Kolkata, Maharashtra, Tamil Nadu, etc., in order to analyse how different or similar Delhi is with respect to the other states. The history of medical education and institutions of Delhi, role of the important personalities like Sushila Nayyar and Rajkumari Amrit Kaur who was instrumental in establishing AIIMS are some of the areas where research needs to be done.

BIBLIOGRAPHY

PRIMARY SOURCES

Archives

Delhi State Archives

Chief Commissioner's Record (1919-1957)

Deputy Commissioner's Record (1919-1957)

Home Department (1920-1935)

Newspapers

Hindustan Times, Microfilm Section (1924-1954), The Nehru Memorial Museum and Library

The Times of India (1911-1946), ProQuest Historical Newspapers

ARTICLE

Indian Medical Gazette: A Monthly Journal of Medicine, Surgery, Public Health, and General Medical Intelligence Indian and European. Calcutta Thacker's Press and Directories, National Medical Library.

Books

Snow, John. *On the Mode of Communication of Cholera.* London: John Churchill, New Burlington Street, 1854.

Reports

Report of the Tuberculosis in India, By: A. Lankester, M.D., London Printed By: Government Monotype Press, Simla, 1915.

Report on the Relief Congestion in Delhi. Volume I. Government of India Press, Simla, 1936.

Report of the Health Survey and Development Committee. Published By: The Manager of Publications, Delhi. Printed By: The Manager, Government of India Press, Calcutta 1946.

Report of the Delhi State Medical and Health Reorganisation Enquiry Committee 1955.

Online Resources

Distribution and Causation of Leprosy in British India 1857. Indian Papers. Medicine. Disease. National Library of Scotland. Permanent URL: http://digital.nls.uk./74457530. [Data accessed on 10 April 2016].

Report of the Leprosy Commission in India 1890-91. Calcutta: Printed by the Superintendent of Government Printing India 1893. Indian Papers. Medicine. Disease. National Library of Scotland. Permanent URL: http://digital.nls.uk./74463060, [Data accessed10 April 2016).

Report on the Treatment of Epidemic Cholera: From Information Collected by the Governments of Bengal, Madras, Bombay, N.W. Provinces, Punjab, Oudh and Central India, by Orders of the Government of India. Indian Papers. Medicine. Disease. National Library of Scotland. Permanent URL:http://digital.nls.uk./74464863. [Data accessed on 2 March 2016].

www.rkmdelhi.org [Data accessed on 30 January 2016]

SECONDARY SOURCES

Articles

Arnold, David, 'Cholera and Colonialism in British India', *Past and Present*, Volume No. 113, Oxford University Press, 1986.

Kakar, Sanjiv, 'Leprosy in India: The Intervention of Oral History', *Oral History Society*, Health and Welfare, Volume 23, Number 1,1995.

Rao, Mohan, 'Of Cholera and Post-Modern World', *Economic and Political Weekly*, Volume 27, Number 34, 22 August 1992.

Books

Arnold, David, *Colonising the Body: State Medicine and Epidemic Disease in Nineteenth Century India.* Delhi: Oxford University Press, 1993.

Bashford, Alison, *Imperial Hygiene: A Critical History of Colonialism, Nationalism and Public Health*. Basingstoke: Palgrave Macmillan, 2004.

Buckingham, Jane, *Leprosy in Colonial South India: Medicine and Confinement*. Basingstoke: Palgrave Macmillan, 2002.

Chakrabarti, Pratik, *Medicine and Empire 1600-1960*. Basingstoke: Palgrave Macmillan, 2014.

Hardiman, David, Christian Therapy: Medical Missionaries and the Adivasis of Western India, 1880-1930 in *Healing Bodies, Saving Souls: Medical Missions in Asia and Africa*, (ed.) Hardiman, David, New York: Editions Rodopi, 2006.

Harrison, Mark and Pati, Biswamoy, Introduction in *Health, Medicine and Empire: Perspectives on Colonial India*, (eds.) Pati, Biswamoy and Harrison, Mark, New Delhi: Orient Longman, 2001.

Harrison, Mark and Worboys, Michael, 'A Disease of Civilisation: Tuberculosis in Britain, Africa and India, 1900-39', in *Migrants, Minorities and Health: Historical and Contemporary Studies*, (eds.) Lara, Marks and Worboys, Michael, London: Routledge, 1997.

Hosagrahar, Jyoti, *Indigenous Modernities: Negotiating Architecture and Urbanism*. New York: Routledge, 2005.

Kumar, Anil, *Medicine and the Raj: British Medical Policy in India, 1835-1911*. New Delhi: Sage Publication, 1998.

Legg, Stephen, *Spaces of Colonialism: Delhi's Urban Governmentalities*. Oxford: Blackwell Publishing, 2007.

Mishra, Saurabh, 'Beyond the Boumds of Time? The Haj Pilgrimage from the Indian Subcontinent, 1865-1920' in *The Social History of Health and Medicine in Colonial India*, Ed. Harrison, Mark and Pati, Biswamoy, New York: Routledge, 2009.

Pati, Biswamoy and Nanda, Chandi, 'The Leprosy Patient and Society: Colonial Orissa- 1870s-1940s' in *The Social History of Health and Medicine in Colonial India*, Ed. Harrison, Mark and Pati, Biswamoy, New York: Routledge, 2009.

Polu, Sandhya, *Infectious Disease in India 1892-1940: Policy-Making and the Perception of Risk*. Basingstoke: Palgrave Macmillan, 2012.

Ramanna, Mridula, *Health Care in Bombay Presidency 1896-1930*. Delhi: Primus Books, 2012.