Public Health in Orissa under the British Raj, 1858-1947

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IN
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BY

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I, Dhruba Kumar Biswas, hereby declare that the work embodied in this thesis entitled **"Public Health in Orissa under the British Raj, 1858-1947"** submitted by me under the supervision of Dr. B. Eswara Rao, is a bonafide research work for the award of **Doctor of Philosophy in History** from the **University of Hyderabad**. I also declare that it has not been submitted for any other degree or diploma to this University or to any other University or institution. I hereby agree that my thesis can be deposited in Shodhganga/INFLIBNET.

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Date Dhruba Kumar Biswas

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CONTENTS

List of Tables, Graphs, and Pictures

ABBREVIATIONS

APSARI	:	Andhra Pradesh State Archives and Research Institute
AARMP	:	Annul Administrative Reports of the Madras Presidency
ARDPH	:	Annual Reports of the Director of Public Health
AISC	:	All India Sanitary Conference
AMS	:	Army Medical Service
AMD	:	Army Medical Department
BELRA	:	British Empire Leprosy Relief Association
BMA	:	British Medical Association
BMJ	:	British Medical Journal
CR	:	Census Reports
CS	:	Civil Surgeon
CMC	:	Civil Medical Code
CFW	:	Child and Family Welfare
DPI	:	Director of Public Instruction
DPH	:	Director of Public Health
DHC	:	District Health Committee
DHB	:	District Health Board
DHA	:	District Health Association
DFAR	:	Dufferin Fund Annual Report
FCR	:	Famine Committee Reports
FC	:	Famine Commission
FRCS	:	Fellow of the Royal College of Surgeons
GMC	:	Grant Medical College
GB	:	Government of Bengal
GBO	:	Government of Bihar and Orissa
GOM	:	Government of Madras
GOI	:	Government of India

GO	:	Government Order
HCAR	:	Health Commissioners Annual Report
HWB	:	Hook worm Bureau
HWA	:	Health and Welfare Association
ICS	:	Indian Civil Service
IGML	:	Indira Gandhi Memorial Library, University of Hyderabad
IHSW	:	Institute of Health and Social Welfare, Hyderabad
IHM	:	Institute of History of Medicine, Hyderabad
IRCS	:	Indian Red Cross Society
IIHM	:	Indian Institute of History of Medicine, Hyderabad
IMG	:	Indian Medical Gazette
IMR	:	Indian Medical Record
IMS	:	Indian Medical Service
INC	:	Indian National Congress
IRFA	:	Indian Research Fund Association
J.J.H	:	Jamsetjee Jejeebhoy Hospital
J.S.D	:	Jaffer Sulleman Dispensary
LBA	:	Local Board Act
LSG	:	Local Self Government
LM	:	Licentiate of Medicine
LM&S	:	Licentiate of Medicine and Surgery
LMS	:	London Missionary Society
MAC	:	Medical Advisory Committee
MARCD	:	Madras Annual Report on Civil Dispensaries
MB	:	Bachelor of Medicine
MCWA	:	Maternity and Child Welfare Association

MHWA	:	Madras Health and Welfare Association
MD	:	Doctor of Medicine
MD	:	Military Department
Med	:	Medical
MHC	:	Madras Health Council
MH	:	Maternity Hospital
MCWB	:	Maternity and Child Welfare Bureau
MWIF	:	Medical Women for India Fund
MG	:	Municipal Government
MSHC	:	Madras Social Hygiene Council
MRW	:	Medical Research Workers
NAI	:	National Archives of India, New Delhi
NASFMAWI	:	National Association for Supplying Female Aid to the Woman's of India
NHASI	:	National Health Association of South India
NNR	:	Native Newspaper Reports
NWP	:	North-Western Provinces
NBHW	:	National Baby and Health Week
NHASI	:	National Health Association of South India
NISTADS	:	National Institute of Science, Technology and Development Studies
OML	:	Osmania Medical Library, Hyderabad
PB	:	Panchayat Board
PH	:	Public Health
PHPB	:	Public Health Propaganda Board
PHD	:	Public Health Department
RF	:	Rockefeller Foundation, USA
RHS	:	Rural Health Scheme

SD	:	Sanitary Department
SOS	:	Secretary of State
SIS	:	Servants of India Society
SC	:	Sanitary Commissioner
SCAR	:	Sanitary Commissioners Annual Report
SCM	:	Report of the Sanitary Commissioner for Madras
Supt	:	Superintendent
TNSA	:	Tamil Nadu State Archives, Madras
TA	:	Teachers Association
VR	:	Vaccination Report
VS	:	Vital Statistics

CHAPTER-I

INTRODUCTION

The colonial Orissa (present Odisha) was under three different administrations; however, the Odia-speaking regions were periphery till 1936, belonging to Bengal presidency, Madras presidency, and Central provinces. British occupied the entire Odia-speaking region part by part at different times and transferred to three different colonial administrations such as Central Provinces, Bengal, and Madras Presidencies. Complexities were associated with the three different colonial administrative practices. Also, Orissa, was perceived by the colonial officials as the "most pathological" province, "valley of death" in India on the account its "unhealthy climate as well as prevalence of diseases such as *kalaazar* (black fever), leprosy, cholera, malaria, and smallpox."[1] There were also specificities and diversities of colonial medical interventions particularly at provincial level to combat epidemics and non-endemic diseases- cholera, smallpox, malaria, and leprosy in the nineteenth and early twentieth century in Orissa. Orissa is a largely ignored region in the large corpse of historical literature of medical history produced in India. In view of these, the present thesis attempts to examine the various dimensions of colonial medical interventions of the three different presidencies and provinces at different times against epidemics and non-endemic diseases within Odia-speaking areas. It also focuses on the responses of people to such interventions undertaken by the colonial state. This study covers the time period from 1858 to till 1947 namely from the

[1] Chandi Prasad Nanda, "Disciplining a "pathological" province? Epidemic disease and health interventions in colonial Orissa," *Proceedings of the Indian History Congress,* 76th Session (2015): 305-317.

starting of direct crown rule in India and the thesis is ending with the year 1947, i.e. the end of the British rule in India.

Colonial Orissa has been an essential subject to scholarly work, especially the history of medicine. Previously, scholars like Biswamoy Pati, Chandi Prasad Nanda have focussed on the public health under the colonial administration in Orissa but there are many aspects that need to be understood about the colonial administration and the public health. Primarily, this thesis tries to understand public health through the lens of preventive measures and their implementation in colonial Orissa, with particular focus on the impacts of the colonial public health measures. The problem here was that, the region of Odia-speaking people was not a single colonial administration but it was under two different presidencies and the Central Provinces. Hence, the implementation of prophylactic in Odia-speaking areas were different in time and geographical space.

The process of colonial medical intervention was underway along with the establishmement of medical institutions, sanitary policies in the cantonment and formation of sanitary department. The history of public health in India starts with the inception of various institutions which began during the East India Company rule with the creation of Hospital Board in the Bengal presidency on 23rd May 1786. The physician general, chief surgeon, and head surgeon were part of the Hospital Board. The board met for the first time on 29th May 1786 and continued to function for ten years; on 24th June 1796, it was replaced by a newly created Medical Board. The Medical Board comprised the surgeon general, the physician general, and an inspector of the hospital. It controlled the entire medical affairs of the company in the Bengal presidency, both civil and military. In the same year, a similar board was set up in the Madras and Bombay presidencies as well. In 1858, these medical boards were

reorganised, and a director general of medical department was appointed for each of the presidencies.[2] Subsequently, after the establishment of Sanitary Commission in 1864, preventive measures and public health extended on ample way to the general population.

The public branch of the home department handled all sanitary works until it became a separate 'Sanitary Branch' that created in the department in 1868. In September 1873, work related to medical affairs, which had been dealt within the public branch of the home department, was entrusted to a newly created medical branch in the home department. In 1880, civil and military medical administration was separated. Henceforth, military medical matters were entrusted to military surgeon general appointed for the three presidencies. In contrast, civil medical matters were placed under surgeons general appointed for the Bengal, Madras, and Bombay presidencies and deputy surgeons general in respect to other major provinces. Medical matters of the government of India were also placed under a surgeon general, who assumed all the powers previously held by the imperial sanitary commissioner who had been appointed in 1864.[3] The Royal Army Sanitary Commission-1864, in its report exposed the exiting unsatisfactory sanitary conditions in the country. This report also emphasised on preventive measures to be taken by the British in India. It was because of higher death rate of British troops by the diseases, than the wars which astonished the British officials in India. The death rate of the troops was only six percent by war and all the remaining was due to diseases in Indian tropical climate.

[2] Muhammad Umair Mushtaq, "Public Health in British India: A Brief Account of the History of Medical Services and Disease Prevention in Colonial India," *Indian Journal of Community Medicine* Vol.34, No.1 (January 2009): 6-14.

[3] Second Report of *the Royal Sanitary Commission,* Vol. I (London: George Edward Eyre and William Spottisswoode, Printers to the Queen's most Excellent Majesty, for the Majesty Sanitary Office, 1871).

Mostly epidemics diseases, like Cholera, Smallpox, and Malaria rigorously affected the British white soldiers. Besides the fever, about forty percent of deaths were due to cholera, dysentery, diarrhoea all were the killer diseases and ¾th (three out of four) of all hospitals were occupied due to all these diseases. The preventive measure in early colonial India was only for the British because all the diseases were crueller to the British than the Indian foe in the war. Hence, the government tried to combat all these hazardous diseases. Consequently, the government was appointed to D.D. Cunningham in the Indian Medical Service (IMS, established in 1612 by John Woodale, first Surgeon General),[4] and T.R. Lewis, in Army Medical Department (AMD), in 1869 to research on cholera, malaria, etc., to take proper action as preventive measures.[5] Consequently, three Sanitary Boards were appointed in 1864 for Bengal, Bombay, and Madras presidencies for improving the sanitary conditions of towns and villages in the respective presidencies. Later in 1866, the Sanitary Board of Bengal was replaced by an 'Imperial Sanitary Commissioner' which also acted as an adviser to the government of India on civil medical matters. In the same year, the Sanitary Board of Bombay and Madras Presidencies were replaced by Sanitary Commissioners. A year later, in 1867, sanitary inspector general's (afterward re-designated as sanitary commissioners) were appointed in other provinces to investigate the sanitary condition and suggest means for their improvement.[6]

In addition to these, the first international sanitary conference was held at Constantinople in 1866 followed by three others in 1874, 1875, and 1885, where

[4] Mr. Vijai Govind, "The Advent of Modern Medicine in British India (1600 AD-1900 AD)," in *Western Colonial Policy* Vol-II, ed. N.R. Ray (Calcutta: Institute of Historical Studies, 1983), 131.

[5] Anil Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911* (New Delhi: Sage Publication, 1998), 159.

[6] Mark Harrison, *Public Health in British India: Anglo- Indian Preventive Medicine 1859-1914 (*New Delhi: Cambridge University Press, 1994), 14.

European powers pressured British to arrange 'sanitary order' in Indian colony. Accordingly, sanitary commissioner was appointed for all presidencies- Bombay, Madras, and Bengal. From then onwards, the annual sanitary report for each presidency – especially commenced reporting vital statistics.[7]

The colonial expansion into Orissa started since 1767.[8] The whole Orissa was divided into three parts, in which the southern part of Orissa was initially occupied by the British in 1767 and merged with the Madras Presidency administration. The northern part of Orissa was occupied in the year 1803, and it was merged with Bengal Presidency and western Orissa was annexed in 1849 and was merged with Central Provinces in 1862. The Odia-speaking areas were administered by the presidency and provincial governments.[9] Geographies of the region are significant as a large chunk of area is covered with hills, and forests, and regions, places, environment are attributed to the occurrence of diseases and illness. Moreover, developmental activities such as railways and road construction made Hindu pilgrimage easy to Puri; however, diseases like cholera and smallpox spread rapidly and caused huge mortality. Regional specificities in relation to diseases, illness, health, and medicine are needed to be examined in colonial Orissa context as a large population of tribal and non-tribal communities were living with their own accepted wisdom of diseases and illness, with therapeutics and medical practices like inoculation. This was reflected in various ways, mainly the manner in which the indigenous communities were connected to disease, health, and medicine. These were contestation between indigenous and

[7] Second Report of *the Royal Sanitary Commission,* Vol. I (London: Printed by, George Edward Eyre and William Spottisswoode, Printers to the Queen's most Excellent Majesty, for the Majesty Sanitary Office, 1871).

[8] D.B. Mishra, *Concise History of Orissa* (Cuttack: Kalyani Publication, 2005), 121-125.

[9] N.K.Sahu, W.W. Hunter, Andrew Stirling, and John Beams, ed. *A History of Orissa (*Cuttack: A.K. Mishra Publishing House, 2005), 222.

Western medicine. As Biswamoy Pati argues, "colonisation of Orissa in the nineteenth-century inaugurated many shifts and changes."[10] In view of these, the present study analyses the colonising process, processes of medical interventions against the diseases, implementation of colonial state sanitary medical policies of the region.[11]

Mapping the Histories of Medicine:

The historiography of medicine offers a sense of understanding about the relationship between Western medicine and colonial rule in India in general and Colonial Orissa is particular. The Portuguese printed the first medical book in India. The book was *Coloquios dos simples, e drogas he cousas medicinais da India...or Colloquies on the medical simples and drugs of India* (1563) compiled by Garciad'Orta, printed in Goa. Huge local information was gathered regarding health and healing practices of the indigenous people. It was the starting of the exchange of medical ideas between India and Portuguese. Subsequently, the diversity in medical culture in India emerged with the combination of indigenous and Western medicine; the first fusion of the two cultures.[12]

Medicine played an important role in the process of colonisation. In this context, Daniel R. Headrick argues that medicine played as a "tool" and British were able to establish and expand their empire while managing and protecting their bodies

[10] Biswamay Pati, "Siting the Body: Perspectives on Health and Medicine in Colonial Orissa," *Social Scientist,* Vol. 26, No. 11/12 (Nov- Dec 1998): 3-26.

[11] D.B. Mishra, *Concise History of Orissa (*Cuttack: Kalyani Publication, 2005), 121-125.

[12] Jan Van Alphen and Anthony Aris, ed. *Oriental Medicine; an Illustrated Guide to the Asian Arts of Healing* (London: Serindia Publication, 1995), 33.

from tropical maladies that caused huge loss of Europeans in India.[13] Similarly, the medicine helped colonial expansion in India and crucially caused social, economic, political, and ideological consideration that has moved away from initial concerns of protection from diseases. Medicine and diseases became the political and ideological frameworks of the empire between the colonial ruler and the indigenous people. Western medicines work out in relation to a system of various dynamics of colonial rule. In other words, Western medicine acquired a new dimension, acting both as a cultural agency in itself and as an agency of Western expansion, while establishing a relationship of power and authority between rulers and ruled.[14]

An important work of David Arnold's study examines how medicine used to construct its legitimacy, hegemony, and control through the body. Therefore, the colonial medicine served and operated more general nature of colonial power and knowledge through its coercive public health policies against epidemic diseases in India. The story of Western medicine in the nineteenth-century in India touched the minds and bodies of Indians as a potent and yet ambivalent cultural force. Western medicine is also sometimes seen as one of the most potent and penetrative parts of the entire colonising process. Arnold's central argument regarding the introduction of Western medicine has created cultural hegemony in a powerful and authoritarian way, and the accumulation of medical knowledge contributed to the political evolution and ideological articulation of the colonial system. Western medicine is often seen as having had only a superficial impact on India. However, epidemic diseases and medical intervention to uncover different forms of Indian responses as a onion layers

[13] Daniel R. Headrick*, the Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (UK: Oxford University Press, 1981).

[14] David Arnold, ed. *Imperial Medicine and Indigenous Societies* (Manchester: Manchester University Press, 1988), 2-3.

of resistance, accommodation, participation, and appropriation. It is thus not only an account of colonial power and knowledge but also internal differentiation within Indian society, on subaltern politics, and middle-class hegemony. Medicine was too powerful, too authoritarian, a species of discourse and praxis to be left to the colonisers alone.[15]

Anil Kumar's work is a unique compilation of the growth of medical history. Kumar's scholarship on *Medicine and the Raj: British Medical Policy in India, 1835-1911* compiled with four ideas mainly as the colonial medical service, traced the expansion of the medical education, the growth of hospital, dispensaries, and pharmaceutical industry and various policies pertaining to plague, malaria, smallpox, cholera, the book offers a lot of information on these themes. He shows that the coming of British in the country, with the knowledge of modern science and technology in the field of medicine, is a landmark of contemporary civilisation. He argues the introduction of 'Western Science' is the inception of the subjugation of hegemony of Indian traditional science by the nature and growth of the medical system and pharmacies in India. Kumar clearly shows that, the colonial medical policies in India were subservient to boost up the political and military needs of the empire, which was another tool of economic imperialism. He has worked diligently on the historical accuracy to demonstrate the establishment of the sovereignty of Western medicine in India.[16]

There are a set of works focussed on the reaction and responses of Indian people and professionals on Western medicine. The pioneering work of Poonam

[15] David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (New Delhi: Oxford University Press, 1993).

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

Bala's *Imperialism and Medicine in Bengal: A Socio-Historical Perspective* explores the relationship between indigenous and Western medical system; she shows the colonial medicine in three different significant phases. The first phase that existed until the 1860, explains that the relationship between Western sciences and indigenous practices was collaborative and there was a peaceful co-existence; the second phase lasted till the twentieth-century, it marks the growing pharmaceutical industry and escalating the professionalization of medicine and the last phase there was a divergence from the indigenous medicine. Indigenous medicine was threatened by Western medicine, and as a result, a number of revivalist movements began. The medical education and drug provision in Bengal presidency shows the shifts of health policies within the broader social and historical context in India and Europe.[17] She also argues in *Indian and Western Medicine: Rival Traditions in British India* that the indigenous system of medicine was supported by the British rule in India. The indigenous medicine gives medical relief to a vast majority of the Indian populace. She explains how indigenous treatment suffered due to the lack of state patronage and discouragement of indigenous medical practice during the British rule.[18]

Another identical work is by Madhuri Sharma, titled: *Indigenous and Western Medicine in Colonial India*. It examines the reflection on the complex social interactions among indigenous and Western medicine and primarily focuses on the social history of medicine. She argues that Ayurveda was into broader discourse and simultaneously shaped the position of Western medicine at work in conversation

[17] Poonan Bala, *Imperialism and Medicine in Bengal: A Socio-Historical Perspective* (New Delhi: Sage Publications, 1991).

[18] Poonam Bala, "Indian and Western Medicine: Rival Traditions in British India" in *Colonialism and Psychiatry,* ed. Dinesh Bhugra and Ronald Littlewoods (Delhi: Oxford University Press, 2001), 232-243.

diseases, medicine, and the indigenous body. With the interaction of indigenous and English medical practitioners changed the mentality, patronage and professionalisation. It was rather to stick merely on one tradition, a variety of possibilities, holding biomedicine, Ayurveda, and folk practices together, were available to people, and choice was highly individual. The Western medical system developed in Colonial India for the accumulation of wealth became s commercial entrepreneurship among local indigenous.[19]

Seema Alavi, traces in *Islam and Healing: Loss and Recovery of an Indo-Muslim Tradition 1600-1900* the shift of Unani medicine between sixteenth-century to nineteenth-century, and the growth of Unani medicine boosted to social integrated tradition in India. She shows how Indo-Muslim medicine or the Unani practice developed in the country along with Mughal. Unani is a unique history in Hindustan that was being written to highlight its difference from colonial medicine. Her critical engagement represents the story of an Islamic healing tradition and its consequent transformation by locating it within both pre-colonial and colonial time frames. Her book provides a backdrop to the encounter of Unani with Western medicine in British India. She argues that, the Western medicine did not displace Unani learning rather, they co-existed in a medical culture which was watermarked by diversity and heterogeneity. Alavi suggests that the threads were not established from the modern doctors, but it was from own families as new *hakims* who were not acquainted with Arabic science. Another part of this scholarship dealt how intellectual class and medical families tried to protect and preserve the Unani medical knowledge and the existing historiography of Indian Islam's encounter with Western medicine. The main

[19] Madhuri Sharma, *Indigenous and Western Medicine in Colonial India* (Delhi; Cambridge University Press, under Foundation Books, 2012).

argument states that, the Mughal medical tradition has a far more significant bearing on Indian society and politics than indicated in earlier works. This is the first pioneering work on the social and medical history of India for the understanding of Unani tradition.[20]

Another work of Poonam Bala, deals various ways in which the indigenous medicine revived by establishement of the first Ayurvedic dispensary in 1878 by *Kaviraj* Kisore Sen, as symbol of the institution for the defense of indigenous knowledge and the popularity, and later increased the number of Ayurvedic institutions. The growth of an Ayurvedic system of medicine through the institutions or organisations under British rule. It also drawn on various aspects of colonial domination of Western medicine and subsequent indigenous responses of the common people, elites, and medical practitioners of different indigenous healing systems. There was always a conflict between Western and traditional modes of handling diseases that existed in epidemic proportions. The indigenous population became an active agency of understanding traditional forms of knowledge and of the colonial hegemonic ideologies.[21]

Deepak Kumar in *Medical Encounter in British India* examines how the interaction made between Western medicine and indigenous medical tradition on the way of engagement, accommodation, and adaptation. The domination of the 'medical

[20] Seema Alavi, *Islam and Healing: Loss and Recovery of an Indo-Muslim Tradition 1600-1900* (New Delhi: Permanent black, 2007).

[21] Poonam Bala, ed. *Contesting Colonial Authority Medicine and Indigenous Responses in -Nineteenth and Twentieth-Century India* (UK: Plymouth, Lexington Books, 2012).

and the social' were inseparable. The central importance was multi-sited encounters and interaction in the 19th and early 20th centuries in India.[22]

Sanjoy Bhattacharya, Mark Harrison, and Michael Worboys' *Factured States: Smallpox, Public Health and Vaccination Policy in British India 1800-1947* reveals the imperative understanding of vaccine and its dynamics practice. Their scholarship gives a different description of the state vaccination policy and its implementation in diverse regions of the country from nineteenth-century till the first half of the twentieth-century. The book examines that colonial technologies of vaccination was both uniform and efficacious. Moreover, colonial public health policies were erratically bureaucrat and constantly contested among the indigenous and Western practitioners.[23]

Jane Buckingham argues that the politics of leprosy control shows how information and research into leprosy was deployed with specific agenda, and how the coloniser to dominate each other through confinement used medicine. Her works offer a foundation for the perceptive of the culture of medical research into leprosy. The study of leprosy in South India investigates indigenous and Western medical and authorised system and impact on the individual suffering from leprosy, till before the missionary period. The scholarship mainly analyses or highlights the interplay of class and financial importance in determining the management of leprosy, with socio-economic position having the most profound impact on the leprosy victim. She says, indigenous and even Western medical traditions could not offer a specific medicine to

[22]Deepak Kumar, "Probing History of Medicine and Public Health in India: A Study of Encounters at Multiple Sites," in *Medical Encounters in British India*, ed. Deepak Kumar and Raj Sekhar Basu *(*New Delhi: Oxford University Publication, 2013), 23-39.

[23] Sanjoy Bhattacharya, Mark Harrison, and Michael Worboys, *Factures States: Smallpox, Public Health and Vaccination Policy in British India 1800-1947* (New Delhi: Orient Longmen, 2005).

cure. The colonial authority sought the effective remedies available at the time, and there was a minimum inters in any assertion of superiority of British over Indian medical treatment methods. She concludes her scholarship by arguing that at the level of the government of India, the presidency, and local level of medical authority, the excise of power became increasingly diffused and subject to negotiation and opposition.[24]

Another dimension of colonial medicine was studied by Mark Harrison and his work analyses the colonial medical intervention and its socio-political implications in the context of Western science, British colonial attitudes, and the multi-religious Indian society. Harrison's argument both shaped and reflected an increasingly negative view of India and its people. The desire to control the indigenous population was checked by the political and economic imperative of colonial rule. In preventive medicine, professional, cultural, and administrative factors had been affecting the development of public health in India. The formulation of public health policy as a contest between two different conceptions of empire: one was authoritarian and paternalistic, with an emphasis on Europe's "civilizing" mission in the tropics, and the other, liberal and decentralise, stressing the constraints imposed upon government action by shortages of revenue, indigenous resistance, and competing claims on the resources of the local and central government. However, the fate of indigenous medicine under colonial rule demonstrates both competition and accommodation between Western and traditional systems. Again, Mark argues that the economic interests of the city's Indian renter class constituted the single greatest obstacle to

[24] Jane Buckingham, *Leprosy in colonial south India: medicine and confinement (*UK: Palgrave Macmillan, 2002).

sanitary reform. He also looks at people's responses to public health measures and the role of Indians in the policymaking process at municipal and district levels.[25]

Mark Harrison's *Difference of Degree: Representations of Indian in British Medical Topography, 1820-c. 1870* deals with the Indian topography and how the colonial science and "Orientalist" projected more generally- a project, which has been characterised as essentially exploitative and hegemonic. The paper reveals how Colonial knowledge constructed dialogically as well as dialectically, and how Indians were far from passive objects of imperial power. Hence, Mark argues western knowledge that emerges from the critique of Orientalism, which greatly oversimplified. Because the European knowledge of India was more complex than is suggested by Edward Said and other critics of Orientalism, his work on medical topography shows the systematic recording of all factors affecting health in a particular locality.[26]

Waltraud Ernst, Biswamoy Pati, and T.V. Sekhers, *Health and Medicine in the Indian Princely states, 1850-1950* is divided into three parts, and each part deals with differently with the difference of scholars, as Pati, deals the state medicine and various epidemic diseases transformed of so-called traditional system of medicine in the face of colonial and biomedical domination. The administrative engagement of the authorities' responded in different ways. Especially, in the parts of Orissa, which were under princely states, Pati, examines on leprosy and smallpox, looked the complexities of the tribals understanding and perception on vaccine as ineffective,

[25] Mark Harrison, *Public Health in British India: Anglo- Indian Preventive Medicine 1859-1914 (*New Delhi: Cambridge University Press, 1994).

[26] Mark Harrison, *Difference of Degree: Representation of India in British Medical Topography, 1820-c. 1870* (UK: Online, Cambridge University Press, 16 November, 2012), 51-69.

thus creating an obstacle and a supplementary barrier to accepting western medicine. Secondly, diseases predominantly prevailed among the poor. Leprosy was completely opposite of the smallpox, the state engagement was very meagre; it was a constraint rather than a treatment. The administration on health, especially on leprosy in the princely states was not serious on the providing the treatment for leprosy.[27]

Biswamay Pati and Harrisons' (Ed.), *Social History of Health and Medicine in Colonial India* analyses the diver's facets of the social history of health and medicine in colonial India, especially the history of medicine, colonialism, and imperialism. The book examines the nature and characteristics of public health or state medicine and how hospitals, asylums implemented the various health policies, discourses of race and medicine, and previously largely neglected connections between international diplomacy and British-Indian public health policy. Here, it brought together thirteen articles, among these all Biswamoy Pati and Chandi Prasad Nanda, represent on leprosy, since pre-colonial to colonial notion or treatment on leprosy, especially how the colonial medical institution; as asylums for leprosy victims for the treatment and healing of leper before the print culture in Orissa.[28]

Biswamoy Pati, in his *Siting the Body: Perspectives on Health and Medicine in Colonial Orissa* concentrates on two aspects of Orissa; one from the tribal and the other from non-tribal groups. The first part deals with tribal beliefs on diseases and its spread and causes, which he presents very lucidly. The second part is about the non-tribal groups, including certain practices as inoculation, black magic, and the so-called

[27] Waltraud Ernst, Biswamoy Pati, and T.V. Sekher, *Health and Medicine in the Indian Princely states, 1850-1950 (*New York: Routledge, 2018).

[28] Biswamay pati and Mark Harrison, ed. *Social History of Health and Medicine in Colonial India*. (London and New York: *Routledge,* 2009).

subversive cults. The pilgrimage site of Jagannath temple at Puri in Orissa is the hub of diseases and shows how the contagious disease spreads through water, *Mahaprasad*, and mostly because of the overcrowding. The argument of the scholar, analyses the contemporary colonial legacy of public health and public health measures in the light of colonial power. This aims to bring a new perspective in South Asian history by providing the picture of medicine and environmental history of Orissa and also political and military history, and it also gives information on the unknown parts of Orissa.[29]

Chandi Prasad Nanda argued that the colonial administration politically understood the diseases in Orissa to colonies it through the colonial policies in relation to diseases and medicine. He explains how colonial power was implemented in the context of medical knowledge. Subsequently, his work reveals how colonies in Orissa, combated cholera with colonial medical intervention.[30]

Biswamoy Pati and Mark Harrisons' (Ed.) volume mainly examines different aspects of health and medicine, and its connection to political upheavals in colonial administration. The institutions such as asylums and sanitary diplomacy as came modernity and modernisation in the context of British rule. Particularly Pati, dealt how the Cuttack asylums functioned in c. 1864-1906 through the various vernacular literature, and he argues, the asylums were not to treat lunatics, which especially to secure the life of outside of the asylums from the insane.[31]

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[29] Biswamay Pati, "Siting the Body: Perspectives on Health and Medicine in Colonial Orissa," *Social Scientist,* Vol. 26, No. 11/12 (Nov- Dec, 1998): 3-26.

[30] Chandi Prasad Nanda, "Political Ecology of Cholera: Orissa and Colonial Sanitary Discourse," *IJHS,* Vol.55, No.1 (March 2020): 60-71.

[31] Biswamoy Pati and Mark Harrison, ed. *Society, Medicine and Politics in Colonial India.* (London and New York: *Routledge,* 2018).

Mridula Ramanna focuses on medical history of Bombay in 1896-1930. In her work, she tries to reveal the indigenous people were apathetic to Western medicine with various rumours spread around in the early colonial rule; and finally, how indigenous people adopted Western medicine as a profession and brought the consciousness of people on sanitation and cleanliness in the public sphere by health officials, civic leaders, and Indian doctors. Hence, she argues that the twentieth-century witnessed increasing acceptance of Western medicine, which led to an expansion of hospital facilities. However, various public health policies existed, but she says the colonial administration was unable to give enough services to the rural areas and women's health through training of nurses, dais, and midwives.[32]

All existing literature predominantly discusses about institutionalisation, practice of western medicine, medical interventions, and establishment of hegemonic power relations; however, this study primarily tries to look at public health policies in Orissa from a different vantage point, namely, how medicine practiced, health policies against epidemics and non-endemic diseases- cholera, malaria, smallpox, leprosy implemented in a regional specificities and diversities that existed at provincial level especially colonial Orissa.

The primary objectives of the study to provide an account of colonial expansion and medical practice, medical intervention in colonial Orissa while keeping in view of wider socio-cultural, economic, and political conditions in the region. Thesis also examine the concept of disease, illness, and the response of state and society to the colonial medical policies and practices, medical institutions-hospitals, asylums, and

[32] Mridula Ramanna. *Western Medicine and Public Health in Colonial Bombay 1845-1895* (Hyderabad: Oriental Longman, 2002).

dispensaries for providing the therapeutics and responses of the people in the specific historical settings.

Research Questions:

The present study focussed on the following research questions:

- What were the major epidemics and non-epidemic diseases that spread across the region and what were medical perceptions that existed on topographies, ecology, people, and aetiologies of chief diseases in colonial Orissa?
- How did the colonial government respond to diseases? What health policies and preventive measures were implemented?
- What was the role of colonial hospitals and dispensaries in providing health care to the people?
- What was the response and resistance of people to medical interventions in colonial Orissa?

Outline of the Thesis:

The thesis is divided into six chapters with prologue and epilogue, and the chapters are added with sub-sections. The first chapter -**Introduction** contextualizes the present work in the existing wider literature and historiography together with the conceptual framework, research questions, and objectives of the study, review of literature, sources, and methodology.

The second chapter- ***Diseases and Topography in Colonial Orissa,*** traces the history of the locality, ecology, people, and spread of major diseases in colonial Orissa and attempts to understand the medical topography by contextualising Cholera and Malaria. Cholera, smallpox, fevers, diarrhoea, dysentery, dyspepsia, malaria,

leprosy, and skin diseases were common dreadful diseases and widely spread, varying from region to region, and caused a massive death toll. The major districts- Koraput, Ganjam, Sambalpur, Puri, Cuttack, Balasore in which epidemics and non-epidemic diseases spread and caused high mortality. Most often, the vital statistics were under-reported and no proper mechanism to collect it. The village headman and *Chaukidars* were in charge of reporting births and deaths, but they were uneducated and ignorant could not undertake the nature of the work. Orissa is being a region of peculiar diversity and some districts ascribed it as an unhealthy region due to endemic malaria. The western part of Orissa was administered by the Central Provinces till 1905, in which Sambalpur was a prominent region, and colonial records shows it among the unhealthiest areas in Orissa because European officers were mostly affected by the climate and became ill. The northern part of colonial Orissa, Puri, Cuttack, Balasors were under the Bengal presidency since 1803. The districts of Puri, Cuttack, and Balasore were different from the other districts and were considered healthy except for some parts of the district, because of floods and heavy rainfall that caused diseases like malaria, diarrhoea, dysentery, and cholera. Amongst them, cholera occurred as an epidemic every year in Puri, but smallpox and malaria, were endemic in all these districts. The insalubrious environments were perceived as leading into various diseases.

Cholera was endemic in the coastal districts of Orissa in Cuttack, Puri, and Balasore and some parts of Ganjam Plains and was very mild in Sambalpur. But cholera spread in an epidemic form, especially in Puri. The significant number of pilgrims who come every year, just before the car festival, and Puri depicted as an abode of cholera and it spread across the region. Colonial state made no proper sanitary arrangements for the pilgrims. At the time of car festival, the pilgrims

converted the roadside pathways into huge sewage drains. They encamped and swarmed under the trees, or wherever they slept, cooked, ate, and drank. Cholera was more contagious disease spreads through pilgrims to other parts of India. Another disease- Malaria also was a highly prevalent disease for a long period. It affected almost every part of the country including Orissa. The morbidity rate of malaria began to rise from July and reached a climax in November and December, and then fell gradually; slightly high mortality was recorded in March and April. Malaria was an endemic disease throughout the province but occasionally became epidemic in some parts in the region. Hence, during 1911-1914, the colonial government in Orissa tried to aware the indigenous people through lectures and later, in the whole Bihar and Orissa Province. Western medical practitioners and indigenous people perceived diverse ways the causes of diseases - cholera, and malaria.

The smallpox is the oldest diseases that prevailed since ancient times in India and became one of the deadliest and devastating scourges of misery and death during the colonial period. In the third chapter- ***Dealing with the Deadliest Smallpox and Measures,*** examines the disease of smallpox, causes and state response initiated preventive measures through the lens of indigenous and western medical perspectives. This chapter also evaluate the vaccine pregame as part of preventive measures and its implementation in Orissa. In the process of implementation of vaccination, colonial state confronted various challenges chiefly locality of vaccination depots, vaccinators, duty, their remuneration, and improper training of medical staff to handle the vaccination programme. Subsequently, the reaction from the people towards the vaccination was also seen during the implementation. This programme also varied from presidency to presidency, province that created a wide void in of execution of the programme. Most often, these programmes and schemes were consciously under-

funded to the Municipal and District Boards and were unwilling to commit to funds available to the medical staff at the ground level. Because of theses, the vaccination policies were frequently failed to implement. The people did not simply accepted the vaccination programme and they resisted due to socio- religious and political factors.

The fourth chapter- ***Locating the Disease of Curse- Leprosy,*** discuss the chronic infectious disease-Leprosy in wider historical context by placing socio-cultural, political and economic conditions in colonial Orissa. Leprosy as alleged impure disease and the social stigma attached to it. In addition, the leprosy victims were mostly belonged to marginalised sections, often abused and chased out of the mainstream society. The society never considered leprosy as a disease; instead, believed it was a curse. Therefore, the identity of leper was 'once a leper means always leper.' Leprosy affected person were alienated from the society as well their own families. Before the discovery of Mycobacterium leprous in 1873 by Hansen, leprosy was not thought to be caused by the germ. Until the discovery of germ theory, there was uncertainty on the disease of leprosy and its aetiologies. Colonial state responded to the disease in insignificant way. Leprosy Act III-1898 enacted and extended the Odia-speaking areas in the Bengal Presidency. With this act, curative measure implemented and it extended to capture all lepers and kept them in the leprosy asylums. The victims of leprosy frequently attempted to escape from the asylum as victims consider them imprisoned. The 'Leper Acts'- empowered colonial officers keep the lepers in asylums, with the five certificates- 'A,' 'B,' 'C,' 'D, and 'E'. All these certificates had different purposes especially to identifying leper-infected persons, transfer of leprosy victims to the custody, and finally release from the asylum with the authorised permission. The unacceptableness and social stigma forced leprosy victims move to Puri and it became hub of the lepers as temple (Puri

and Loknath) attracted them and made available of sacred space for them with easily accessible of accommodation and food. After the Indian Council of the British Empire Leprosy Relief Association's initiatives in 1925 organised new anti-leprosy programme in India including Orissa.

The fifth chapter- ***Indigenous Health Practices to Western Medicine***: ***Interventions and Impact,*** focuses on responses of people, especially indigenous medical practitioners who slowly accepted western medicine and later shifted to western practices through various ways state policies, acts, institutions, and their implementation. Initially, western medicine even until the first half of the nineteenth-century was limited reach. With the entry of the middle-class, educated people into the process of western medical institutionalisation and preventive measures made acceptable. Later, the revivalist movement indigenous medicine took place at the beginning of the twentieth century. This movement promoted, restored and promoted indigenous medical practitioners far with western medicine. Protagonists like Gangadhar Ray (1789-1885) began to revive and promote Ayurveda in the Bengal presidency. In Madras presidency, the revivalist movement of Ayurveda was commenced under Pandita Divi Gopalacharyulu and he became profounder and propagandist of Ayurveda in Madras Presidency. After his death in 1920, the movement continued under the leadership of Achanta Lakshmi Pati. Pandit Brajabandhu propagated the Ayurveda in the early twentieth-century in Orissa. The last chapter- ***Conclusion*** summarizes the present work

Sources and Methodology

The study is historical work with a strong emphasis on primary sources. The study primarily relied on the colonial archival sources- related to home, public, health department and local self-government files, annual reports; and printed materials in Odia, Bengali, and English. The Odia vernacular sources such as newspapers, Journals were used mainly to see the public perception of the colonial policies and social intervention. The source materials have been thoroughly checked and crosschecked before utilisation and interpretation. Thus, both analytical and descriptive methods have been adopted to complete this work.

The primary sources were collected from various Archives, i.e., Orissa State Archives (Bhubaneswar), National Library Kolkata (Kolkata), Asiatic Society of Bengal (Kolkata), State Archives of West Bengal (Kolkata), National Archives of India (New Delhi), Nehru Memorial Library (New Delhi). The sources were available as 'Administrative reports of the presidency', 'Official Papers', 'Government Documents', 'Sanitary and Vaccination Report', 'Proceedings of the Government', 'Annual Reports of the Director of the Public Health', 'Annual Reports of the Municipal', and 'Local Self Government', 'Health Department Files', 'Census Reports', 'Medical Department' 'Government Order'. All the above sources are primary sources, which shaped my thesis.

CHAPTER-II

DISEASES AND TOPOGRAPHY IN COLONIAL ORISSA

Orissa is located on the Eastern coast of the Bay of Bengal, which was occupied by the British part by part at different times, and it went into three different colonial administrations. British occupied the southern part of Odia-speaking areas- Ganjam and Koraput in the year 1767, and merged them with the Madras Presidency. Koraput region was mostly hill terrain with a large number of tribal populations. The northern part of Orissa –Cuttack, Balasore (now Baleshwar), and Puri districts came under Bengal Presidency in 1803, and western Orissa, Sambalpur was occupied by the British in 1848; it was merged with Central Provinces by 1862, and in the year 1905, it became a part of the Bengal Presidency. Subsequently, Bihar and Orissa separated from Bengal Presidency and were made Bihar Orissa Province in 1912. All the three regions became separate provinces from Bihar and Madras presidency in 1936 with headquarters at Cuttack.[1] Cholera, smallpox, fevers, diarrhoea and dysentery, dyspepsia, malaria, leprosy, and skin diseases were common dreadful diseases widely spread during British rule in Orissa, varying from region to region and caused a huge death toll. Koraput, Ganjam, Sambalpur, Puri, Cuttack, and Balasore were major districts in which epidemic diseases spread and caused enormous mortality. This chapter traces the history of the locality, ecology, people, and spread of major diseases in colonial Orissa and attempts to understand the medical topography by focussing on two diseases of Cholera and Malaria.

[1] D.B. Mishra, *Concise History of Orissa* (Cuttack: Kalyani Publishers, 2011), 121-125.

In the southern part of Odia-speaking areas, Koraput was a taluk part of Viazagapatam district, which forms the portion of the 3,000 feet plateau just above, and east of the town of Jeypore. The barest of vegetation was part of this plateau, and its landscape consisted of an undulating expanse of red and brown earth with laterite cropping out, and there was coarse grass growing in the hollows, thickly dotted, with small red hills covered to their very tops with permanent dry cultivation, between which meander small rivulets, the beds of which have been levelled to cultivate paddy. The predominant inhabitants in this region were the Khond tribe.[2]

The vital statistics were the main source of information about the spread of diseases in the region. However, vital statistics were under-reported as there was no proper mechanism for the collection of the data. Colonial writings often declared the regions, geographies, and landscapes of Orissa as disease zones. Koraput was one of such districts and attributed as unhealthy region affected by endemic malaria. Koraput, according to R.C.S Bell (ICS office at Koraput in 1945), described Koraput as an unhealthy region to live for the people from outside. He stated that "there is scarcely a man who visited these parts who does not return with an enlarged spleen or liver, more or less affection of the head, making business irksome, and with a foundation broken down." Malaria was hyper endemic throughout the district, except the western parts of Jeypore and Nawarangpur Taluks. The indigenous people have gradually developed a relative immunity and in adult life do not suffer much, and that dread from malaria, black-water fever, has rarely been seen among them. Immigrants, however, suffered

[2] W. Francis, Madras District Gazetteer; Vizagapatam (Madras: Printed by the Superintendent, Government Press, 1907), .277.

from both the ordinary form of malaria and its severe complication, black-water fever, and cerebral malaria.[3]

'Yaws' was another distinctive disease predominant in Koraput district, especially in Malkanjgiri region among the Koya Tribes. Therefore, it was locally known as 'Koyya disease.' Yaws was a specific infectious granuloma caused by a spirochete *Treponema pertinua* (Spiral-Shaped Bacteria). It was not a congenital or venereal disease, though the course resembles syphilis. The primary lesion occurs extra-genitally and is not always demonstrable. Leprosy appeared to be comparatively rare, except in the Gunupur taluk, where it was quite common. And the various infections with venereal disease were commonly spread all over the district. Among all the epidemics, smallpox was recurrent in the district, but it was free from plague.[4]

Vital statistics were maintained only in the six towns in Koraput district, which had been constituted under the Local Boards Act, namely, Koraput, Jeypore, Nawarangpur, Kotpada, Rayaghada (Now Rayagada), and Gunupur after Orissa become a separate province. The president of the respective areas was mainly accountable for the collection of the statistics of death and birth, but no obligation was imposed on householder to make reports. There was no suitable agency to collect information and to keep any record of birth and death.[5]

Ganjam district came under the Madras Presidency, which was declared as "more pleasant than Koraput," in terms of the spread of diseases. It was more

[3] R.C.S. Bell, *Orissa District Gazetteer of Koraput* (Cuttack: Superintendent of Orissa Government press, 1945), 91.

[4] Ibid., 91.

[5] Ibid., 90.

salubrious and offered a favourable contrast to other parts of the Madras Presidency. In the region, April and May were the two hottest months, and December and January were the two coldest months of the year. In May 1872, the heat recorded at Aska, 30 miles inland, was 119 and half degrees Fahr (Fahrenheit), but along the seacoast line, the thermometer rarely rises to more than 90 degrees Fahr. In Ganjam district, a large number of fire cases used to happen on the mountains, commonly in April and May, as the hill-people were in the habit of burning down the jungle in order to promote the growth of the young grass for the cattle grazing as well as to clear the hillsides for *podu/jhum* (shifting), cultivation. Colonial officials arguing that this practice was very destructive to the environment and caused gradual changes in the monsoon. As a result, the monsoon altered the south-west in every year in Ganjam. Every year in the rainy season in September and October, the gales and storms were quite common, and floods were also common in the district and almost every year it destructed cultivation. [6]

Diarrhoea, rheumatism, dysentery, dyspepsia, smallpox, and skin diseases were prevalent in Ganjam, but there were no systematic records of the public health and medical services established in the district. Malaria and Beriberi were the most peculiar, and chiefly smallpox was prevalent all over Ganjam. Portions of the hilly region (*ghats*) were unhealthy, and malaria and black water fevers widely spread. Fever and enlarged spleen were common health problems in the "unhealthy parts" of the district.[7] Colonial officials linked it with people's habits, such as "scantly clothed in the cold weather, slept on the ground and ate their meal early, the most abominable of nasty food was

[6] T.J. Maltby, *The Ganjam District Manual* (Madras: The Superintendent, Government Press, 1918), pp.161.

[7] Shri Nrusinha Beuria, *Orissa District Gazetteer: Ganjam* (Cuttack: Gazetteer Unit, Department of Revenue, Government of Orissa, 1992), 796.

eating the food after it gets cold and left over's of the previous day's evening meal."[8] Apart from malaria, cholera also prevailed, cholera was not endemic, and it was usually imported from the pilgrims who crowded Puri. They spread the disease not only in the district but also throughout India.[9] The vital statistics shows that how cholera was dreaded in south Orissa, but there were no systematic records of the public health and medical services established in the Ganjam district.[10] In Madras Presidency, registration of vital statistics was made compulsory in both rural and urban areas under the Act III of 1899. It was in force in 279 unions, 1898 villages, and also municipalities. The population's vital statistics furnished in 1913 was 40005735, but no figures were provided for the hill tracts of Ganjam and Vizagapatnam districts (Koraput was under the Vizagapatnam).[11]

Western Orissa was administered by the Central Provinces, in which Sambalpur was a prominent region. Colonial records showed it as the unhealthiest in Orissa. An obsolete medical theory was popular among the circle of medical practitioners of the early ninetieth-century which believed that diseases such as cholera, malaria—were caused by a miasma. Sambalpur also did not escape this interpretation of the aetiology of diseases. In this context, Mr. Motte (the agent of Lord Clive, who started his visit from Calcutta and passed through Cuttack to Sambalpur in 1766) states in 1766 the air was "very unwholesome, owing to the great vicissitudes of heat and cold," that the inhabitants were subject to rheumatism, and that every man in his escort was affected

[8] T.J. Maltby, *The Ganjam District Manual (*Madras: The Superintendent, Government Press, 1918), 161.

[9] W.W. Hunter, *Orissa, Volume-I* (London: Smith, Elder and Co., 15, Waterloo Place, 1872), 146

[10] Shri Nrusinha Beuria, *Orissa District Gazetteer: Ganjam* (Cuttack: Gazetteer Unit, Department of Revenue, Government of Orissa, 1992), 796.

[11] *Report on the Administration of the Madras Presidency, 1913-14* (Madras: Printed by the Superintendent, Government Press, 1914), 79.

by violent fevers.[12] His statement extended till 1841, the region was considered as unhygienic by the colonial administration and claimed that "the climate of Sambalpur is very pestiferous: indeed, so great in its unhealthiness that it has proved the grave of almost every European officer who has been stationed there." It was labelled as unhealthy because European officers were affected mainly by the climate and become ill. Indeed, the district had been maligned and that it was not compared favourably with other districts of the province."[13]

The common diseases such as dysentery, diarrhoea, respiratory diseases, skin diseases, rheumatic affection of the chronic type were commonly spread in Sambalpur region. Dysentery and diarrhoea were unusually frequent and fatal. The death rate due to these was 2.22 ratios per mile in 1929. It was mainly because of the source of the drinking water, i.e., the tank which used to become polluted, turgid, and impure in the summer. Respiratory diseases also caused a high mortality, with the death rate being1.24 ratios per mile in 1929. The epidemic cholera was quite common in the early twentieth-century in Orissa, especially breaking out in every hot season. Leprosy, a chronic infectious disease, also spread in the district and appeared to be a common disease in the South of the Raipur-Sambalpur road. Leprosy was not as dreadful as cholera, but leper paupers were frequently evicted from the villages.[14]

The vital statistics of Sambalpur were not well maintained; hence it is challenging to understand the state of affairs of public health. In villages, the duty of reporting the number of deaths and births was of the village headman and the village watchman. A

[12] *Imperial Gazetteer Bengal, Sambalpur District* (Nagpur: Ed at the Secretariat Press, Central Province, 1906), 103.

[13] Ibid., 103.

[14] Shri Nilamani Senapati, *Orissa District Gazetteers: Sambalpur* (Cuttack: The Superintendent, Orissa Government Press, 1971), 479.

printed book was maintained by the village watchman for the entries of the number of births and deaths. On scheduled intervals, usually once a week, the village watchman used to take his book to the police station to show it to the police *Muharrie* (stamp), who installed each entry in the books. The copies of the total entries in the register were forwarded monthly to the Civil Surgeons at the headquarters. He failed to maintain the statistics in rural areas; the government thus issued an order in municipal towns. The responsibility of reporting birth and deaths rested with the nearest male relatives of the persons above the age of 16 years. The punishment was also imposed with a fine, which was amounted to Rs. 50 if anyone tried to break the rule.[15] Even then, the vital statistics reporting it was very poor, in fact, except for the three towns, viz., Sambalpur, Jharsuguda, and Deogarh, no reports from the other places regarding the registration of death and birth reached at the district headquarters. The reports were made, and the vital statistics were maintained by the Police, as in rural areas, and were checked by the sub-inspector of vaccination.[16]

The northern part of colonial Orissa, Puri, Cuttack, Balasore were under the Bengal presidency since 1803. The district of Puri was different from all other districts. The climate of the district was considered healthy, except in some parts, as in certain swampy areas near the Chilika Lake. The northern part of the district was better than the southern part of the district. The southern part of the district used to get flooded every year and remained submerged for over a month at a time; hence it was considered unhealthy. In consequence, this weather produced different kinds of diseases like malaria, diarrhoea, dysentery, and cholera, etc. Amongst them, cholera

[15] *Imperial Gazetteer Bengal, Sambalpur District* (Nagpur: Ed at the Secretariat Press, Central Province, 1906), 103.

[16] Shri Nilamani Senapati, *Orissa District Gazetteers: Sambalpur* (Cuttack: The Superintendent, Orissa Government Press, 1971), 478.

occurred as an epidemic, every year. The Railways was also one of the main sources of infectious diseases, and the pilgrims travelled to Puri by Railways. Hence continuous infections occurred, and it increased tremendously during the Car festival (*Ratha Yatra*, or Chariots Festivals, *Ratha Yatra* celebrate Odia people, which also known as Hindu festival connected with Lord Jagannath and the temple held at Puri in Orissa, India), and it increased more. The other chronic infectious disease, leprosy, also prevailed more in Puri, than the other parts of the Odia-speaking areas, which was attributed to the climate but the district did not suffer from the plague. Colonial officials depicted as a whole, the environment of the district in Puri was the healthiest in the Bengal Province in comparison to other parts of the presidency.[17]

In 1869, the duty of reporting deaths was given to the village c*haukidars*. In 1876, the system of registration was extended to birth, later it was soon discontinued in villages and continued in towns, and deaths alone were registered until 1892. The collection of statistics was handed over to the police instead of *chaukidars*. The report had to be submitted monthly to the Civil Surgeon who prepared the statistics for the whole district. In Puri, a large number of pilgrims, who visited the shrine of Jagannath temple, died every year, in addition to those occurring among the residents of the district due to various diseases.[18]

Cuttack was a part of the Bengal presidency of Odia-speaking areas. The climate of the district used to make it defective through the badly distributed rains as in 1924 that favoured the outbreak of the diseases. The excessive rainfall in 1925, followed by severe floods in 1926, adversely affected the health of people, and retarded the adjustment of the natural balance. Hence, in the district of Cuttack prevailed Malaria

[17] L.S.S O'Malley, Bihar and Orissa District Gazetter: Puri (Patna: Superintendent, Government Printing, Bihar and Orissa, 1929), 137.

[18] Ibid., 138-39.

and cholera; both were endemic, and mortality was more even in general causes. The heavy mortality was due to the effects of the great epidemic of influenza, which swept over the whole of India in the latter part of 1918-1921 and 1924-1926.[19] At Cuttack, the vital statistics were reported by the village *chaukidar* who was the primary reporting agency; recognised cholera, smallpox, and dysentery were prevailing because the climate of the district was awful. Hence, they never considered Cuttack as a salubrious district. And according to the vital statistics, though the average birth-rate over the period 1912-1931 was 37.34 per mile, which was slightly above the provincial average of 37.10 per mile, the death-rate of 35.23 per mile considerably exceeded the provincial average of 30.5. Overall, the district was not salubrious in various cases as diseases, cultivation, and environment, etc.[20]

Balasore district was also ruled by the Bengal presidency, which was one of the Odia-speaking areas. The climate of the district, on the whole, was salubrious, but the north part of the district was notorious for malaria of a malignant type that spread from the adjacent tracts of Midnapore district. Furthermore, the south-east corner of the district, on the mouth of the Dhamra, was an unhealthy region though it was one of the low malaria regions. Cholera had prevailed in the district even before steamer communication with other parts of the Bengal Presidency had been established and much before the railway connection was set up. Every year, cholera used to make its appearance along the Trunk Road together with the great stream of pilgrims travelling

[19] L.S.S. O'Malley, *Bihar and Orissa District Gazetteers: Cuttack* (Patna: Superintendent, Government Printing, Bihar and Orissa, Patna, 1933), 67.

[20] Ibid., 68.

to Puri. Cholera ranked first among the scourge of epidemic diseases, and the mortality rate caused by it was appalling.[21]

The vital statistics were abysmal in reporting throughout the colonial Orissa. Because the registration duty of vital statistics in 1869 rested in the village *chaukidars,* and in 1876 the system was extended to birth, but the returns received were so incomplete that they were registered until 1892 when the collection of statistics of birth as well as of deaths was ordered, and the system was introduced. In vital statistics of the district, the highest birth-rate recorded in 1899 which was 40 per miles, and the lowest was 31.7 per miles in 1892. The death rate of the district was also high, 43.6 per mile, but it fell down in 1893 to the lowest in the record per thousand of the population.[22]

Widely spread Diseases and its Causes:

Disease and mortality are always related to each other. Early colonial medical practitioners and travellers extensively written about the spread of the diseases in India including Orissa, Jacob Bontius, (pioneer of tropical medicine from Dutch and also he was known for the four-volume of work "*De Medicina Indorum*") a Dutch physician, in his book entitled "*On Some Internal and External Diseases of the Body in the Indies*" gave an account relevant to India, which is dealing mainly with the anatonation of physicians.[23] Charles Dellon (Franch Physician and writer, known as Gabriel Dellon, in seventeenth-century) a surgeon of French East India Company also left his experiences in his book *A Voyage to the East Indies* an account of the diseases in the Eastern regions. The book also talks about the types of diseases like malignant

[21] L.S.S. O'Malley, *Bengal District Gazetteers: Balasore* (Calcutta: The Bengal Secretariat Book Depot, 1907), 66.

[22] Ibid., 66-67.

[23] Jacobus Bontius, *was a Dutch physician and a pioneer of tropical medicine. He is known for the four-volume work De Medicina Indorum.*

fevers, smallpox, etc., that prevailed in India prior to colonial rule. And also dealt the causes and cure of these diseases, the treatment used to by the *Pandits* (Priest of Hindu), were the practices of indigenous medication devoid of learning or any knowledge or insight into anatomy, all their proficiency was confined to a certain number of people, which they have received by conventional ways from their predecessor and their method of treatment.[24] William Twinning, another Westerner who left us several accounts related to diseases in India, was an Assistant Surgeon of East India Company posted in Calcutta during the early decades of the nineteenth-century. He attributed three books: *Observations on Diseases of the Spleen*, particularly on the vascular engorgement of that organ, common in Bengal (1828) *Clinical Illustrations of the More Important Diseases of Bengal: With the Result of an Inquiry into their Pathology and Treatment* (1832) and *A Particular Account of the Epidemic Cholera (1833)*. The books show the first modern clinical elaboration of Kalazaar, which he called "tropical spure." In his narrative, he says that the "endemic cachexia of the tropical countries that are subject to paludal exhalation," and finally listed the features which match the contemporary perceptive of the disease. And finally his observation was on the nature of the epidemic cholera and the influence of the various mode of treatment. The thrust of his argument has been that the climate had a significant impact on the health of the people and the environmental factors were responsible for most of the tropical diseases.[25] Charles Morehead (Professor and Principal of Medicine at the Grant Medical College, Bombay),[26] wrote *Clinical*

[24] Charles Dellon, *A Voyage to the East Indies part-1* (London: Printed for D.Browne, at the Black-Swan without Temple-Bar; A. Roper, at the Black Boy; and T.Leigb, at the Peacock, both in Fleet-Street, 1698), *232-246.*

[25] William Twinning, *was a British military surgeon who practiced in the Indian Subcontinent*.

[26] Dr Charles Morehead CIE FRSE (1807–1882) *was a 19th-century Scottish physician who came to eminence in the Indian Medical Service in relation to health education*.

Researches on Diseases in India in I856. The book presents imperative information on the categorisation, diagnosis, and healing of the diseases prevailing in India. The existence of people means the existence of diseases also; the disease can be epidemic or non-epidemic. On similar line, Biswamoy Pati argued that human beings are the source of diseases, while citing the case of Puri Jagannath temple, every year congregation in thousands of people in British colonial administration and slays lot of people due to cholera and many other diseases.[27] Orissa was the most vulnerable as there were several epidemic diseases that frequently occurred in the society. While talking about the public health of colonial Orissa, one needs to reflect on the connection between the pilgrimage and the spread of various epidemics. Orissa is a culturally prosperous state with their tradition and culture from time immemorial. Puri was a temple town which attracted a large number of Hindu pilgrims, even a city like Bhubaneswar, also well-known as the temple city of Orissa. Thus all attracted more pilgrims and caused of the diseases, however the geographies, ecology, and environment was the most important to any diseases.[28]

It is interesting to note that there were specific places, which were identifiable with a particular disease, like - Puri could be considered for cholera, Koraput for Malaria. The spread of smallpox more or less prevailed in every place in colonial Orissa, but more in Ganjam and Cuttack; all these diseases existed vulnerably under the colonial administration. Even in the sixteenth and seventeenth centuries, India had witnessed the outbreak of various diseases and their devastating effects on the countryside. And in Orissa, Puri was the origin of many diseases, and especially cholera was more devastating; hence in this context, Biswamoy Pati states that the

[27] Biswamoy Pati, "Siting the Body: Perspective on Health and Medical in Colonial Orissa," *Social Scienties* (Nov-Dec, 1998): 3-26.

[28] Nicolau Manucci's *Storia de Mogor, ed. N. lrwine, III* (London: 1906-1908), 157.

temple was the place to the source of multiple diseases, and mainly the filthy environment lead the diseases.[29] So, it could say that most of the time, diseases and temples were co-related to each other. In Orissa, many diseases had existed for a long, but among them, major diseases were: Cholera, Malaria, Leprosy, and Smallpox, which all not only occur through the environment but also due to the diet, hygienic, sanitation, etc., are the causes for various diseases.

Scarcity of food played a pivotal role in the spread of various epidemics and non-epidemic diseases. In Orissa, the Odia-speaking people were ruled under the various presidencies and provinces. Hence, Orissa's public health department had to pass through a very strenuous period till the year 1936, owing to the scarcity of food and raised the prices of food grains was the man-made causes of diseases. The people, particularly the lower classes, had practically consumed the food, which they were unaccustomed during regular times. As a result of these circumstances, the vitality and power of resistance to diseases and sickness were lowered, and they felt easy prey to diseases like cholera, malaria, leprosy, and smallpox. These diseases were prevalent in epidemic and non-epidemic forms in areas where the shortage of food was more. It was reported by the health officers and other subordinate staff working in the field that the incidences generally found higher amongst the lower class people who could scarcely afford to get their wanted meal, and this continued crucially till the separation of Orissa from the province of Bihar and Madras presidency in 1936 and after it was little less than the previous years.[30]

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[29] Biswamoy Pati, "Siting the Body: Perspective on Health and Medical in Colonial Orissa," *Social Scientist* (Nov-Dec, 1998): 3-26.

[30] Government of Bihar and Orissa, Department of Municipal, Sanitation, *Annual Sanitary Report of Bihar and Orissa for 1914 and Vaccination Return for 1914-15,* File. No- S/188 of 1915.

Even after 1936 also, in this regard, reports by various health officers, for instance, in regular times, the shortage of food was common in the second half of the year 1943 when the stock of food grains was obtained from the previous harvest generally reduces. Thus, as usual, it happened in the same year and made that already prevailing food shortage felt all the more acutely. Although no systematic investigations were carried out to establish the relationship of food is the another sources to spread of diseases. But it is clear from the statements appended that the number of deaths from cholera, dysentery, and diarrhoea and fevers were higher in the second half of the year in 1943 than that in the corresponding time of the previous three years, which had a direct bearing on the acute shortage of food.[31] The study exploring how public health was under the colonial Orissa by 1936 and after that, how the food habits contributed to spreading of various diseases.[32]

In colonial Orissa, there was very less number of hospitals and dispensaries. For example, in Ganjam district, the first time a hospital was built in 1881 after the occupation of southern Orissa by the British in 1767, and they merged it with the Madras Presidency. Most importantly, the Koraput district was mostly a malarious area, and many people used to die of malaria, but the bureaucrats of the colonial government were not aware of this at all. For instance, no doctor was ready to serve the Koraput region because of its geographical location as it is situated in hilly terrain; and it had a flawed communication system. Hence, after independence, the government commenced a policy to give extra incentives to doctors from outside

[31] Ibid.

[32] Ibid.

those who were willing to serve at Koraput. However, even then also, no doctors were ready to go Koraput.[33]

In rural areas, several factors were responsible for various diseases, and the housing plane was an important one of them. To talk about sanitation in rural houses, it was far from cleanliness which was another cause of epidemics and non-epidemic.[34] The Tribes or indigenous people mostly lived in ill-ventilated and in unhygienic *katcha huts*. There were no windows in their houses, unfit for ventilation and sunlight; but, there was no attention paid. Even at noon, the room remained dark; for the light, people used to lit the fire inside the house, but the surroundings became polluted by the smoke. Their livelihood was based on agriculture; therefore, every home had Cattle. However, the problem here, the cattle were also kept in the same house where they lived. They had not enough space in front or backyard of their house; hence, their urine and dung were dumped just in the backyard of the house. So, the house erection plan was the most dangerous factor to contribute various diseases in indigenous society.[35]

In another section focussed on the origin of the diseases within the house attributed to the lack of proper drainage system to drain water out. There was no suitable connected drainage system either in rural or even in urban areas. Though colonial administrators tried to make drainage that was within urban areas, and it was very unsatisfactory in rural areas. The towns and some of the Gram Panchayats were

[33] Sri Nrusingha Charan Beuria, *Orissa District Gazetteer: Ganjam* (Cuttack: Government of Orissa, Department of Revenue, Gazetteer Units, 1992).

[34] Chandi Prasad Nanda, "Political Ecology of Cholera: Orissa and Colonial Sanitary Discourse," *IJHS,* Vol.55.2 (March 2020).

[35] *The Kandha of Orissa, Their Social-Cultural Life and Development,* (Bhubaneswar: Scheduled Castes and Scheduled Tribes Research and Training Institution [SCSTRTI], 1982).

able to maintain the drainage system after 1936, but many Gram Panchayats were unable to do, due to the shortage of funds. Finally, the colonial administration was ready to release funds for such things just before the independence of India. The lanes of the villages most were congested, muddy, and untidy, which was another cause that led to the deterioration of public health. The most important things the rural people were deplorable in sanitation at their homes in the form of excreta. The villagers also had no proper idea about sewerage disposal. They were not habituated to using latrines; there was intensive open defecation. They used to defecate near the water bodies like lakes and river banks.[36]

As a result, contamination of the water reservoir tank of the villages with rainwater and subsequently spreading of the water-borne diseases which were quite common in the village areas. Finally, from the discussion, could say water is the most dangerous medium in spreading all types of contagious diseases were at the forefront of these. Consumption of water in the villages the primary sources were ponds, rivers, and streams were very often contaminated. The rainy season was the most challenging for the villagers in the form of diseases spread. They defecated under the open sky, which used to go into the ponds with the rainwater, and the village people used the same water for drinking and food making purposes, and thus it caused epidemics like diarrhoea and cholera. All villagers bathing and washing clothes in the same pond, and even animals were being bathed in the same pond, which was the most vulnerable situation to spread the contagious more. Subsequently, the Revenue Department had constructed wells in some of the villages. But villagers were not accustomed to wells.[37]

[36] Ibid.

[37] Ibid.

Odia-speaking people mostly lived in rural areas. Indigenous people had a belief that disease occurred because of the wrath of gods and goddesses and sometimes due to witchcraft or black magic.[38] Hence, they used to worship various gods and goddesses of respective illnesses to appease them. Goddess *Sitala* was being worshipped for smallpox, god *Loknath* for leprosy, and Goddess *Thakurani* for cholera, etc.[39] Most of the time, the diseases occur because of an insalubrious environment, unhygienic food, impure water, and wrong housing plan, and the colonial administration were not given proper attention on public health for Odia-speaking people. These were major causes of several diseases in rural areas, and overpopulation, particularly in urban areas, was another cause. Several epidemics and non-epidemics used to get multiplied quickly, mainly without proper sanitisation and hygienic. Odia people had no ideas about the many diseases; neither colonial administration implemented any policy strenuously, though various policies existed.[40]

Administration of Sanitation:

Sanitary arrangements or policies were subsisting in colonial Orissa, but it was very poor in implementation. Various measures such as the decentralisation of local bodies through Municipal and District Boards, and the same became operational on 6 April 1921. To take hygienic measures for epidemics, Major Ross, a Sanitary Commissioner of the province, submitted a proposal in 1917 for a publicity campaign for sanitation, which was an important step to fight the epidemic. In this scheme, the estimated cost was 30,000 per annum. But the local government considered the

[38] Ibid.

[39] Sri Nilamani Senapati, *Orissa District Gazetteer: Sambalpur (*Cuttack: The Superintendent Orissa Government Press, 1971).

[40] Proceedings, Government of Orissa, Department of Local Self Government, Sanitary Branch, *Introduction of free and compulsory Vaccination in North Orissa*, June, 1941, File No-P.H. 20/41.

proposal rather less ambitious and sanctioned only 5000 per annum as an experiment with effect from 1 July 1917 to make the indigenous people conscious about the issues of sanitation and hygienic. The idea of propagating sanitation through two methods like lecture method and articles in the newspaper in every important centre of the province, was a good one. Another sanitary commissioner of Bihar and Orissa province, Dr. Tiwari, extended the proposal in the right direction, like specifying the cost of lecture and the cost of the advertisement in the newspaper for the same subject, Rs.13 and 86-9-0 respectively. The government considered only one proposal by Tiwari, i.e. to have lectures delivered at important towns in the province by the Civil Surgeon and Assistant Civil Surgeon. It paid more than the estimated cost of Dr. Tiwari, which was Rs.20 per each lecture delivered by the Assistant Civil Surgeon and Rs.50 by the Civil Surgeon. Subject to the matter was no medical practitioner got more than Rs.500 within a year, and the total cost was within Rs. 5000. For more publicity, the government-sanctioned publicity campaign office in addition to the Health Officers on Rs.300-20-500. Here in the office, one lantern operator on Rs.50 per month, one artist clerk on Rs.50 per month, and two servants on Rs.10 per month. A report was made by the Sanitary Commissioner after the experiment of a year and pointed out that the scheme has proved failed because the attendee of the lecture was terribly low. Even not appreciation, hence the provincial government thought, need to stop the subsidised talk but need to participate the health officers in the large town and give a lecture in their localities regarding health. The government will provide lanterns, slides, and skeleton lectures, but at the time of the lecture, all the charges would provide by the local bodies (Municipality) for lighting, advertise, transport, etc., proposed by the Sanitary Commissioner because then only the local participation

would be more. The approximate cost should not be more than 500. A detailed report was sent to the Accountant General of Bihar and the Orissa Government.[41]

Accountant General of Bihar and Orissa Government replied on 6th April 1921 made compulsion the Sanitary Commissioner to consult the local bodies for the scheme successful. Again, they asked about the publicity campaign office, need to replace the existing workers, no need for full-time operators, for the picture and drawing, and they would be paid for at piece rate. A Hindi writer replaced the operator with Rs.75 per month, and the artist clerk was replaced with a typist who was necessary for the office with the same amount of Hindi writer who could operate magic lantern as well. Even the payment of the peon was increased Rs.10 to 11. All these schemes aimed to improve more awareness about sanitation and hygienic measures.[42]

Subsequently, the government was inviting suggestions from the local bodies. The local bodies like Municipality and District Board the suggestions were supposed to come after the consultation with local *Hakims* and *Kabiraj* with effect from April 1921. Soon after the invitation, 33 municipalities out of 57 and 12 District Board out of 20 replied by 7th August 1921. On the same day, the Secretariat of the Bihar and Orissa province put up the file and asked subsidiaries to let it know how many outstanding suggestions were put forth. Before the reply of local bodies, the Sanitary Commissioner did not reply as they modified their proposal by 19th March

[41] Proceedings, Government of Bihar and Orissa, Sanitation Branch, Local Self government, Public Health Bureau, Bihar and Orissa, *Dissemination of Instruction Regarding the causes and prevention of Epidemic,* November, 1922, File No.S.-114 of 1922.

[42] Proceedings, Government of Bihar and Orissa, Sanitation Branch, Local Self government, Public Health Bureau, Bihar and Orissa, *Dissemination of Instruction Regarding the causes and prevention of Epidemic,* November, 1922, File No.S.-114 of 1922.

1921. The suggestions of the local bodies differed from one to another municipality or District Board like; [43]

1. Sanitary Commissioner suggested Health officers should deliver lectures in the large Municipalities and the District Board. They were further suggesting to distribute the pamphlets in English and vernacular language through the local bodies, social service league, and any other agency willing to help to the subject.

   The local government placed this proposal before the local bodies circulated the knowledge about hygiene and sanitation among the people to prevent the epidemic. The municipalities agreed to Sanitary Commissioners' proposal, lecture by the health officers.
2. The District Board, Cuttack, and Darbhanga accepted the proposal of the sanitary commissioners, but the Lohardaga and Chatra municipalities accepted the proposal of the lecture, but they needed local people acquainted with the language, dialect, manner, and customs which would enable them to understand the false ideas of the people about the epidemic and make them aware as well.
3. Gaya and Raghunathpur municipalities suggested that the school's headmaster should give a lecture about sanitation and hygiene after being trained by surgeons.
4. Puri District board had a suggestion that various agencies should employ people like union committee, Co-operative Society, Local Doctors under the Board, School inspector, school teachers, and also some elites from the localities. Secondly, the lecture should be in *Melas* (fair), *Hata* (weekly

[43] Ibid.

market), *Bhagabatghar* (religious centre), and the school teachers might be trained on the subject beforehand.[44]

Several different suggestions came from the municipalities, District Board, and from all the suitable agencies. However, more recommendations were based on the cleanliness subjects to be introduced in every school and teach the students about sanitation and hygiene. It is not an easy task to drive out the superstitions from indigenous people's minds. They need to be imparted with correct knowledge about the epidemic diseases. After reading all the suggestions, the Secretary of the Bihar and Orissa province wrote a letter to the Hon'ble Minister Mr. Das, after incorporating all the recommendations. Finally, he reached the conclusion that his advice for sanitary measures would be manifested by the publicity bureau of the Sanitary Commissioner's office, which would prepare the skeleton of the lecture and also distribute the pamphlets. Secondly, the municipalities' lantern lecture will ensure success. Thirdly, he opined that except Muzzafarpur, all the boards could arrange the sanitary measures like Vaccinator and even *Hakims* and *Baidas* to take care of sanitation and hygienic measures. Fourthly, sanitation and hygienic should be taught at schools. The most important was to make army officers into the sanitation campaign and trained them by the surgeons.[45]

The implementation of the scheme was chalked out differently for different diseases, vaccine for smallpox, quinine for malaria, etc. To prevent the spread of cholera, which was an annually visiting epidemic, it was needed to disinfect the drinking water, a preventive measure for cholera. Secondly, there was a need to impart knowledge about the epidemic through various methods. The authority of

[44] Ibid.

[45] Ibid.

Sanitary Commissioners states, “In a majority of the cases, the seeds of the scientific knowledge fall on rocky or sandy.” The people were ignorant; therefore, the government should take care of them by taking preventive measures to contain it. Hence, needed to employ people to supply clean water, and the source of the water should be examined. All this to be done in winter, and every village should be selected. The necessity was to improve the quality of the drinking water and for which two men should be appointed. They should be engaged to disinfect the wells. This disinfection work should be done before winter (called cholera season) and continue until the end of the season. If any village or selected areas does not have wells, the wells need to be excavated. For this work, they wanted to engage the vaccinators with the necessary training to do the work. With all these suggestions, finally, Minister M. S. Das approved all for cholera on 6th May 1922. Before cholera seasons, a few men should have been employed to disinfect the water as a preventive measure. He also asked the vaccinators whether they are ready or not to work in such circumstances in their respective villages.[46]

Cholera:

Cholera was the most dangerous and destructive epidemic in India. The East India Company physicians states that, cholera as the “most formidable and fatal disease.” Like James Annesley noted in 1825, “have excited more interest among medical men, or more terror in the mind of the Indian community at large, than the epidemic cholera.” The primary symptom of cholera is an excess loss of fluids from the body, slowly leading to death. The Madras Medical Board described in August 1818 that “the disease is characterised by the suddenness of its attack and directed to

[46] Ibid.

death."[47] Cholera was endemic in the coastal districts of Orissa. The disease prevailed in epidemic form in the coastal regions of Cuttack, Puri, and Balasore and some parts of Ganjam Plains. It lasted mildly in some areas of the district of Sambalpur. Sporadic cases were reported from Angul, Khondmal, Ganjam Agency, and Koraput. Cholera spread like an epidemic form, especially in the coastal districts of the province, viz., Cuttack, Puri, and Balasore.[48] And other parts of the province were free from cholera because there were no proper statistics were available except for Ganjam plains, where sporadic cases were reported in1917-18, 1919-20. Cholera occurred seasonally, mostly in the rainy season. The people used to be scared of this season because of cholera.[49] In Colonial Orissa, to count the death rate due to Cholera was very difficult because under the Colonies, the Odia people were separated into different presidencies and province.[50] The annual sanitary report of Bihar and Orissa, for 1919 and 1920, states that about 8 percent of the total mortality during the last 20 years had been due to cholera.[51] The inception of systematic counting of cholera mortality

[47] David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Delhi: Oxford University Press, 1993), 159.

[48] Shri Nrushinga Charan Behuria, *Orissa District Gazetteers: Ganjam* (Cuttack: Gazetteers Unit Department Revenue, Government of Orissa, 1992).

[49] Government of Bihar and Orissa, Department of Municipal, Sanitation, *Annual Sanitary Report, Bihar and Orissa, for 1919, and Triennial Vaccination Report for the years 1917-18 to 1919-20,* October, 1920, File. No- S-134 of 1920.

[50] First Bhore Committee Report, *Report of the Health and Development Committee:* Survey (Delhi: Printed by the Manager, Government of India Press, Calcutta, 1946).

[51] Government of Bihar and Orissa, Department of Municipal, Sanitation, *Annual Sanitary Report, Bihar and Orissa, for 1919, and Triennial Vaccination Report for the years 1917-18 to 1919-20,* October, 1920, File. No- S-134 of 1920.

commenced in 1865, in India but Orissa was not covered; in 1927, a triennial report reveals that the mortality in cholera from 1916-25.[52]

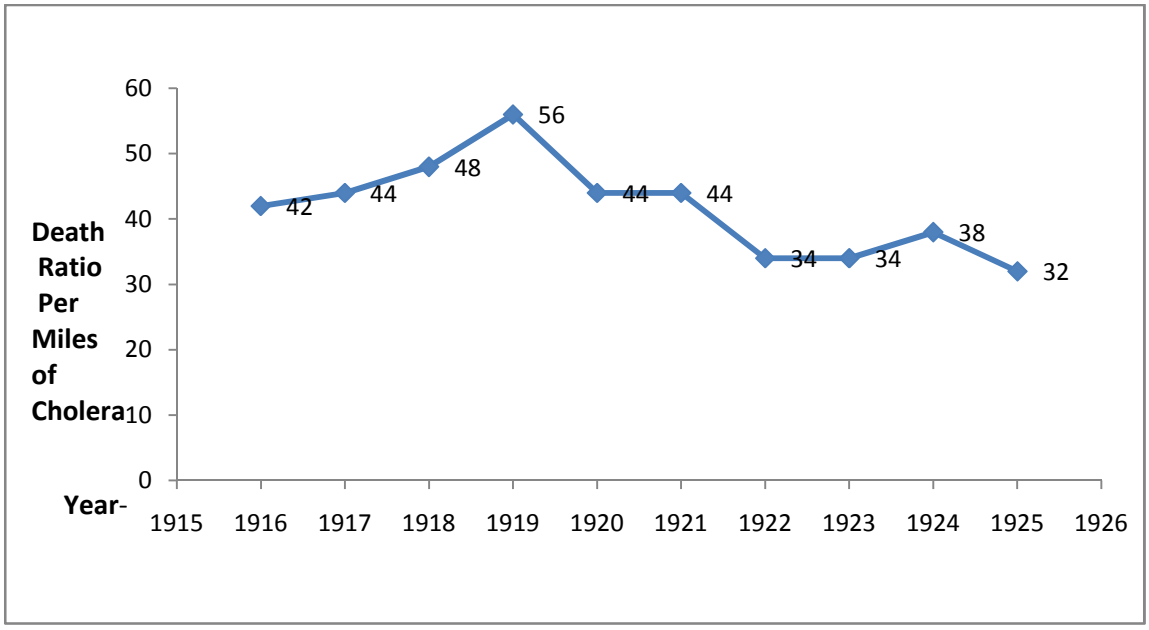
Table No. 2.1: the cholera mortality ratio per mile in Bihar Orissa Province from 1916-1925.

Sl. No.	Year	Death Ratio per Miles of Cholera
1	1916	42
2	1917	44
3	1918	48
4	1919	56
5	1920	44
6	1921	44
7	1922	34
8	1923	34
9	1924	38
10	1925	32

Source: Proceedings, Government of Bihar and Orissa, Local Self government, Medical, Teriennial Report on the Hospitals and Dispensaries in Bihar and Orissa for the years, 1923, 1924, and 1925. March 1927, File No. MEDL. IIR 25 of 26.

[52] Proceedings, Government of Bihar and Orissa, Local Self government, Medical, Teriennial Report on the Hospitals and Dispensaries in Bihar and Orissa for the years, 1923, 1924, and 1925. March 1927, File No. MEDL. IIR 25 of 26.

Graph Line- 2.1: the cholera mortality ratio per mile in Bihar Orissa Province from 1916-1925.



The table shows the death ratio per mile of cholera in Bihar and Orissa province during 1916-1925. The most vulnerable was in 1919 and lowest in 1925, which seems how the death line gradually reduced. It shows how the interventions of Western medicine pull down the death line under the colonial administration. However, it was indispensable acutely to implementation, but it was not executed well for indigenous people.[53]

[53] Ibid.

Pilgrimage to Temple Town - Puri and Cholera:

Lord Jagannath's temple in Puri became the centre stage of colonial politics since early British rule. Throughout the nineteenth and first half of the twentieth-century, the temple was an indispensable concern for the colonial administration. The temple of Puri Jagannath in Orissa was measured to be one of the premier places of pilgrimage in Hindu cosmology. And also known as *Purushottamkshetra* or *Nilachal Dham*, Puri is one of four *Dhams* (Hindu Pilgrimage site) in the Brahminical heritage.[54] The pilgrims commenced to assemble at Puri, in every year, began just before the car festival, and their number was insignificant. They were, for the most part, Bengalee women (revealing David B.Smith in his report in the year of 1868). It has often been asserted that much deceit and oppression is practiced, towards the pilgrims, by the Pundaha (Panda) and priests of the temple.[55]

The report of David B. Smith, in 1868 on Pooree (Puri) "the religious excitement and the spirit of religious fervour was up and awake; and gather the crowded of pilgrims. There was no mistaking it; the car bearing the idols (Lord Jagannath) was to advance, and ten thousands of pilgrims were aware of the fact and had their attention fixed in one direction." But the crowd of pilgrims assembled in front of the cars was composed of many thousands of individuals. In 1849 the European Missionaries reported at Puri during car festivals, showing around 150,000 pilgrims were presented, but In 1868 Smith reported about 50,000 pilgrims were presented in car

[54] Ujjan Ghosh, "Pilgrimage, Politics and Surveillance: the temple of Jagannath and the Colonial State in early 19th Century Orissa" in *International Journal of Religious Tourism and Pilgrimage* Volume. IV, No.VI (2016): 23-32.

[55] David B. Smith, *Report on Pilgrimage to Juggernauth, in 1868, with a narrative of a Tour through Orissa* (Calcutta: E. M. Lewis, Calcutta Central Press, 1868), Part-II, 19, Part-IV, 2.

festivals.[56] Puri is a temple town depicted as was an abode of Cholera, mostly because of pilgrimage at the time of car festival. In largely pilgrimage and diseases was intense medical debate as Cholera pandemic of 1865-66 spread to Europe via an outbreak at Hajj in Macca in 1865.[57]

There were several causes to the sources of epidemics in Puri, such as over-crowding, filthiness of town, high heat, dampness, and sudden atmospheric changes, to turn the pilgrim's city into a pest-house. Every year during *Ratha Yatra* (car festival) at Puri, thousands of people used to get slayed. Because the density of the pilgrims or population was high during the *Ratha Yatra*, the same was the primary cause of the spread of epidemic diseases and death.[58] It occurred at the most unfavourable and inclement season of the year; before the close of *Ratha Yatra*, the rain got pretty well advanced. The roads were cut up, the rivers are full, the roadside lodging-houses were intimate and steamy, and often the sole shelter for travellers was underneath the trees dripping with rain."[59] P.T. Mansfield (ICS Officer at Puri in 1929) wrote in 1929, "Puri has had the evil reputation of being a focus of cholera, and a centre from which the disease spreads to other parts of India."[60] Hence W. W. Hunter states "Puri city is a hotbed of the disease."[61] Almost every year, epidemic like cholera occurred in colonial Orissa and prior as well. But the year 1939 was so severe

[56] Ibid., 7.

[57] Amna Khalid, Of Cholera, Colonialism and Pilgrimage Sites, Rethinking Popular Responses to State Sanitation, C.1867-1900, Bismoy Pati & Mark Harrison (ed*.), Society, Medicine and Politics in colonial India*, Routledge, New York, 2018, p.75.

[58] Government of Bihar and Orissa, Department of Local-Self Government, Sanitation*, Annual Public Health Report for the Year 1925,* December, 1926, File. No- S1R. 14 of 1926.

[59] L.S.S O' Malley, *Bihar and Orissa District Gazetteers: Puri* (Patna: Superintendent, Government Printing, Bihar and Orissa, 1929), 142.

[60] P.T. Mansfield, ICS, Imperial *Gazetteer: Puri (*Patna: Superintendent, Government Printing, Bihar and Orissa, 1929), 548.

[61] W.W. Hunter, *Orissa* (London: Smith, Elder and Co., 15, Waterloo place, 1872), 146.

that the mortality rate went up much higher till the prior date in the district of Puri after the separate province of Orissa. Again Mansfield says, "the chief force of the epidemics was concentrated in the town, but then they spread into the district, especially to the village along the Trunk Road."[62]

In Puri, there were no proper arrangements for the pilgrims like water-supply, latrine, accommodation, or the disposal of refuse. As a result, the pilgrims had to become the victims of cholera. During the rainy season, the roadside pathways were converted into huge sewage drains by the pilgrims.[63] Who had encamped and swarmed under the trees, or wherever they slept, cooked, ate, drank, and attended to the call of nature overtly, randomly, which seemed to be an awful arrangement even just before Orissa became a separate province.[64]

In south Orissa, especially Koraput, Cholera occurred very rarely, but whenever it visited, it used to create a devastating situation. In 1934, the epidemic was severe. According to T.J. Maltby (ICS officer of Koraput), states cholera was not endemic in the Ganjam District, but it imported disease from Puri. The crowd of pilgrims who visited the shrine of Jagannath temple spread the disease throughout India.[65] In the western Orissa, especially, Sambalpur district suffered from epidemics because lack of disease prevention care. Cholera was a recurrent in villages and was being utterly depopulated and sometimes deserted. The villagers used to consult the local doctors who believed in superstitious practices. They used to believe that the

[62] Shri Nilachala Senapati, *Orissa District Gazetteer: Puri* (Cuttack: Gazetteer Unit Department of Revenue, Government of Orissa, 1961).

[63] Chandi Prasad Nanda, "Political Ecology of Cholera: Orissa and Colonial Sanitary Discourse," *IJHS,* Vol.55.2 (March 2020).

[64] L.S.S O' Malley, *Bihar and Orissa District Gazetteers: Puri* (Patna: Superintendent, Government Printing, Bihar and Orissa, 1929), 142.

[65] T.J. Maltby, *the Ganjam District Manual* (Madras: Government Press of Madras, 1918), 161.

epidemic occurred by the wrath of a goddess called *Maa Thakurani*.[66] The epidemic was common in these areas, breaking out nearly almost all summer because of railway connectivity established with Puri and made easy for the pilgrimage to Puri. Pilgrims of Puri carry the infection and spread cholera to the district.[67]

Similarly, the northern part of Orissa, Balasore, was affected by epidemic cholera. Even before the construction of the railway lines, it appeared regularly year after year, the pilgrims of Puri were the leading cause for the spread. There was a common belief among a large section of the people that Lord Jagannath would be washed away after the Rath Yatra festival, which attracted many pilgrims to Puri. An unprecedented number of pilgrims used to assemble every year in Puri. Though a few steps were taken to avoid the severity of the epidemic at Puri but infection and spread far widely. Cholera spread mostly during the festival of *Ratha Yatra* in every June-July. With the arrival of pilgrims in an unprecedented colossal number, many of them were not take precautionary measures against cholera, and some of them came from infected areas. With sustained efforts of the public health staff and others, the situation was brought under control for only a short period.[68] People use to migrate to Puri from neighboring districts of Cuttack and Balasore in search of food; with them disease carried and spread to Puri and other parts of the province. Epidemic assumed severe proportion and remained so high till November in every year. After November, with the harvesting of crops, people were busy in agriculture works and get food,

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[66] Shri Nilamani Senapati, *Orissa District Gazetteers: Sambalpur* (Cuttack: Superintendent Government of Orissa Press, 1971), 481.

[67] Ibid., 481.

[68] Government of Bihar and Orissa, Department of Local Self-Government, *Sanitation, Annual Vaccination Report for 1926-27, Annual Public Health Report for the Year1926. December, 1927* File. No- S-IR-25 of 1927.

which led to the epidemic abated gradually in the districts.[69] It was apprehended in Puri that 1919 was a bad year for cholera as the factors favouring such a condition existed in the province. Every cyclone year used to spread cholera and diarrhoea. Natural calamities, predominantly- cyclone in the coastal areas results in the scarcity of food because it destroys the food grains.[70]

Many factors caused the epidemic viz., lousy state of water-supply, massive monsoon floods facilitated the spread of the disease from the innumerable *Melas* remaining almost the same. The virulence and high mortality from the disease may be attributed to the general stress that prevailed in the country due to food shortages. This statement may be borne out because the epidemic of 1943 surpassed even the worst epidemic year of 1939 when 11,141 deaths were recorded from this disease. It may be noted in this connection that in many cases, the preventive measures taken were cases of diarrhoea due to inanition. Almost all the health officers reported that many of the deaths were recorded due to cholera cases of inanition due to malnutrition or consumption of inedible food. This was borne out because the highest mortality occurred only in areas where a shortage of food was acute.[71]

Sanitary Arrangement in Puri for Cholera:

The surveillance modalities of the colonial government evolved during the nineteenth-century, and by the mid-1860s, the rhetoric of public health would control the

[69] Government of Bihar and Orissa, Municipal Department, Sanitation, *Annual Sanitary Report of Bihar and Orissa for 1914 and Vaccination Return for 1914-15*, Acc No. 33271 B and O, Doc.

[70] Proceedings, Government of Bihar and Orissa, Local Self government, Medical, Teriennial Report on the Hospitals and Dispensaries in Bihar and Orissa for the years, 1923, 1924, and 1925. March 1927, File No. MEDL. IIR 25 of 26.

[71] Government of Bihar and Orissa, Municipal Department, Sanitation, *Annual Sanitary Report of Bihar and Orissa for 1914 and Vaccination Return for 1914-15*, Acc No. 33271 B and O, Doc.

discourse. South Asian pilgrimage became the origin of global concern by the 1860s when the spectre of cholera threatened Europe. The International Sanitary Conference in Constantinople accused Puri as being one of the important centres for distributing cholera in India (Harrison, 1994:117; Arnold, 1993:186), which, in turn, was carried to Europe by the pilgrims who visited Mecca. A completely new set of political concerns appeared that defined and transformed the questions on South Asian pilgrimage in the late nineteenth-century.[72]

For Indians, Puri was a place for pilgrimage, and for colonial and missionaries, Puri was a nightmare and place for diseases and death. It was traced in the nineteenth-century by the missionary and colonial administration. Hence, Biswamoy Pati argues that Puri was the 'valley of death' with the dead bodies of those infected by cholera, and subsequently, the corpses were eaten by the vultures.[73] Orissa is a state of gala celebrations, especially the car festival, which is still a trending, attracting millions of devotees from all over India. It is observed in June- July every year at Puri, and it is here that diseases spread rapidly. People often used to come from infected areas, and many times pilgrims used to eat perishable food (Mahaprasad) after a day, and thousands of people had bath in a small tank which in turn became one of the causes of epidemic.[74]

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[72] Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914* (New Delhi: Cambridge University Press, 1994), 117.

David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (New Delhi: Oxford University Press, 1993), 186.

[73] Biswamoy Pati, "Siting the Body: Perspective on Health and Medical in Colonial Orissa", *Social Scienties* (Nov-Dec, 1998), 3-26.

[74] Ibid., 3-26.

In colonial Orissa, there was a sanitation scheme and awareness program by the government, which was poor in implementation, but it was apparent only after the separate province because the administration of colonial Orissa was under the Bengal Presidency, Madras Presidency, and Central Provinces, by separately. It seems Orissa was under the dark age in relation to any the welfare work. The colonial troops were significantly less infected than the indigenous because all government sanitary and preventive measures were working actively for them to prevent the severity of the epidemic of cholera at Puri.[75]

The focus of infection and necessary steps were taken sufficiently during the car festival, special sanitary arrangements, but those were not good enough to prevent all sorts of epidemics. In this festival, people used to come from outside of Puri and especially during the *Ratha Yatra*. However, the situation became even more horrible when a lot of pilgrims stay on the roadsides.

On the whole, the pilgrims occupied whatever space was available at Puri; the portions on both sides of Grand Road, in the vicinity of the Jagannath temple, the Gundichha Mandir, the road on the western and northern sides of the temple, and the sides of the religious tanks viz., the Narendra and the Indradumna were the places mostly used by the pilgrims occupying the roadsides till Orissa became a separate province.[76] To make better provision for the conservancy and sanitation of places of pilgrimage, the Puri Lodging House Act of 1871 was re-enacted with some modifications in 1919. The new Act, which was called the "Bihar and Orissa Places of

[75] B. L Raina, (ed.) *Official History of Indian Arm Forces in the second world war 1939-45, Medical Service,* (Nutrition, Malaria Control and Prevention of Disease), published by (Combined Inter-Services Historical Section Indian-Pakistan, 1961), 474.

[76] Government of Bihar and Orissa, Municipal Department*, sanitation Branch, Sanitary arrangement in connection with the Ratha Jatra at puri and Baleswar, 1912,* Acc No- 33136 B and O Doc.

Pilgrimage Act," provided for better control of sanitation and management of epidemics and also provided for the levy of a terminal tax, on persons going to the places of pilgrimage by train or boat.[77] The Acts did not work satisfactorily or adequately as expected. Hence, after 1936, the government becoming a little more conscious about sanitation, made it facilitated lodging for the pilgrims. For their accommodation, 65 lodging houses were licensed for 5,489 pilgrims, and 9 *Dharmasala* (guest house) were available for about 4500 pilgrims in 1943. Therefore, the total authorised accommodation ran about 10,000 pilgrims. Subsequently, a pilgrims' hospital was set up along the roads, and two dispensaries in Balasore were built on the way to Puri from the Calcutta.[78]

However, such facilities were not sufficient, particularly during the festival season. So, in such a situation, the pilgrims had to stay with their relatives, in *Maths*, in hotels paying for their stay, and even in other unauthorised private houses and gardens, on the roadsides if they could not manage authorised places for themselves. The directors of the public health of different provinces were requested to furnish all the offices with information regarding cholera and other infectious diseases in their respective provinces, which immediately on the receipt was communicated to the health officer of Puri municipality. Such information was necessary for paying

[77] Government of Bihar and Orissa, Department of Municipal, Sanitation, *Annual Sanitary Report, Bihar and Orissa, for 1919, and Triennial Vaccination Report for the years 1917-18 to 1919-20,* October, 1920, File. No- S-134 of 1920.

[78] L.S.S O' Malley, B*ihar and Orissa District Gazetteers: Puri* (Patna: Superintendent, Government Printing, Bihar and Orissa, 1929), 626.

particular attention to pilgrims coming from infected localities to prevent the multiply of infection.[79]

The directors of the public health of different provinces were requested to see preventive inoculation of intending pilgrims who were needed to be inoculated at their respective places before they left their homes. All health officers were asked through the chairman of the local bodies to organise inspection posts to arrange for inoculation to the intending pilgrims to Puri at different convenient centres. As it considered too big a job to be managed by the existing public health staff, the civil surgeons were instructed to arrange for cholera inoculations in every hospital and dispensary in their districts. Press notes were issued from the office and some local bodies instructing the intending pilgrims to get themselves protected against cholera.[80]

Again the most important factor was communication. Travelling by train with many people from different backgrounds was quite risky from an infection point of view. Hence, the railway authorities requested the government to provide adequate sanitary arrangements at the railway stations. Secondly, the medical inspection was undertaken in the train from Bhubaneswar to Puri to inspect the travellers to Puri during the *Ratha Yatra*.[81] Several times the government arranged 10 Sub-Assistant Surgeons and 3 Health Inspectors, including the Publicity Assistant. Every year they used to attend the *Mela* (fair) after they were deputed by the public health department.

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[79] Government of Bihar and Orissa, Department of Local-Self Government, Sanitation, *Annual Public Health Report for 1927, and Annual Vaccination report for 1927-28,* January, 1929, File. No- S-IR -28 of 1928.

[80] Government of Bihar and Orissa, Department of Local-Self Government, Sanitation, *Annual Public Health report for the year 1934 and the Annual Vaccination Report for the year 1934-35*, November, 1936, File No – S-1R-18 of 1935.

[81] Proceedings, Bihar and Orissa, Municipality Department, Sanitation Branch, Sanitary Arrangement in Connection with the Ratha Jatra Festivals, at Puri and Balaswar, June 1912, File No- 5/18 of 1912.

Even the Medical Officer-in-charge of the Puri Leper colony also visited the *Mela* work and his duties. Again, the Municipality and lodging committee were given support with extra staff to make adequate arrangements during the *Ratha Yatra*. They were made Compounder, *Jamadar*, Coolie, Sweepers, *Sardars* and many sweepers (285 in 1943). *Matha* volunteer organisations had been given first aids also gave beneficial service during the festivals. Furthermore, the public health department used to provide instructions about the preventive measures given to every lodging house and *Dharamsala*. The pilgrims were advised to read the guideline and understand them.[82]

Water was the primary source of the spread of epidemic diseases, especially cholera. To check the spread of disease through the water, the local administration of Puri decided to supply pipeline water throughout the *Mela* period.[83] When there was a shortage of pipe water-supply in Puri town, both private and public wells were duly chlorinated at regular intervals during the festival time to make sure that this water was suitable for drinking.[84] During the *Ratha Yatra*, as part of cholera prevention, the colonial state promulgated temporary regulation under the Epidemic Diseases D-Act, 1897, which made anti-cholera inoculation compulsory in a place like Puri, Sakhigopal, and Bhubaneswar. As a result of enforcement of such regulations, an

[82] Chandi Prasad Nanda, "Political Ecology of Cholera: Orissa and Colonial Sanitary Discourse," *IJHS,* Vol.55, No.1 (March 2020).

[83] Government of Bihar and Orissa, Department of Municipal, Sanitation, *Annual Sanitary Report, Bihar and Orissa, for 1919, and Teriennial Vaccination Report for the years 1917-18 to 1919-20,* October, 1920, File. No- S-134 of 1920.

[84] Government of Bihar and Orissa, Municipal Department, Sanitation, *Annual Sanitary Report of Bihar and Orissa for 1912 and Vaccination Return for 1912-13, November*, 1913. Acc No. 33129.

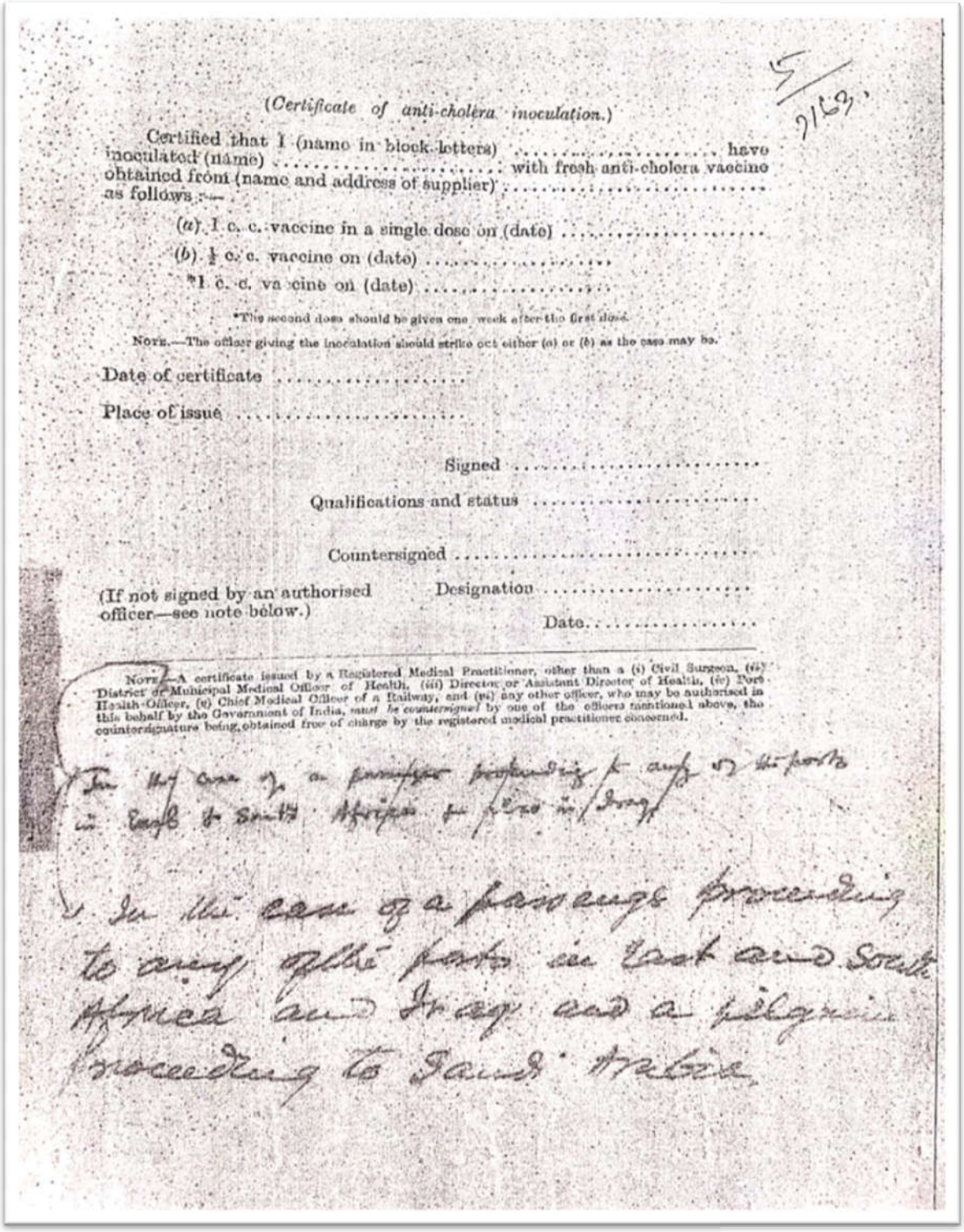
intensive campaign was run for inoculating pilgrims and the local residents in these places.[85]

All these sanitary arrangements were tried to keep Puri clean, especially during the *Ratha Yatra*. Cholera was considered very dangerous for Puri at the time of festivals. The Public Health Department made check posts to prevent infected people at every entrance of the town of Puri. Doctors and other medical staff were deployed for inoculation and regular medical inspection to the hotels and lodges. The inoculation was made compulsory to all pilgrims. The lodges situated at Puri were ordered to not provide accommodation to pilgrims who do not carry the inoculation certificate. This means it was compulsory to take inoculation by the public health department to intending pilgrims.[86]

[85] Government of Bihar and Orissa, Department of Municipal, Sanitation, *Annual Sanitary Report, Bihar and Orissa, for 1919, and Teriennial Vaccination Report for the years 1917-18 to 1919-20,* October, 1920, File. No- S-134 of 1920.

[86] Government of Bihar and Orissa, Municipal Department, Sanitation, *Annual Sanitary Report of Bihar and Orissa for 1912 and Vaccination Return for 1912-13, November,* 1913. Acc No-33129.

Picture No. 2.1: Certificate of Cholera Inoculation



(Certificate of anti-cholera inoculation.)

Certified that I (name in block letters) ..... have inoculated (name) ..... with fresh anti-cholera vaccine obtained from (name and address of supplier) ..... as follows :—

(*a*) 1 c. c. vaccine in a single dose on (date) .....

(*b*) ½ c. c. vaccine on (date) .....

*1 c. c. vaccine on (date) .....

*The second dose should be given one week after the first dose.

NOTE.—The officer giving the inoculation should strike out either (a) or (b) as the case may be.

Date of certificate .....

Place of issue .....

Signed .....

Qualifications and status .....

Countersigned .....

(If not signed by an authorised officer—see note below.) Designation .....

Date .....

NOTE.—A certificate issued by a Registered Medical Practitioner, other than a (i) Civil Surgeon, (ii) District or Municipal Medical Officer of Health, (iii) Director or Assistant Director of Health, (iv) Port Health Officer, (v) Chief Medical Officer of a Railway, and (vi) any other officer, who may be authorised in this behalf by the Government of India, *must be countersigned* by one of the officers mentioned above, the countersignature being obtained free of charge by the registered medical practitioner concerned.

In the case of a passenger proceeding to any ports in East & South Africa & Iraq

In the case of a passenger proceeding to any ports in East and South Africa and Iraq and a pilgrim proceeding to Saudi Arabia

Source- Proceedings of the Local Self Government Department, Sanitary Branch, Measure for the prevention of the spread of smallpox from India, Government of Bihar and Orissa, August, 1934, File No-78-85.

Malaria:

J.B.S. Haldane (John Burdon Sanderson Haldane, was a scientist in British-India), has aptly commented on Indian malaria. "I have no doubt that malaria made history on a large scale. I do not believe that comparatively, healthy area is a superior race to Indians. But I do believe that British without malaria are generally superior, particularly as a fighter, to an Indian infested with it. Socially malaria is a worse disease than plague and smallpox because it lasts for years and turns most members of the population into chronic invalid."[87] Malaria was a very vulnerable disease for a long in India. Malaria affected almost every part of the country, whether it was rocky, alluvial, or sandy. Bengal presidency was the worst affected by the epidemic. Different theories on the spread of malaria, i.e., vegetable decomposition theory, subsoil moisture theory, and Chill theory. The chill theory was the most similar approach in Orissa context, which water was causing the spread of malaria. The cause of malaria was the most popular decomposition of vegetables was more concrete in the eighteenth-century (1711) by M. Lancisi was an Italian physician.[88] Before Ross discoveries, the causes of malaria, Charles Morehead (was a Scottish physician in nineteenth-century, who came to India to eminence in the Indian Medical Service, in relation to health education) states "we judge the presence of the invisible agency termed malaria by certain derangements of the animals system which we attribute to its influence; for as yet all other means of investigation have failed in detecting its presence and determining its nature." According to him "A certain elevation of temperature acting on the earth's surface previously moistened was essential to the

[87] J.B.S, Haldane, *Everything has a history: London* (London: Rutledge Revivals, 1951), 13.

[88] Anil Kumar, *Medicine and the Raj British: Medical Policy in India, 1835-1911* (New Delhi: Sage Publication, 1998), 179.

production of malaria."[89] But the belief of indigenous people, like other diseases, malaria also sprang, caused by some kind of disease-devil. The interesting instance in Bengal Presidency was the driving away the devil of malaria, from the village by the merchant, tradesman, and headman with the pair of donkeys, with the superstitious belief that the neighing of these animals would drive out the evil spirit of malaria from their villages.[90] The indigenous ideas always differ from the modern lens. In Koraput was different, as if they ever come across the malaria they do not take any medicine, for cure of it. They do fast and offer sacrifice to the local deity, beginning with the fowls and gradually going upwards through pigs and at last to buffaloes, until either the fever leaves them or realise that it is their fate to have to bear it.[91]

Initially, the colonial administration in Orissa was unable to recognise the causes of death because from the rural areas; there were no data appropriately maintained. It was complicated to determine the death attributing to malaria correctly as the fatality caused by different kinds of fevers were leading to the majority of deaths, almost every year. The mortality rate of malaria was not accurate under the colonial administration because the responsibility of vital statistics gave to the headman of the villages in rural, where they were ignorant, uneducated, and unable to understand the nature of vital statistics; however, no suitable agency was appointed to collect the vital statistics. Malaria was widely prevalent throughout the province of Orissa. The worst affected areas were villages, Chilika lake coast, the deltaic regions of Puri, Cuttack and Balasore district, and the agency areas in Ganjam and Koraput.

[89] O.P. Jaggi, Western Medicine in India, Epidemic and other Tropical Diseases, Vol. XII, *History of Science Technology and Medicine in India* (Delhi, Lucknow: Atma Ram and Sons, 1979), 164.

[90] O.P. Jaggi, Western Medicine in India: Social Impact, Vol.XV, *History of Science, Technology and Medicine in India* (Delhi, Lucknow: Atma Ram and Sons, 1980), 52.

[91] W. Francis, Madras District Gazetteer; Vizagapatam (Madras: Printed by the Superintendent, Government Press, 1907), 156.

In Orissa, Malaria was widespread, variedly from place to place. Malaria was hyper-endemic in the coastal belt, especially in the deltaic areas of Balasore, Cuttack, and Puri. But in the agency tracts-Koraput and Sambalpur and also a more substantial portion of the Angul subdivision was common epidemic. The mortality of the Orissa province was not proper recorded during the commencement of colonial rule.

Usually, the morbidity of malaria began to rise from July and reached a climax in November and December and then fell gradually, and slightly high mortality was reported in March and April. Malaria occurred chiefly in two seasons: spring and autumn. Malaria was mostly found in muddy grounds, the quantity of water had been reduced by evaporation and after the heat and summer had passed. Such a condition is the most suitable for mosquito breeding.[92] Dr. Charles Alexander Gordon, (was a military surgeon during the Queen Victoria's reign, and he surveyed thirty nine years as a military surgeon across the world, also Deputy Inspector General of Hospital, in Army Medical Department) in his writing (Recollection of Thirty-Nine Years in the Army) in 1866, stated that in the hilly regions and the valleys were extremely unhealthy on account of malaria. The concomitants alluvial soil, periodical rains, and a powerful sun created the condition for high mosquito breeding. Malaria was a mildly endemic disease throughout the province but occasionally becomes epidemic in some parts of the province. Hence the colonial government in Orissa were tried to aware the indigenous people through the lecture during 1911-1914. The Sub-Assistant Surgeons trained to lecturer on malaria. The lectures were carefully drawn up to explain in simple language that malaria fever was due to a parasite which catch up the blood and that was carried from one person to another by the bite of a mosquito and it

[92] O.P.Jaggi; *History of Science, Technology and Medicine in India: Vol-XII, Western Medicine inIndia: Epidemic and other Tropical Disease* (Delhi, Lucknow: Atma Ram and Sons, 1979), 164.

could killed by quinine. The lectures translated into vernacular language of the common people and illustrate by lantern slides in a manner which seems likely to appeal to an audience of country folk. The lectures had met with a well response, and it was hoped they would help even though it be in a small way to teach the people, how to avoid catching fever and how to cure themselves when they had caught it. This reveals the colonial sanitation report of 1914, but it looks in the same way in Santal Pargana in Sub-divisional Officers complained the numbers of clerks in his office were constantly falling ill with fever, which seems the implementation of measures were not well executed in the ground.[93]

In colonial Orissa, the malaria preventive measures took by the Bihar and Orissa government in 1917 differently as experimental ways, then prevails in 1914.[94] In 1917 it was an anti-malaria measure in two small selected areas that were not to be done in any part of present Orissa, but here they were trying to understand how the experiment worked out in 1917. The small selected areas were in the present Bihar, one from urban and another from rural in Kathihar and Kisanganj in Purnea District, the experiment was introduced in 1917. In 1917, it was unusually prolonged and was not generally of an acute epidemic nature in Colonial Orissa by malaria.[95] For the measure of malaria fever, the Government of Bihar and Orissa were taken preventive measures in an experimental way, differently than in 1914. In 1914 the government

[93] Government of Bihar and Orissa, 1914, Sanitation, Municipal department *'Annual Sanitary Report of Bihar and Orissa for 1913, and Triennial VaccinationReport for the years 1911-12 to 1913-14,* File No-S/115 of 1914.

[94] Ibid.

[95] Government of Bihar and Orissa, 1918, Sanitation report, Municipal department *'annual sanitary report of Bihar and Orissa for the year1917 and annual Vaccination Return, Bihar and Orissa, 1917-18*. File No - S/100 of 1918.

took measure only distribution of quinine and lecture to known the indigenous, the causes of malaria.[96]

The experiment was the energetic distribution of quinine, which was free, both in treatment and as a prophylactic. The investigation was to look for the varieties of mosquitoes prevalent in the selected areas and their particular breeding places. Regular collection of information and statistics was to ascertain the prevalence of malaria fever and enlarged spleens. The anticipatory measures against mosquitoes, viz., the discovery and removal of their breeding places, application of kerosene oil where possible, the removal of grass, weeds, and jungle growth around the edges of extensive water collection. A part of measures, a series of magic lantern lectures arranged to educate people. The supervision of Deputy Sanitary Commissioner of Bihar and Orissa province, who used to visit at Kathihar and Kishanganj in every month for inspection of the experiment, which commenced in June to November in 1917. Deputy Sanitary Commissioner who was very disappointed with the experiment, because the lack of interest of medical staff, and they also faced great difficulty in getting quinine and serve it to the people and convincing the people to take quinine as a curative measure of malaria.[97] Another approach to destroy malaria through the fire and very hot temperature; this advantage was first adopted by the west coast in Africa. In the malaria season, they used to burn charcoal at their homes before going to bed. This system was also followed in India by the colonial soldiers. They burnt charcoal in their barracks during the rainy season. According to Gordon

[96] Government of Bihar and Orissa, 1914, Sanitation, Municipal department *'Annual Sanitary Report of Bihar and Orissa for 1913, and Triennial VaccinationReport for the years 1911-12 to 1913-14,* File No-S/115 of 1914.

[97] Government of Bihar and Orissa, Department, Local-Self Government, Sanitation, *Annual Vaccination Report for 1926-27 and Annual Public Health Report for the year 1926, December*, 1927. File. No- S-IR-25 of 1927.

Covell (Gordon Covell was a physician and major in British Army in Indian, he also leading global as expert on malaria control and eradication effort in middle of the twentieth-century), the generation of malaria was suspended by absolute dryness, by temperature below the freezing point, and to some extent, by the heat of a tropical summer.[98] Even the tribal people of Orissa mostly lit the fire at whole night, particularly in Koraput.[99]

On the whole, in the Bihar and Orissa province during 1917, three malaria lecturers were employed in Shabad, Purnea, and Cuttack. Many lectures were arranged, and the results of these were satisfactory but not enough as necessary. The next measure took as the appointment of agents for the sale of quinine to cure malaria. The quinine was available in particular places and contained 5-7 quinine granules at the cost of only quarter-*anna* in 1919.[100] The efforts had been made to push the sale and use of quinine with the gratifying result. The consumption of quinine increased in the province during 1917, the number of pounds used being 1429.9 as compared to 962 pounds in 1916. Quinine was sold through the agency of postmasters, drug vendors, vaccinators, shopkeepers, village headmen, and the school teachers working under the district board in rural areas in Palamau. At Cuttack, 139 lectures were delivered, and 104 boxes of quinine were distributed for the treatment of malaria in

[98] Gordon Covell was *a physician and major in British Army in Indian, he also leading global as expert on malaria control and eradication effort in middly of the 20th century*.

[99] *The Kandha Orissa, Their Socio-Cultural Life and Development* (Bhubaneswar: Bhubaneswar: Scheduled Castes and Scheduled Tribes Research and Training Institution [SCSTRTI], 1982).

[100] Muhammad Umair Mushtaq, "Public Health Indian: A Brief Account of the History of Medical Services and Disease Prevention in Colonial India", *Indian Journal of Community Medicine,* Vol.34, No.1 (January, 2009): 6-14.

1917.[101] The purposes of these lectures were to educate indigenous people about the origin of malaria and how to measure of it.

For instance, as per the treatment of malaria in 1930, whole of the Cuttack District was mostly affected by malaria, which is stated in the statistics of Bihar and Orissa District Gazetteer: Cuttack. Fifty-one thousand one hundred thirty people were treated in all the institutions of the district, which was the highest treatment of malaria among the various other diseases in the district.[102] After the separation of Orissa in 1943, there was an epidemic in Ganjam (Berhampur in south Orissa), and the number of people died of malaria. The outbreak mostly happened in August and remained till December in 1943. Within this brief period, 391 people died in October due to malaria. The only leading causes were sundaicus,[103] which bred in the tanks and pools situated mostly in the southern half of the town (Berhampur); mosquitoes were unknown. Immediately after this incident, the Assistant Director of Public Health and the Provincial Malaria Officers were immediately deputed to the Berhampur to organise measures and arrange for mass unionisation. Other anti-malaria measures initiated such as draining and cleaning of tanks undertaken by the Municipality both by engaging coolies and also by serving service and noticed (to Berhampur

[101] Government of Bihar and Orissa, Department of Municipal Sanitation Report, *'Annual sanitary Report of Bihar and Orissa for the year1917 and Annual Vaccination Return, Bihar and Orissa, 1917-18.* 1918, File No – S/100 of 1918.

[102] L.S.S O'Malley, *Bihar and Orissa District Gazetteer: Cuttack* (Patna: Superintendent, Government Printing, Bihar and Orissa, Patna, 1933), 75.

[103] *Only certain species of mosquitoes of the Anopheles genus—and only females of those species—can transmit malaria. Malaria is caused by a one-celled parasite called a Plasmodium. Female Anopheles mosquitoes pick up the parasite from infected people when they bite to obtain blood needed to nurture their eggs.*

Municipality from Sanitary Commission) under the relevant sections of the Municipal Act. The anti-mosquito scheme was also initiated by the Berhampur Municipality.[104]

In north Orissa, an anti-malaria scheme was initiated in Puri town in which half of the contribution was made by the District Board and by the municipality/local government after 1936.[105] It did not work out properly because of the shortage of kerosene oil. Clearance of weeds from water surfaces, stocking of Gambusia fish in public wells, and distribution of quinine as a curative measure were the steps taken by the government, which were not enough at all for Puri. In the military camp areas, anti-mosquito measurements were carried out by the military authorities in collaboration with the Municipality, which was situated half a mile radius from the government houses. Clearance of water surface and arrangement of drainage and oiling of water surface and spraying of dwelling houses with Pyrethrum (An insecticide made from the dried flowers of pyrethrum plants), extract were taken up.[106] Balasore, the district that lies in flooded areas, and a significant part of it used to get inundated during the rainy season for a long time, which led to the prevalence of malaria to the interior regions of Balasore had an unhealthy condition, especially during the rains. Before Orissa became a separate province in 1921, a severe type of malaria visited the district, and it left the district with a massive death toll.[107]

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[104] Sri Nrusingha Charan Beuria, *Orissa District Gazetteer: Ganjam* (Cuttack: Government of Orissa, Department of Reveneu, Gazetteer Units, 1992).

[105] Government of Orissa, Health Local Self Department, Public Health Branch, Anti Mosquito campaign under the Puri Municipality, November 1939, File No-PH- 145/39.

[106] Ibid.

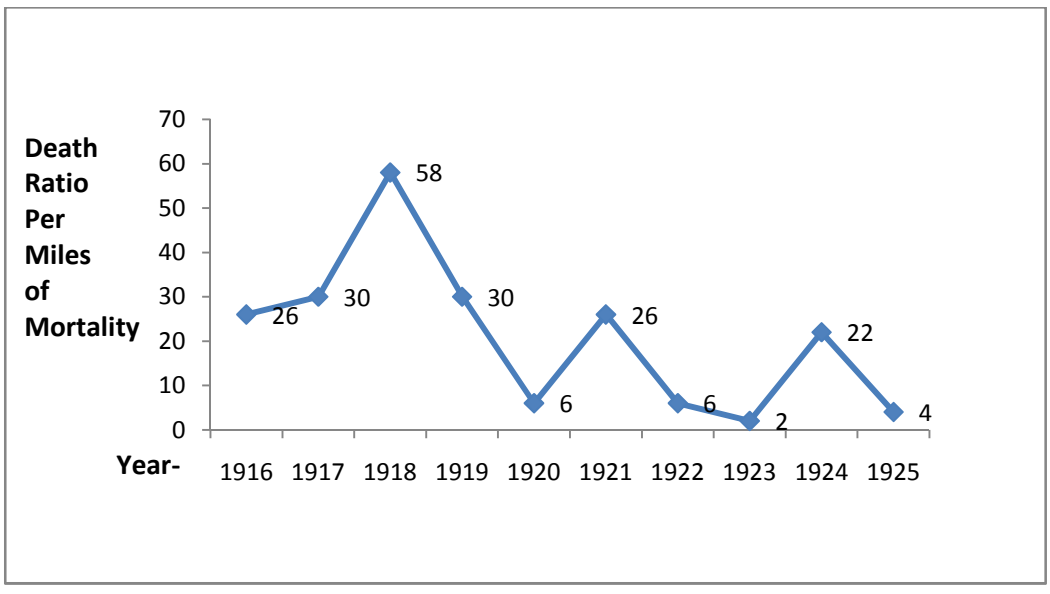
[107] Shri Nrushigha Charan Beuria, *Orissa district Gazetteer: Balesore* (Cuttack: Gazetteer Unit Department of Revenue, Government of Orissa, 1992), 627.

Table No. 2.2: the malaria mortality ratio per mile in Bihar Orissa Province from 1916-1925.

Sl. No.	Year	Death Ratio per Miles of Mortality
1	1916	26
2	1917	30
3	1918	58
4	1919	30
5	1920	6
6	1921	26
7	1922	6
8	1923	2
9	1924	22
10	1925	4

Source: Proceedings, Government of Bihar and Orissa, Local Self government, Medical, Teriennial Report on the Hospitals and Dispensaries in Bihar and Orissa for the years, 1923, 1924, and 1925. March 1927, File No. MEDL. IIR 25 of 26.

Graph Line - 2.2: the malaria mortality ratio per mile in Bihar Orissa Province from 1916-1925.



The graph shows the death ratio per mile of fever (Malaria) in Bihar and Orissa province during 1916-1925. The most vulnerable was in 1918 and lowest in 1923, which seems how the death line gradually reduced, which shows how the interventions of Western medicine pull down the death line under the colonial administration. However, it was indispensable acutely to implementation, but it was not executed well for indigenous people.[108]

The district of Koraput was the most vulnerable to malaria. The disease was endemic throughout the district except for the Nawarangapur division and the western fringe of Jeypore Tahasil. Malaria was traced among the immigrants and outsiders, but the indigenous people were less affected than others. The indigenous people had better immunity since they were acquainted with the local environment and used to lit fire at night which helped in keeping malaria away. The outsiders coming from across the country for the construction of railway communication were largely affected. The route of the Raipur-Vizianagaram Railway was initially surveyed in 1883-86, but it was declared defunct by the East Coast Railway. Two years were spent for an investigation before a practical way across the Eastern Ghats. This survey took more than two years. The record was also lost; later, it was known that the people who were involved in the study suffered severely from malaria. In 1897, a further survey was extended in the same route of railways to change the alignment from meter to a broad gauge line. This party suffered from malaria at 99 miles from Vizianagaram, just south of the summit pass at Satikona, after traversing barely 40 miles of the hyper-endemic zone. In 1907, yet another party of Bengal-Nagpur railway Engineers tried a

[108] Proceedings, Government of Bihar and Orissa, Local Self government, Medical, Teriennial Report on the Hospitals and Dispensaries in Bihar and Orissa for the years, 1923, 1924, and 1925. March 1927, File No. MEDL. IIR 25 of 26.

resurvey, but similarly, they also broke down after achieving only two miles, the same organisation tried by their predecessors ten years ago once. Lastly, in 1923, then 24 miles across the peak of the range, from a point north of what is now Singhpur Road Station to the site of the present Muniguda station, were again resurveyed. By this time, the railway line from Vizianagaram to Parvatipur (48 miles) was open, and motor transports were available to a certain extent. Only three months, January to March, were spent in the field, and the Engineer-in-charge left rail-head with all his staff with the completion of 25 percent were effective.[109] The Bengal-Nagpur Railway Company tried to make rail lines from Vizanagram to Raipur via Koraput by the Madras Government, commenced in 1908-09.[110] It took more than a decade to complete, because of malaria, especially in Koraput areas.

The Orissa Government (Bengal Presidency) and the Madras Government subsequently took measures against the anti-malaria preventive measure for railway line construction. Where the Madras Government took the first action against malaria, later took by Bengal Government. Afterward, a special malaria officer was appointed in 1930 to carry out anti-malaria measures at different places in Koraput district and carried out his investigation by 1936.[111] The Jeypore hill tracts have always been notorious for their malaria, and following on the discovery of the mosquito transmission of the disease by Sir Ronald Ross, states, "...besides it is immense prevalence, malaria has other characteristics which greatly enhance its malfeasance. It occurs most of all in the richest and most fertile tracts and especially attacks those

[109] Shri Nilamani Senapati, *Orissa District Gazetteers: Koraput* (Cuttack: Superintendent Orissa Government Press, Cuttack, 1966).

[110] R.C.S. Bell, Orissa District Gazetteer; Koraput (Cuttack: Superintendent Orissa Government Press, 1945), 93.

[111] Proceedings, Government of Orissa, Health of Local Self Government, Public health Branch, Drainage Scheme of Koraput, December 1938, File No- P.H. 4/38 (Acc No-7207 OR Doc.).

engaged in various agrarian pursuits. It is, therefore, particularly the enemy of the pioneer, the traveller, the planter, the engineer, and the soldier- that is, of those whose labours are essential to the development of tropical Colonies."[112]

Malaria investigation in Koraput was conducted in 1902 by Prof. J. W.W. Stephens, and Colonel Sir Richard Christopher, I.M.S. Later Major. E.L. Perry. I.M.S. Officer spent sixteen months on malaria investigation in these hills in 1912-13, and subsequently established Koraput his headquarters. But none of these investigators penetrated the Bisamcuttack Taluk in the north-east of the district.[113] W. Francis (Indian Civil Service) states the Koraput region was more vulnerable, indicates through malaria notorious in the whole district. It was all due to this notoriety, the scientifically unknown region of the diseases.[114] The Bengal-Nagpur railway constructed a Raipur-Vizianagram line from Parvatipuram to Raipur, subsequently completed in 1925-31 because of malaria.[115]

The Railway administration affected the operations of construction by malaria, which became a hurdle to complete the railway line. The construction imported labour who was posted in the construction areas of the railway lines were affected with malaria, and they also added to care of the medical department. The problem was much bigger than colonial officials' expectations. The construction of

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[112] Anil Kumar, *Medicine and the Raj British: Medical Policy in India, 1835-1911* (New Delhi: Sage Publication, 1998), 178. (Ross and the Discovery that Mosquito Transmit Malaria Parasites. Sir Ronald Ross was born in Almora, India in 1857).

[113] R.C.S. Bell, Orissa District Gazetteer; Koraput (Cuttack: Superintendent Orissa Government Press, 1945), 93.

[114] W. Francis, Madras District Gazetteer; Vizagapatam (Madras: Printed by the Superintendent, Government Press, 1907), 156.

[115] R.C.S. Bell, Orissa District Gazetteer; Koraput (Cuttack: Superintendent Orissa Government Press, 1945), 93.

railway line was planned for 242 miles from Raipur to Parvatipur, out of which, only the first thirty and the last four miles were found to be in the non-malarious country, and the remaining area was under malarious. The highest incidence of the disease laid between mile 147 (in Kalahandi, a district in Orissa) and miles 223 (the boundary of the new Orissa province, formerly the old agency limit).[116]

Sambalpur was a little lesser affected by malaria than other parts of Orissa. For the preventive measures for malaria cases, quinine tablets, and medicine used to be supplied. Besides, the D.D.T. spraying was being done by the officers of the National Malaria Eradication Programme after Orissa became a separate province.[117] Anti-malaria measures were taken in Cuttack, Puri, and Balasore in north Orissa district. Similar steps were taken at southern part of Orissa, Koraput, Jeypore, Malkangiri, Potangi, and Bissam-Cuttack in the district of Koraput and Sambalpur also, but the implementation of various anti-malaria measures was awful than the colonial cantonment areas.

Epidemic and non-epidemic diseases prevailed mostly due to the nature of the environment and lack of proper nutrition, which reduces the immunity power of the body. In 1866 , *'Na-Anka Durbikhya'* (Famine) hit Orissa, due to which 4-5 million people died, and in its aftermath, a large number of people were affected by various other diseases and later, succumbed to death.

In colonial India, it commenced well by the British, particularly for the protection of the army, mercantile, and the European population. In colonial Orissa, it is challenging to understand public health with medical topography; because Orissa was

[116] Ibid., 94.

[117] Sri Nilamani Senapati, *Orissa District Gazetteer: Sambalpur* (Cuttack: The Superintendent Orissa Government Press, 1971), 486.

an inferior region to understand the public health from a theoretical lens. To understand the health of colonial Orissa, we need to know about the medical topography with vital statistics of before and after Orissa became a separate province. In 1936, Orissa was made a province after being separated from Bihar and Madras presidency. The key statistics inform the details about birth rates and death rates in the report. That has been calculated on the estimated mid-year population of 1943, and rates only to an estimated population of 7708585 in separate Orissa province. Which excludes the population of more extensive areas of Ganjam and Koraput Agencies; even after Orissa becoming a separate province, there was no proper arrangement for the collection of vital statistics. Because of the responsibility being given to the village headman, the man did not understand the nature of his duty, in the rural areas. The registration of births and deaths was obligatory in the municipal areas only. In the rural areas, it was not mandatory except in a few villages of the Ganjam plains. The old reporting occurrences of vital statistics existed through the villages' headmen in south Orissa and the village *Chaukidars* in the north Orissa. Subsequently, the estimation of the mortality rate was carried into statistics via police in the nineteenth and early twentieth-century.

After the separate province of Orissa, gradually, the epidemic and non-epidemic reduced. It was possibly due to the inception of immunisations and better attentiveness among the people regarding hygiene or sanitation. After the separation of the province of Orissa from Bengal, and finally, from Bihar and Madras presidency, there was more consciousness about public health that can be understood from the statistics of mortality rate during that period. Despite several issues, viz., the inadequacy of staff, lack of transport facilities, unsatisfactory method of reporting epidemics, the paucity of funds, and lastly, the superstition and ignorance of the people, the public health staffs of both government and the local bodies exerted their

best to keep the epidemics under control. The epidemics, cholera, and malaria took place mostly because of the insalubrious environment and geography was the sole responsible factor for the epidemic, as malaria was more notorious in Koraput, the coast of Chilika, and Balasore; and cholera mostly found in north Orissa, particularly at Puri. The study of Medical topography or the systematic recording of all factors affecting health in a particular zone started to find more prominence. People were also becoming more conscious about the role of environment in causing diseases, and it was primarily based on the rapid appropriation of European medicinal approach.

CHAPTER-III

DEALING WITH THE DEADLIEST SMALLPOX AND MEASURES

Smallpox is one of the oldest diseases and the deadliest and devastating scourges of misery and death in India since ancient times.[1] With the advent of the British, the smallpox epidemic disease posed significant challenges and became fatal. Subsequently, the British initiated preventive measures against smallpox. This chapter analyses different perceptions of diseases and control measures such as vaccination policies, acts, and public health policies and programs within this provincial context.

Throughout history, the disease indiscriminately affects the poor and the rich. It was evident as Dr. Wise (British civil surgeon of Dacca in 1860), who first wrote on smallpox, states that a family of the Tipperah (in Dacca) in the fifteenth-century to eighteen-century, there ruled 16 Maharajas, among them five died only by smallpox. Even Queen Elizabeth-I' was also a victim of smallpox in October 1562. Before her, there were other two Japanese kings affected by smallpox and died, the king of Burma and the king of Siam. Probably, smallpox was responsible for the downfall of the Egyptian pharaoh, the first Calipha of the Abbasid dynasty, the King of Rome, Emperor Marcus Aurelius, and Athens. During the first half of the sixteenth-century, smallpox had been the Spaniards' most fearsome friend in the world, which annihilated millions of indigenous people of America, including the last Aztec emperor and probably the last rural of the Incas and the death toll had been very high. Finally, the birth of a great man

[1] Anil Kumar, *Medicine and the Raj; British Medical Policy in India, 1835-1911* (New Delhi: Sage Publication, 1998), 162.

in 1749, Edward Janner discovered a vaccine to prevent smallpox, as a preventive measure. [2]

Various Indian accounts described how smallpox was dreaded and affected everyone, even the kings and their courtiers.[3] Smallpox killed thousands of people in India and overseas. There was no proper record system for the occupied areas by the colonies; hence, there was a huge challenge to give the exact number of people who died with smallpox. However, the colonial vital statistics not carried out record of deaths in countryside. In urban areas, it was a little easy to record the statistics. For instance, in Calcutta, epidemic smallpox occurred in 1848-49, 6200 deaths recorded. Once again, for the second time, smallpox occurred in Calcutta in 1855 during February and March, and the death toll was about 2950. [4] According to the 'League of Nation' Reported during 1932-41, the mortality rate of smallpox was the highest in India than in any other country.[5] In the colonial Orissa, smallpox was prevailing as an epidemic in north Orissa, and high mortality from 1916-21 was 51699, and the next five years from 1922-1926, was 97455.[6] After Orissa was made a separate province, Cuttack and Ganjam were the most affected areas. In Cuttack district for the year of

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[2] Donald R. Hopkins, *The greatest killer: Smallpox in History* (Chicago: University of Chicago Press, 1983), 3.

[3] Proceedings of the Royal Society of Medicine, Sir Weldon Dalrymple, *Section of Epidemiology and State Medicine, Smallpox and Vaccination in British India During last seventy Years,* November 24, 1944, 8.

[4] Sanjoy Bhattacharya, Mark Harrison and Michael Worboys *Fractured State: Smallpox, Public Health and Vaccination Policy in British India 180-1947 (*New Delhi: Orient Longman, 2005), 22.

[5] Bhore Committee report vol.1, *Report of the Health Survey Development Committee Survey* (Calcutta, Delhi: Printed by the Manager, Government of India Press, 1946), 109.

[6] Government of Bihar and Orissa, Local Self-Government Department, *Annual Public Health Report for 1927 and annual vaccination report for 1927-28, sanitation,* January 1929, File No-S.IR-28 of 1928.

1937, 1938 and 1939 the attack from the smallpox were 2255, 3064, and 5511 respectively as against 1534, 657, and 678 in the district of Ganjam. [7]

Indigenous and Western Medical Perspectives

The indigenous understanding of smallpox was different from the western medical knowledge. According to the indigenous view, smallpox was regarded as *Maa Sitala Goddess*.[8] Though smallpox was a severe disease in nature of spread, it through the religious setting, and more susceptible with the wroth of Goddess. Every village has a temple for the Goddess, primarily on the outskirt of the village. Since smallpox was a dreaded disease,[9] all the communities used to celebrate and worship *Maa Sitala* on specific days. The whole village would not have any non-vegetarian food for three consecutive days. Some villages did not have the temple of *Maa Sitala*, but they worshiped when the epidemic broke out with an iconography. Particularly in north India *Maa Sitala's* iconography depicts the goddess riding a donkey and holding a full pitcher of water on the one hand and the other hand holding a broom. She is balancing a basket on her head full of grain. The belief was that when she shakes her head, all grains spread throughout the village, and each grain turns into a smallpox pustule, which leads to the spread of the epidemic. The indigenous people believed

[7] Proceedings, government of Orissa, Department of Health and Local Self Government, Public Health Branch, *Introduction Free and Compulsory Vaccination in North Orissa*, June 1941, File No. P.H. 20/41.

[8] L.S.S. O'Malley, *Bihar and Orissa District Gazetteers: Cuttack* (Patna: Superintendent, Government Printing, Bihar and Orissa, 1933), 70-71.

[9] Proceedings of the Royal Society of Medicine, Sir Weldon Dalrymple, *Section of Epidemiology and State Medicine, Smallpox and Vaccinnation in British india During last seventy Years* (November 24, 1944), 8.

that if she uses water from her pitcher to clean the split-grain, then only a victim will survive. But if she swept with the dry broom, there was very little chance to survive.[10]

The tribal belief of smallpox was different from the mainstream society. They believed that the infectious diseases like smallpox and cholera generally occurred due to the wrath of village deities. The inhabitant malihas or the high lands, however, had their own belief and method of treatment.[11] The *Joogah Pennoo*, the god of smallpox prevails in Kandha community in Orissa. *Joogah Pennoo* spread smallpox like farmers sowed seeds in their land. While smallpox was sowed, the village people used to migrate to another place. Those who stayed at their homes were offered buffalo, hogs and sheep as sacrifices to appease the god of smallpox. Many villages did not move from their homes, but they tried to prevent entering the god of smallpox by planting thorns in the village entrance to inactive *Joogah Penno*.[12] The Kandha people particularly believed that blood is the only way to calm down the wroth of god and goddess, since long.[13] In Daspalla, popular believed that smallpox occur which means the "presence of goddess and that vaccination could not keep her away." The implementation of vaccine was challenging in colonial Orissa.[14]

Before the commencement of vaccination, inoculation was widely prevalent in Orissa. In 1933, L.S.S. O'Malley, I.C.S. officer explained how inoculation was a part

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[10] R. N. Basu, Z. Jezek, and N.A. Ward, *The Eradication of Smallpox from India*, WHO Regional Publication, South-East Asia Series No.3 (New Delhi: 1979).

[11] Shri Nrushinha Charan Behuria, *Orissa District Gazetteer: Ganjam* (Cuttack: Orissa Gazetteers Unit, Department of Revenue, Government of Orissa, 1992), 797-798.

[12] Lieut Macpherson's Report upon the Khonds of the District of Ganjam, of Ganajam and Cuttack (Madras: re-Printed at the United Scottish Press, by Graves, Cookson and Co. 1863), part-VI.

[13] The Kandha of Orissa: their Socio-Cultural Life and Development (Bhubaneswar: Scheduled Castes and Scheduled Tribes Research and training Institution, Bhubaneswar, [SCSTRTIB] 1982), 178-208.

[14] General Review of Administration of the Feudatories State of Orissa for theyear 1928-29, Patna, 1929, 22.

of religious ceremony among the indigenous people of Orissa. The day before it takes places, a solemn offering made to *Sitala*, the goddess of smallpox, of which the essentials are coconut, milk, treacle, curd, cheese, plantains, turmeric, rice, duba grass, plum leaves and vermilion. After the completion of *Puja* the child was inoculated and incantations are made to *Sitala* until the scabs fall off. Four or five days after the operation the inoculators visit the child and takes his fees, and he comes again and offers p*uja* to *Sitala*, form the 9th to the 16th day, i.e., during the height of eruptions. Formerly this *puja* was performed openly with cornets and drums but nowadays it takes place privately for fear of attracting attention.[15] The belief about smallpox by the indigenous people differed from tribe to tribe, the most popular belief being that smallpox occurs due to the wrath of village deity. The disease is popularly known in Orissa as *Basanta Raga* in Odia, *Basanta Chandi* (Spring Goddess) in Bengal, and Assam.[16]

The Western medical perception was different from the indigenous perception of smallpox. The western medical practitioners in India viewed that smallpox was a highly contagious disease under any circumstances, and infection of smallpox used to turn into an epidemic. A few from Indian Medical Service says that the climate and dietary practices were one of the most crucial factor of smallpox. Sir Leonard Rogers (President of "Royal Society of Tropical Medicine and Hygiene" during 1933 to 1935 and also a founder member of the Society), eminent scientist, also states that humid conditions, related to the monsoon, was ideal for smallpox outbreaks. After a, detailed analysis of meteorological data, he says in his conclusion, that climate was

[15] L.S.S. O'Malley, Bihar and Orissa District Gazetteers; Cuttack (Patna: Superintendent, Government Printing, Bihar and Orissa, Patna, 1933), 70-71.

[16] David Arnold, *Colonizing the Body State Medicine and Epidemic Disease in Nineteenth-Century India (*London: California University, 1993), 121.

not the only cause for the spread of smallpox; the dark and dingy places, and having no proper ventilation were more prone to smallpox. The miasma was attributed cause for the spread of smallpox. The Committee of Smallpox appointed by the government of Indian in 1850 has approved the same.[17] However, the committee announced that smallpox was, in all cases, the creation of a 'specific poison' driven from the infected people. The relation of epidemics occurs in rural or populated cities primarily through the sanitary condition of the respective regions.[18]

During the last three decades of the nineteenth-century, the sanitary commissioners' assumption about smallpox being an infectious disease was not wrong.[19].Migration was among the different perceptions on smallpox, where the colonial officers' stated that the spread of variola infection was transmitted through the people coming to the cities and returning with the virus to the rural areas, city being the source of the virus. Newell, Inspector of Sanitation in Lahore range (1910),

[17] The committee consist of Senior Surgeon George Lamb, the Physician General, GOI; Senior Surgeon John Forsyth, Secretary, Medical Board, GOI; Surgeon Duncan Stewart, Superintendent General of Vaccination, GOI; Baboo Russamoy Dutt, Judge, Small Cause Court, Calcutta; Pundit Modoosoodun Goopto, Lecturer of Anatomy, Medical College, Calcutta; Baboo Ramgopal Ghose, Merchant and Agent, Calcutta, and W. T. Law, Superintendent of Police, Calcutta. Report of the Smallpox Commissioners, Appointed by Government with an appendix, Calcutta, 1st July 1850, Calcutta 1850, 2-5.

[18] Proceedings, Government of Bihar and Orissa, Department of the Local Self Government, Sanitation Branch, *Public Health Bureau, Bihar and Orissa,* (Dissemination of Instruction Regarding the Causes and Prevention of Epidemic Disease), November 1922, File No. S-114 of 1922.

[19] Proceeding of the Royal Society of Medicine, Sir Weldon Dalrymple*, Section of Epidemiology and State Medicine, Smallpox and Vaccination in British India During last Seventy Years*, (November 24, 1944).

argued that smallpox was highly contagious and spread through the air, and it is capable of transmitted from one person to another.[20]

The report of the Director of the Public Health of Madras -1935-36 showed that one out of four people affected by smallpox and die. There was no certainty that one would not be affected by a second time. Though death rate was low, even the vaccination was not guaranteed that a second infection would not occur.[21] It was observed by Major Robert Pringle, that the season of smallpox would never pass without major outbreaks. He worked as the Director General of Army Veterinary Service from 1910 to 1917 in several provinces and princely states of India. He well experienced in the Indian disease market.[22] In 1940, the public health department reported that in southern Orissa, particularly in Ganjam, no attention was being paid to sanitary arrangements in the villages. The smallpox vaccination was a little better executed preventive measure, than the other epidemic diseases like cholera, malaria, etc.[23]

The nature of smallpox; was caused by the variola virus, it enters into the human body by the abraded surface of the skin and through the nose and throat. More or less, all the smallpox victims go through a similar stage, which varies in degree of severity and mortality. The disease fits into three categories. These further divided

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[20] Newell A.G. *The Duties of Sanitary Inspectors in India, Lahore: Government Press*. (got it from Sanjoy Bhattcharya, *From Foe to Friend: Geographical and Environmental factors and the Control and eradication of smallpox in India*)

[21] Report of the Director of Public Health, *Madras, for 1935, including Administration of vaccination in 1935-36,* Madras, Superintendent, Government Press File No-P.H-111/36.

[22] *Sir Robert Pringle Major-General (25 August 1855 – 30 June 1925) was Director-General of the Army Veterinary Service from 1910 to 1917.*

[23] Proceedings of the L.S.G. Department, public health Branch, January 1943, Improvement of public health Ganjam District - creation of two additional health inspectors post, Government of Orissa, File No. P.H. XC-2/42.

into different forms, depending on the severity of the illness or severity of the attack by smallpox. The period between the actual infections by the variola until its identification, is known as the incubation period because the virus requires time to develop in the human body. The incubation period would be the first 12 days, and the virus remains in the body from 5 to 21 days, which depends on the nature of the virus.[24] The other distinct features of being infected by the variola would have high fever, deep rashes, oozing pustules, and a putrid smell. A huge percentage of the sufferers were inclined to depart from this world by bleeding, cardiovascular collapse, or secondary infections.[25]

The effect of smallpox was greater in India in comparison to other countries, and witnessed a large number of deaths in eighteenth-century due to the same. The early death rate of smallpox in London was less than that of Bengal province in the eighteenth-century, which shows the dreadfulness of the disease.[26] Hence, David Arnold argues that, in the nineteenth-century, "Smallpox claimed more lives than all other diseases combined" because the average fatality rate of smallpox was more than one lakh every year.[27] It extremely viral, contagious, and killed up to half of those infected. It causes severe scarring of the skin with pockmarks, blindness, and infertility. Various reports published that, South Asia was the home for virulent smallpox, and India was at the forefront of this line. Sir Leonard Rogers, was a

[24] Bakshi H. H, "Smallpox," *Nursing Journal of India* Vol.XXVII (1936): 146-149.

[25] Sanjoy Bhattacharya, Mark Harrison and Michael Worboys, ed. *Fractured state: Smallpox, Public Health and Vaccination Policy in British India 180-1947* (New Delhi: Orient Longman, 2005), 2.

[26] Proceedings of the Royal Society of Medicine, Sir Weldon Dalrymple, *Section of Epidemiology and State Medicine, Smallpox and Vaccination in British India During last seventy Years,* November 24, 1944, 10.

[27] David Arnold, *Colonizing the Body; State Medicine and Epidemic Disease in Nineteenth-Century India* (Delhi: Oxford University Press, 1993), 116.

founder associate of the "Royal Society of Tropical Medicine and Hygiene" and President during 1933 to 1935, stated that, in India, among those infected by smallpox, 75 percent used to turn blind, and 95 percent of the people would come across smallpox at least once in their life.[28] Thus, the colonial government made various policies for the prevention of smallpox.

The colonial state commenced an awareness program for the preventative measures of smallpox. The secretary of Public Health Bureau of Bihar and Orissa, S.N. Singh stated, "It is not an easy thing to drive away superstitions from the mind of the people unless steps are taken to impress the correct knowledge of the causes of epidemic diseases in the mind of the boy." In 1921, the Local Self Government claimed that the indigenous people were illiterate and ignorant; hence, it was necessary to educate them. However, the middle-class elites had knowledge of diseases, as well as their causes, and were aware of the preventive measures.[29] The people felt insecure when the month of March arrived, as it was the time to be vaccinated and smallpox occurs more.[30] October to March is usually the period for vaccination and once March month is over, the people felt relax for at least till the next season of the year. The recovery from smallpox was considered a second life.[31]

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[28] Proceedings of the Royal Society of Medicine, Sir Weldon Dalrymple, Section of Epidemiology and State Medicine, *Smallpox and Vaccination in British India During last seventy* Years, November 24, 1944, 7.

[29] Proceedings, Government of Bihar and Orissa, Department of Local Self Government, Sanitation Branch, *Public Health Bureau, Bihar and Orissa,* (Dissemination of Instruction Regarding the Causes and Prevention of Epidemic Disease), November 1922, File No. S-114 of 1922.

[30] Proceedings, Government of Orissa, Department Local Self Government, Public Health Branch, *Distribution list of the Annual Public Health and Vaccination report and the annual returns of Hospital and dispensaries of the province of Orissa.* December 1939, File No. P.H. 225/39.

[31] O.P. Jaggi, *Medicine in India: Modern Period,* Volume IX, Part 1, Project of History of Indian Science, Philosophy and Culture (New Delhi: Oxford University Press, 2000), 143-149.

Smallpox in Colonial Orissa

Orissa has a long and unenviable reputation for the prevalence of smallpox, where epidemics broke out nearly every year. The outbreak of smallpox occurs differing from region to region; within the Odia-speaking areas, Ganjam and Cuttack were affected more than the other parts.[32] Smallpox in colonial Orissa was endemic during 1916-1926, widely spread in Puri, Cuttack, and Balasore, which was repeated highly after a decade in 1927. The year 1934 was also very severely hit by smallpox.

In 1874, vaccination was introduced as a preventive measure against smallpox in Odia-speaking areas; it began with western Orissa, which was under the Central Provinces until 1905.[33] In north Orissa, particularly in Cuttack commenced by 1876,[34] and it extended through Bengal compulsory Vaccination Act of 1880, and made it re-vaccination in 1911, which was focused mainly north part of Orissa, and vaccination was free and compulsory in specific areas, like in municipality areas within North Orissa.[35] Madras Presidency made the same vaccine compulsory in South part of Orissa in 1920 and re-vaccination was implemented in 1932 with some particular

[32] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June, 1941, File No-P.H. 20/41.

[33] Shri Nilamani Senapati, *Orissa District Gazetteer: Baudh Kandhmals* (Cuttack: Orissa, Gazetteer Unit Department of Revenue Government of Orissa, 1983), 444.

[34] Chandi Prasad Nanda, Disciplining a "Pathological" Province? Epidemic Disease and Health Interventions in Colonial Orissa, Proceedings of the Indian History Congress, Vol.76 (2015): 305-317.

[35] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Appointed of Health Officers, Cuttack, Municipality as Superintend of Vaccination,* July 1936, File No. P.H. 41/36.

regions.[36] Re-vaccination was necessary because, single vaccination could not guarantee that the person would not contact smallpox again; initially, however, the government was not ready for re-vaccination. Later, the Bengal Vaccination Act of 1880 was passed and an amendment made in 1911 for re-vaccination in north Orissa, because the validity of vaccination was remained only for seven years. The re-Vaccination Act in 1911 was made free and mandatory in all over Orissa except for the agency areas. In agency areas, particularly in southern Orissa, vaccination was free but not compulsory.[37] The important Odia newspaper in colonial Orissa, *Utkal Deepika* insist the authorities to use *balatkar* (force) to vaccinate people because of the huge suffering and mortality caused by smallpox. Even the middle-class elites of colonial Orissa preferred vaccination passionately in second half of the nineteenth-century and furnished, need to punish parents who did not get their children vaccinated by one year.[38]

Instead, the advent of Jennerian smallpox vaccine in India, during the early nineteenth-century, in colonial Orissa, variolation was strongly prevailing in the most effective forms of indigenous medical practice in Orissa. The smallpox commission in 1850 variolation branded as a "murderous trade" and the implementation of

[36] Government of Bihar and Orissa, Department, Local Self-Government, *Annual Public Health Report for 1927 and annual vaccination report for 1927-28, sanitation,* January 1929, File No-S.IR-28 of 1928.

[37] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Improvement of Public Health Ganjam District, creation of two additional Health inspector Post,* January, 1943, File No. P.H. XC.2/42.

[38] *Utkal Deepika,* Odiya News paper, 20th March 1880, and 10th April 1880.

vaccination in colonial Orissa was challenging in Orissa as an acceptable form of mass prophylactic.[39]

Table No. 3.1: the distribution of smallpox mortality in different age groups under the Madras Presidency from 1926-1935.

Age	Under one Year		1 to 10 years		Above ten years		Total
Year	Deaths	Percentage to total	Deaths	Percentage to total	Deaths	Percentage to total	
1926	4889	44.6	3662	33.4	2406	22.0	10957
1927	3427	44.4	2426	31.2	1928	24.8	7781
1928	3069	40.3	2393	31.4	2156	28.3	7618
1929	3431	35.3	2917	30.0	3360	34.7	9708
1930	2324	33.5	1865	26.9	2753	39.6	6942
1931	1160	40.2	907	22.6	1488	37.2	4005
1932	1455	27.1	1686	31.4	2222	41.5	5363
1933	3081	28.7	3009	28.0	4855	43.3	10745
1934	5593	30.9	5516	30.5	6979	38.6	18088
1935	3338	27.1	3751	30.4	5241	42.5	12330

Sources - Report of the Director of Public Health, Madras, for 1935, *including Administration of vaccination in 1935-36,* Madras, Superintendent, Government Press. File No-P.H-111/36.

The children were most vulnerable to smallpox,[40] and were not considered a 'permanent' member of the family until they got rid of it. The general belief among

[39] Chandi Prasad Nanda, Disciplining a "Pathological" Province? Epidemic Disease and Health Interventions in Colonial Orissa, Proceedings of the Indian History Congress, Vol.76 (2015): 305-317.

[40] O.P.Jaggi, *History of Science, Technology and Medicine in India Vol.XII, Western medicine in india: Epidemic and other Diseases* (Delhi: Atma Ram and Sons, 1979), 123.

the people was that, children would suffer smallpox at least once in their childhood.[41] In that context, the death rate in 1934 under the Madras Presidency, Ramand was the worst affected district with a death rate of 0.87 per mile, and in Ganjam district (Odia-speaking areas), it was comparatively mild, 0.12 per mile. The death rate was higher above the age of ten.[42]

The above table also revealed that the total death was 31767 in Madras Presidency, by smallpox during 1926-1935, above ten years old, and at the same time, the total death of under one-year-old was 33388, which were higher in comparison to those above ten years old. Though the death rate was more among under the one-year-old, it was important to note that the percentage of mortality rate decreased amongst infants under one year old from the total mortality by smallpox. The corresponding death rate increased amongst above the ten years old gradually. It shows that the infants were becoming immune to smallpox due to the efficient dynamic program of infantile vaccination during these years.[43]

The government had consulted with all the district boards to introduce compulsory vaccination to all the provinces in 1936. The Government said that the district board authority should take care of the vaccination programme. The 'District Board' would pay the associated costs of it or the vaccinator's payment except for the agency area (funded by the government) in 1940. The districts' authority expressed their inability to pay vaccinators to earn additional cost, and several 'District Board'

[41] D.P. Chattopadhyaya, ed. *History of Science, Philosophy and Culture in Indian Civilization*, O.P. Jaggi, *Medicine in India: Modern India*, Volume IX Part 1 (New Delhi: Oxford University Press, 2000), 143-44.

[42] Report of the Director of Public Health, Madras, for 1935, *including Administration of vaccination in 1935-36,* Madras, Superintendent, Government Press. File No-P.H-111/36.

[43] Ibid.

had expressed the view that compulsory primary vaccination was not practicable. With the exceptional way, the little promises of Rs. 2000 a year by the Sambalpur district.[44]

District Council Boards completely refused to bear any portion of the cost incurred.[45] The difficulty of government was inclined to think, mainly financial, and the problem was receiving government's close consideration. One of the most challenging reasons for introducing compulsory vaccination piecemeal has been illustrated in Balasore, where the provision of free vaccination was a special relief measure in flood-affected areas. It was reported that the epidemic resulted owing to the general reluctance throughout the district to pay for vaccination. The same difficulty was likely to arise in the district's bordering areas where vaccination was compulsory, and consequently, it was free for a specific place. In Orissa and Bihar provinces, the mortality rate was high during 1916-21 with 51699, and the next five years from 1922-1926, it was 97455.[46]

[44] Government of Orissa, E.H. and L.S.G. Department, Public Health branch, *Establishment-Public Health ganjamDistrict Board- Vaccination Staff- Proposal Pay,Raghunath Satpathy,* September, 1936, Acc No-7161.

[45] Proceedings of the L.S.G. Department, Public Health Branch, June 1941, *Introduction of Free and Compulsory Vaccination in North Orissa, Government of Orissa,* File No- P.H. 20/41.

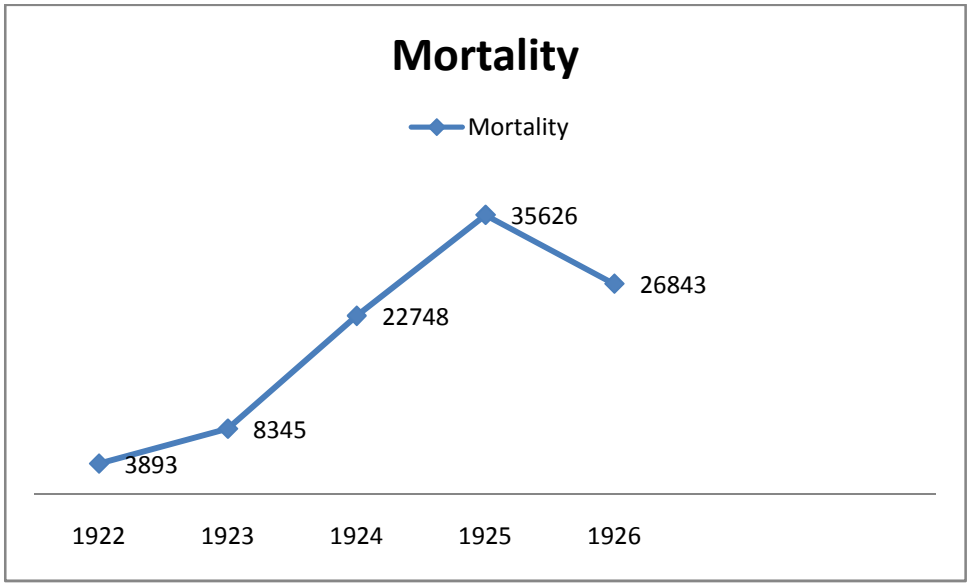
[46] Government of Bihar and Orissa, Local Self-Government Department, *Annual Public Health Report for 1927 and annual vaccination report for 1927-28, sanitation,* January 1929, File No-S.IR-28 of 1928.

Table No. 3.2: the mortality of Orissa by smallpox in north Orissa, during 1922-1926.

Year	Deaths
1922	3893
1923	8345
1924	22748
1925	35626
1926	26843

Source: Government of Bihar and Orissa, Local Self-Government Department, *Annual Public Health Report for 1927 and annual vaccination report for 1927-28, sanitation,* January 1929, File No-S.IR-28 of 1928.

Graph No. 3.1: the mortality of Orissa by smallpox in north Orissa, during 1922-1926.



The highest number of mortality due to smallpox was 35626 in 1925, because until 1925 the vaccination was not well executed by the colonial administration, hence

the number of vaccination declined. The leading cause of reduced in 1918, the shift from paid vaccinators to the licensed system of vaccination. The provision was in every successful vaccination charges at least two *annas* for each vaccination under the licensed system, which deterred parents from vaccinating their children. Another cause was that the local people were not accustomed with new licensed vaccinator but after 1925, gradually convinced the people and the vaccination policy executed progressively, which was the main reason for fall of mortality rate. The total death by smallpox from 1917-1926 in the province was 149154. In the first quinquennium of the ten years, the number of death was 51699 and 97455. In each year of the second quinquennium, the mortality was as follows: 3893, 8345, 22748, 35626, and 26843, in the entire districts of Orissa province in 1922, 1923, 1924, 1925, and 1926 respectively. The provincial ratios of the mortality due to smallpox per thousand during the last five years (1922-1926) had been 0.11, 0.24, 0.67, 1.05, and 0.97. The following year also, it considerably decreased and the total figure of deaths in 1927-28.[47] The prevention of smallpox on the above statistics of smallpox given in the previous year of 1928 indicates the insufficiency and inefficiency of the existing arrangements for vaccination.[48] The average death rate of Cuttack was more than double of the provincial average from 1918 to 1927. Smallpox was virtually an annual visitor to Bihar, and Orissa province, particularly in the district of Cuttack in 1933, had a bad record of the disease compared to the rest of Bihar and Orissa Province.[49] The average death rate per mile for 1918-1927 was 96, which was more than double, the provincial average of 40. In the Annual Public Health Report for 1926, the

[47] Ibid.

[48] Ibid.

[49] Shri Nrushinha Charan Behuria, *Orissa District Gazetteer: Cuttack* (Cuttack: Orissa Gazetteers Unit, Department of Revenue, Government of Orissa, 1992), 869-870.

Director of Public Health wrote, "The vaccination state of the people in Orissa is not satisfactory. Much has been done and is being done, improving matters in this respect. But the people were poor, ignorant and were opposed to having their children vaccinated, more especially when they have to pay for the operation." [50]

The district of Puri was infamous for the frequency of smallpox occurrence. Hence, efforts were made to popularise vaccination. The disease was rampant, particularly in the inaccessible parts of the district. The colonial administration took preventive measures in the town of Puri compared to the villages and started vaccination being compulsory in the municipal areas. The annual vaccination in the district of Puri was about 37 per thousand of the population, and the average for the province was almost 28. Yet, the death rate due to smallpox was far higher than in the rest of the region. There was on average, four hundred and eighteen deaths annually in the district between 1919 and 1924.[51] The government took preventive measures for smallpox, but the indigenous people were not ready to accept it. The situation of the province was worse in 1928. With regard to this, I.C.S. Mr. L.S.S. O'Malley says: "vaccination was unpopular in Orissa, where the people are more conservative, less enlightened, and mere wedded to superstitious beliefs than in Bengal."[52] In the province, about thirty paid vaccinators were employed in 1929, and the successful vaccination number was about thirty-five thousand annually.[53]

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[50] Government of Bihar and Orissa, Department of Local Self Government ,Sanitation, *Annual Public Health Report for 1927 and annual vaccination report for 1927-28,* January 1929, File No-S.IR-28 of 1928.

[51] L.S.S. O'Malley, *Bihar and Orissa District Gazetteers: Puri* (Patna: Superintendent Government Printing, Bihar and Orissa, 1929), 143.

[52] Ibid., 143.

[53] Ibid., 144.

In Balasore also, smallpox was an annual visitor, but the number of death was lesser than both Puri and Cuttack.[54] The following table shows that the mortality rate was less in Balasore. There were severe outbreaks in 1901 and 1902 and the total death toll was 3500, but since then, there had been no severe epidemic. The next four years with the ending in 1905, it accounted for average mortality of only 650 per year within Balasore. The government justified it as the result of vaccination, which was satisfactory because vaccination was steadily gaining popularity among the conservative Odias.[55] The mortality rate of smallpox declined after the intervention of Local Self Government in the 'Public Health' department.

Table No. 3.3: district-wise mortality rate per thousand by smallpox in separate Province of Orissa.

Year	Cuttack	Puri	Balasore
1926	3.1	6.9	2.4
1927	1.9	1.2	1.4
1933	2.3	4.3	0.9
1934	3.3	2.5	0.9
1935	1.2	1.2	0.2

Source: Proceedings, Government of Orissa, Department of Local Self government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* Jun, 1941, File No-P.H. 20/41.

[54] Proceedings of the L.S.G. Department, Public Health Branch, June 1941, Introduction of Free and Compulsory Vaccination in North Orissa, File No. P.H. 20/41.

[55] L.S.S. O'Malley, *Bengal District Gazetteer: Balasore* (Calcutta: The Bengal Secretariate Book Depot, 1907), 69.

In western Orissa, the government had concerns about the smallpox vaccine. Here, vaccination was introduced in 1874, and was made it compulsory only in the municipal areas after it was merged with north Orissa by 1905. The vaccination was carried out by a paid municipal vaccinator and the vaccinators were working from October to March. The licensed vaccinators (turn in 1918 from paid vaccinators) used to charge two *anna* in each successful vaccination, because the government was not paying the licensed vaccinators.[56] In general, sometimes though there was no objection to the primary vaccination to children, but people mostly loathed re-vaccination. Also the parents did not intend to lose another day of wage, and most importantly, they needed to pay for vaccination certificate. The number of successful vaccinations in 1907-08 was 26400, representing 42.37 per mile of the inhabitants. In the same year, the good number of people was vaccinated and the rate was 925 per thousand of infants; there was no other district except Ranchi with such a good record. In the following two-three years, the number of primary vaccination and re-vaccination had fallen considerably. Thus, the number of persons vaccinated in 1909-10 was 20,111, representing only 25.46 per mile of the population which was less than the 1907-08. In 1929-30, the number of infants vaccinated was 594.02; the number of vaccination shows that how gradually pull down the vaccinated line in western Orissa. Because the infant vaccinated rate was 925 against the birth rate in 1907-1909.[57]

[56] Proceedings, Government of Bihar and Orissa, Department of Municipal, Sanitary Branch, *Report on the system of vaccination in the Sambalpur district and the appointment of an additional Sub-Inspector of vaccination of the District,* February 1934,, File no. S/35 of 1934.

[57] Proceedings, Government of Orissa, Department of Local Self Government, *Public Health Branch, Introduction of Free and Compulsory Vaccination in North Orissa,* June, 1941, File No. P.H. 20/41.

In Balangir, vaccination was first introduced in 1874, the record shows that in 1874, vaccination was carried out mostly in the presence of Tahsildar, and every year vaccination was being conducted with the help of vaccinators.[58] Secondly, in 1916-17, 9478 cases were first vaccinated in Balangir, and 17181 people were re-vaccinated in the same year. The preventive measure of smallpox were dissemination of instructions regarding the prevention and causes of epidemic diseases and regarding the principles and practice of sanitation, and to impart correct knowledge to combat the epidemic diseases spread.[59] The people were apathetic for vaccination in many reasons.

The vaccination figure drop was attributed chiefly to the substitution of licensed vaccinators from paid vaccinators, which were employed by the government in 1918. The charge of every successful vaccination was another cause.[60] That was the main reason which contributed to the decline of the vaccination graph because of the scratch method of vaccination, which was more painful and consequently less popular than the puncture method formerly used. It was noticed that the licensed system was introduced directly and marked the fall in the figures of vaccination. In 1917-18, when paid vaccinators were employed, the total number of vaccinations done was 25,602 (34.40 per mile of the population). In 1918-19 when the licensed system was introduced, the figures fell down to 15,553 (20.89 per mile).[61]

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[58] Shri Nilamani Senapati, *Orissa District Gazetteer: Baudh Kandhmals* (Cuttack: Orissa, Gazetteer Unit Department of Revenue Government of Orissa, 1983), 444.

[59] Proceedings, Government of Bihar and Orissa, Department of Local Self Government, Sanitation Branch, *Public Health Bureau, Bihar and Orissa,* (Dissemination of Instruction Regarding the Causes and Prevention of Epidemic Disease), November 1922, File No. S-114 of 1922.

[60] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Arrangement for public health administration in the areas to be transferred from the C.P. To the ---- province of Orissa,* November, 1936, File No. P.H. 18/36.

[61] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch *Introduction of Free and Compulsory Vaccination in North Orissa*, ,June, 1941, File No. P.H. 20/41.

In Southern part of Odia-speaking areas under the Madras Presidency, compulsory vaccine was implemented in 1920, but it was not well executed in the Odia-speaking part of the province, particularly in Ganjam and Koraput. In the case of the Koraput district situation was more vulnerable but there was no proper system of reporting the outbreaks of epidemic. Because the headman of villages and the *chaukidar* were responsible of it, but they did not understand the nature of the duty, and the people also not aware of health, till 1936, subsequently the health inspectors took charge of it after Orissa got a separate province.[62] The statistics reached the authorities through the channel of the police or other touring officials, but it become too late to take action on it.[63] The responsibility of vaccination in Koraput was taken by the revenue Taluk Board in specific areas and other places in the same district was being paid by the government to vaccinators. For proper implementation of vaccination, 26 vaccinators were posted and they were supervised by sixth health inspectors after Orissa became a separate province. Vaccination was free, but it had not been notified or considered as compulsory in the whole Koraput. However, the hill men generally were quite willing to allow their children to be vaccinated after 1936. In 1937, 28994 vaccinations and 40996 re-vaccinations were carried out in Koraput.[64]

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[62] R.C.S. Bell, ICS, *Imperial gazetteer Koraput* (Cuttack: Superintendent Orissa Government Press, 1945), 90-98.

[63] Proceedings, Department of Local Self Government, Public Health Branch, *Introduction of Compulsory Vaccination in the Union areas of Koraput District, Government of Orissa,* September, 1941, File No. P.H. 44/41.

[64] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Creation of a new range of Health Inspector of Koraput District,* May 1942, File No. P.H. X/C-1 of 42.

The district of Ganjam was vulnerable to smallpox since under the Madras presidency. The death rate in 1934 was 0.12 per mile.[65] However, the vaccination program existed, but it was very unsystematic with less attention to healthcare by the government. Even after 1936, the same system was vogue in the Ganjam district; the vaccinators were sent out from the headquarters in a group way to the village from time to time. Again, it seems preventive care for smallpox in Ganjam plains was better in expenditure than the district of Cuttack; the government spent Rs.10000 for Cuttack though the population was twice of Ganjam, but at the same time for Ganjam, they spent Rs. 18000 per year.[66]

Table No. 3.4: the spread of smallpox in the district of Cuttack and Ganjam in separate Province of Orissa (1937- 1939).

Year	Cuttack	Ganjam
1937	2255	1534
1938	3064	657
1939	5511	678

Source – Proceedings, Government of Orissa, Department of Local Self government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June, 1941, File No- P.H. 20/41.

Ganjam was the only district where vaccination and re-vaccination was compulsory after 1936 and was systematic, because the district had permanent

[65] Report of the Director of Public Health, Madras, for 1935, *Including Administration of vaccination in 1935-36, Madras,* Superintendent, Government Press File No-P.H-111/36.

[66] Proceedings, Government of Orissa, Department of Local Self Government. Public Health Branch, *Improvement of Public Health Ganjam District-Creation of Two Additional Health Inspector Post,* January 1943, File No. P.H. XI - 2/42.

vaccinators as paid vaccinators. In 1940, the epidemic spread in January to December, in Ganjam and death due to smallpox were 1615 and 173, respectively.[67] Though the administration of vaccination was there, people were ignorant hence, not ready to accept it. The mother of the vaccinated child was more ignorant and due to the blind affection for her child, the mother tried to wipe out the vaccination's reaction immediately after the vaccination. Therefore, the mother cleaned the lymph, washed it with cow dung and with some kind of juice as soon as possible after the vaccination.[68] The scheme of administering the vaccination was good enough but did not work properly; for the more efficient administration, the district board proposed again to appoint eight more vaccinators in 1940. The government appointed eight health inspectors in the Ganjam plains as the Ganjam plains were divided into eight health ranges, and additional vaccinators were allotted to each of the existing Health Range. The scheme was for one-two years on an experimental basis.[69]

[67] Ibid.

[68] Proceedings, Government of Orissa, Department of Local Self-government, Public Health Branch, *Introduction of Compulsory Vaccination in the Union areas of Koraput District,* September, 1941, File No-P.H- 44/41.

[69] Proceedings, Government of Orissa, Department of Local Self-government, Public Health Branch, *Improvement of Public Health Ganjam District-Creation of two additional Health Inspector Post,* January, 1943, File No.P.H. No.XI-2/42.

Table No. 3.5: Government expenditure on vaccination in various districts in separate Province of Orissa -1939.

Name of the District	Rural Population According to the census of 1939	Expenditure on account of vaccination other than the cost of V.Lymphs	Cost of Vaccine Lymph	Total Cost	Cost Per Capita population in pies
Cuttack	2088151	3333	2030	5363	.49
Puri	997586	3333	810	4142	.8
Balasore	972757	3333	831	4164	.82
Sambalpur	1050593	3800	921	4721	.86
Ganjam Plains	1230652	19259	1275	20534	3.2

Sources – Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June, 1941, File No-P.H. 20/41.

The district of Ganjam was excluded from the agency areas and was divided into eight-parts; each part of the health range was 414 square miles on an average population of 175000. Each range was commonly too extensive, and a Health Inspector fails to get regular information. Subsequently, the district was again divided into ten health ranges for swift management of public health; hence, each health range with 300 square miles was made, and the average population of each range was 100000. Earlier, eight health inspectors were increased to ten with tenth health ranges. The additional health inspectors post were created after prolonged debates with the health director of the

district, secretary of the province, and member of the District Board, the member; most of them were Zamindars.[70]

Vaccination:

Vaccine was used as a preventive measure for smallpox, and it was supplied to the whole of colonial India from seven centres. A centre was established in almost every province, for instance, Calcutta in Bengal presidency, Ranchi in Bihar presidency, Guindy in Madras presidency, Lahore in Punjab presidency, Belgaum in Bombay presidency, Patwa Dangar in United presidency, and Nagpur in Central presidency.[71] In India, the smallpox vaccine was first introduced in Bombay in 1802, and it was steadily expanded to other parts of the country. Notably, the vaccine department was introduced in 1858, and it added 81 percent vaccination compulsory in towns and 62 percent in rural areas, but it was enforced in Bombay presidency by only 4.9 percent. In other provinces like NEFP, United Province, Sind, Coorg, and Ajmer-Mewar, there was no compulsory vaccination system.[72]

The colonial administration began awareness program about health and the prophylactic aspects, which confined around environmental sanitation, proper drainage system, pipe water supply, etc. The preventive measures remained in specific areas like municipality or urban areas where predominantly the ruling class inhabited.[73] Even after Orissa was made a separate province, there was neither proper sanitary plan for the rural

[70] Ibid.

[71] Bhore Committee Report, vol.1, *Report of the Health Survey Development Committee Survey*, (Calcutta, Delhi: Printed by the Manager, Government of India Press, 1946) 110.

[72] Ibid., 110.

[73] Fatima Da Silva Gracias, *Health and Hygiene in Colonial Goa 1510-1961* (New Delhi: Concept Publishing company, 1994), 86.

areas nor any other improvements. Therefore, in 1941, all district health officers proposed to the Secretary of the Province, for the establishment of the same.[74]

The development of modern Western medicine was one of the most outstanding achievements of human civilisation and has been successful in curing most of the diseases. Anna Dusthall, a three-year-old baby from Bombay (now Mumbai), was the first person in India obtained the vaccine against smallpox on June 14, 1802. The colonial officials saw the introduction of vaccine for smallpox in India as being an agent of the immense scientific boon being offered by superior British to the Indian people.[75] Vaccine played a significant role in colonial India in the field of medicine. Before discovering the Cowpox vaccine, "Variolation", was the most extensive anticipatory measures against the Smallpox. It was a renowned and widespread method in parts of Northern and Eastern India; and less in the Madras Presidency. However, in the Northern parts of Orissa under the Bengal Presidency "Woodiah" (Odia) Brahmans had performed variolation since long back.[76]

The care for smallpox relatively increased in the early twentieth-century, with more synchronised policies, and awareness of smallpox, the idea about variola causation severely weakened; hence, made it helped in regular sanitary activities and better vaccination coverage. In 1927, smallpox vaccination was made compulsory for all individuals from eight months of age. The same individuals had to be re-vaccinated at the age of seven. In 1914, the vaccine was made mandatory for schoolchildren and it was

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[74] Proceedings, Government of Orissa, Department , Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June, 1941, File No-P.S. 20/41.

[75] Sanjoy Bhattacharya, Mark Harrison and Michael Worboys. ed. *Fractured state: Smallpox, Public Health and Vaccination Policy in British India 180-1947* (New Delhi: Orient Longman, 2005), 231.

[76]Nils Brimnes, "Variolation, Vaccination and Popular Resistance in Early Colonial South India" *Medical History* Vol.48, No.2 (April 2004): 199-228.

compulsory to all who seek admission to the government school.[77] The government instructed all doctors and village headmen, and the head of the family, to provide information about detected cases for the betterment of the society.[78]

Role of Variolation and Vaccinators:

Before the vaccination was administered, the variolation for smallpox practiced which gradually disappeared under the colonial administration. *Tikadars* (vaccinators), who made it as their means of livelihood, practiced.[79] The member of the *Tikadar* family was bound to adhere to the same occupation. Since long, the profession of inoculators was hereditary among the *Mastan* Brahmans, (cultivators), *panas*, in Orissa, whoe stayed in the Tributary States. They were found in scattered villages in Orissa, and particularly in Puri district; there were several villages in the Salipur thana entirely occupied by them. However, the practice of inoculation was naturally most prevalent in the Salipur police circle. Their period of inoculation was usually a short one, extending from November to March. The fees collected from the parents of inoculated children, and it was not strict to just money alone and sometimes, the parents of the children also offered cloth, rice, and other goods to inoculators. Fee paid according to their capability—the minimum charge of 2 Annas for a female and 4 Annas for a male child. The income of inoculators varied from Rs.100 to Rs. 300, but later it had fallen, ranging from Rs.25 to Rs. 200 per

[77] Fatima Da Silva Gracias, *Health and Hygiene in Colonial Goa (1510-1961)* (New Delhi: Concept Publishing Company, 1994), 108.

[78] Proceedings, Government of Orissa, Department of Local Self government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June, 1941, File No-P.H. 20/41.

[79] T.J. Maltby, *the Ganjam District Manual* (Madras: Superintendent Government Press, 1918), 162.

annum.[80] Vaccination was not known well among the indigenous people till the nineteenth-century.

The process of variolation against smallpox was very gruesome. The instruments used in smallpox derived from a person, recovering from the attack of variola, discrete, and removed on 21st day of the disease. The skilled inoculators used to take crusts of variola confluent. After removal of the crust which was covered up with cotton wool and placed in a small hollow bamboo, was then closed with a sola pith cork and remained for three or four days. The cotton wool containing the crust was moistened with water and squeezed into a snail-shell. The turbid fluid thus obtained on a small piece of iron, shaped like a miniature country nail-parer, with a sharp edge; with this, the skin was notched until blood appears in the scratch, after that did apply the watery fluid. Earlier, the boy child was generally inoculated on the forearm and the girl child on the upper arm.[81]

The selection of spot to inoculate was unpleasant, for instance, on the forehead and between the eyebrows. Subsequently, they prohibited this pathetic practice of inoculation by the government. Finally, the inoculators selected some less conspicuous place, such as the back part of the upper arm or knee, or the back of the hand. The practitioners had no age restriction regarding the inoculation operation; the practitioners were mostly the persons over 40 years of age. And it was usually for the children between the ages of two to eight years.[82] The vaccination operations were performed

[80] L.S.S. Malley, *Bihar and Orissa district Gazetteer; Cuttack* (Patna: Superintendent Government printing Bihar and Orissa, 1933), 69-70.

[81] L.S.S. Malley, *Bihar and Orissa district Gazetteer; Cuttack* (Patna: Superintendent Government printing Bihar and Orissa, 1933), 70.

[82] Ibid., 70.

with pottery lancets in the districts of Ganjam and Koraput, and used ordinary bleeding lancets in the rest of the province.

The government intervened through vaccination, and created a separate Vaccination Department, in 1858, but the variolation inoculators could not engage as vaccinators. The Western medical system raised questions on the wisdom of inoculators and the government was against this gruesome traditional system of inoculation. Therefore, the vaccination department was set up in each province and the variolation system was officially banned.[83] Finally, a restricted number of identified skilled vaccinators who all were travelled from place to place carried out vaccination. They were often known as "travelling vaccinator" they did not paid by government. They used to charge a small amount of fee from the recipient. Later, paid vaccinators were hired, who were salaried employees of the provincial government to administer vaccination in countryside and importantly the government paid them. The scheme of 'paid vaccinator' commenced in the second half of the nineteenth-century.[84]

The profession as smallpox vaccinators was good, but required at least M.E. School pass, and needed to undergo training before they adhered to it.[85] After the completion of the training, a certificate was given. The permit of vaccination carried out for six months every year, from October to March (winter) as disease mostly spread in these months. [86] It was also the lymph of vaccine required to keep in a cold place;

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[83] David Arnold, *Colonizing the Body State Medicine and Epidemic Disease in Nineteenth-Century India* (Delhi: Oxford University Press, 1993), 151.

[84] L.S.S. Malley, *Bihar and Orissa district Gazetteer; Cuttack* (Patna: Superintendent Government printing Bihar andOrissa, 1933), 70.

[85] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Vaccinator certificate countersignature Government of Orissa,* January 1937, file No. P.H.-445/37.

[86] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June 1941, File No. P.H. 20/41.

therefore, it was called the vaccination session. The following six months of the year was off-season. During this off-season, a vaccinator was employed for the verification of vital statistics and preparation of the list of unprotected people.[87] The vaccinator used to be placed under the vaccination inspector in every district. Subsequently, women also became vaccinators because a male could not touch women many times to vaccinate but, there was no problem or objection if a female vaccinated a male. Hence, female employees had a great advantage as a vaccinators, midwives, and *dais*.[88] Only the government ran the vaccination station or depot, and private agencies were not entitled to do. Re-vaccination was necessary for a healthy society because vaccines worked only for seven years; after that, the reaction of it expires.[89]

Incentivising to Vaccinators:

Vaccination was administered under the colonial rule, executed through the District Board, and contracts were made to pay the vaccinators one *anna* for every vaccination done at vaccination depot where no fee was levied on the vaccinated people. In north Orissa, if the vaccinator visits any house for vaccination, he used to charge four *annas* per individual and eight *annas* for a family. In south Orissa, the cost was two *annas* per girl child and four *annas* per boy child and in western Orissa two *anna* for everyone, which was the remuneration of the vaccinator. The remuneration of the vaccinator under this scheme used to come from two sources, the District Board and

[87] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Channel of Submission of Vaccination reports*, October, 1936,File No. P.H. 28/36.

[88] Proceeding, Government of Orissa, Department of Local Self Government, Public Health Branch, *Improvement of Public Health Ganjam District, Creation of Two Additional Health Inspector Post,* January 1943, File No-P.H. Xe-2/42.

[89] Government of Bihar and Orissa, Department, Local Self-Government, *Annual Public Health Report for 1927 and annual vaccination report for 1927-28, sanitation,* January 1929, File No-S.IR-28 of 1928.

from the vaccinated family. This income was considered sufficient to enable the vaccinator for their livelihood, and of course, it depended upon the number of operations performed at the concerned depot.[90] There were operational problems with regard to vaccination programme. The distance was one cause for the people not to visit the depots. The other problems such as vaccinators' remuneration -salary of vaccinators, mostly vaccinators depended for their livelihood and management of vaccination depots for the increase of the number of depots. Consequently, the government did not increased the number of vaccine depots.[91]

The payment of this fee depended on how he had performed his duties and *elakhas* (area). The allotment of *elakhas* to each vaccinator was based on population and area. However, there were two disadvantages in the required establishments: first, the number of the vaccinators was significantly reduced, and second, the people did not accept some of the hospital/depots assistants, who belonged to the lower caste.[92] The vaccination depot and was tried to be made accessible to every village with particular places. The depots were about three miles on average from every village, was a plane of government, but in reality, it was far from the village. The Government of Orissa in 1936 fixed the payment of the Health Inspector of vaccinators at Rs.40.[93]

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[90] Proceedings Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June 1941, File No. P.H. 20/41.

[91] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of free and Compulsory Vaccination in North Orissa,* June, 1941, File No-P.H. 20/41.

[92] David Arnold, "Smallpox and Colonial Medicine in Nineteenth Century India," in ed. David Arnold *Imperial Medicine and Indigenous Societies* (Manchester and New York: Manchester Uniersity Press, 1988): 45-65.

[93] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Fixation of the pay of the Vaccinator Bonamali Patnaik, Gnajam District Board,* November 1936, File No. P.H. 74/36.

In 1938, the pay scales of the vaccinators, as salary, contingency, and travelling allowance, were the same for every district like Cuttack, Balesore, Puri, Sambalpur, Angul, etc. The vaccinators were appointed based on areas and the population like 52, 23, 25, 26, 4 respectively. Their salary, contingency, and travelling allowance were Rs.18, Rs.10, and Rs.5, respectively.[94]

Table No. 3.6: remuneration of vaccinators in separate Province Orissa after 1936.

District	Number of Vaccinators	Salary In rupee	Contingency	Travelling Allowance
Cuttack	52	18	10	5
Balesore	23	18	10	5
Puri	25	18	10	5
Sambalpur	26	18	10	5

Source: Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June, 1941, File No-P.H. 20/41.

Vaccine Certification:

Vaccination was not only for smallpox, but it was also for various other epidemic diseases. Though the district was not affected by the epidemic, yet it was needed to show the vaccination certificate for all the passengers travelling outside the

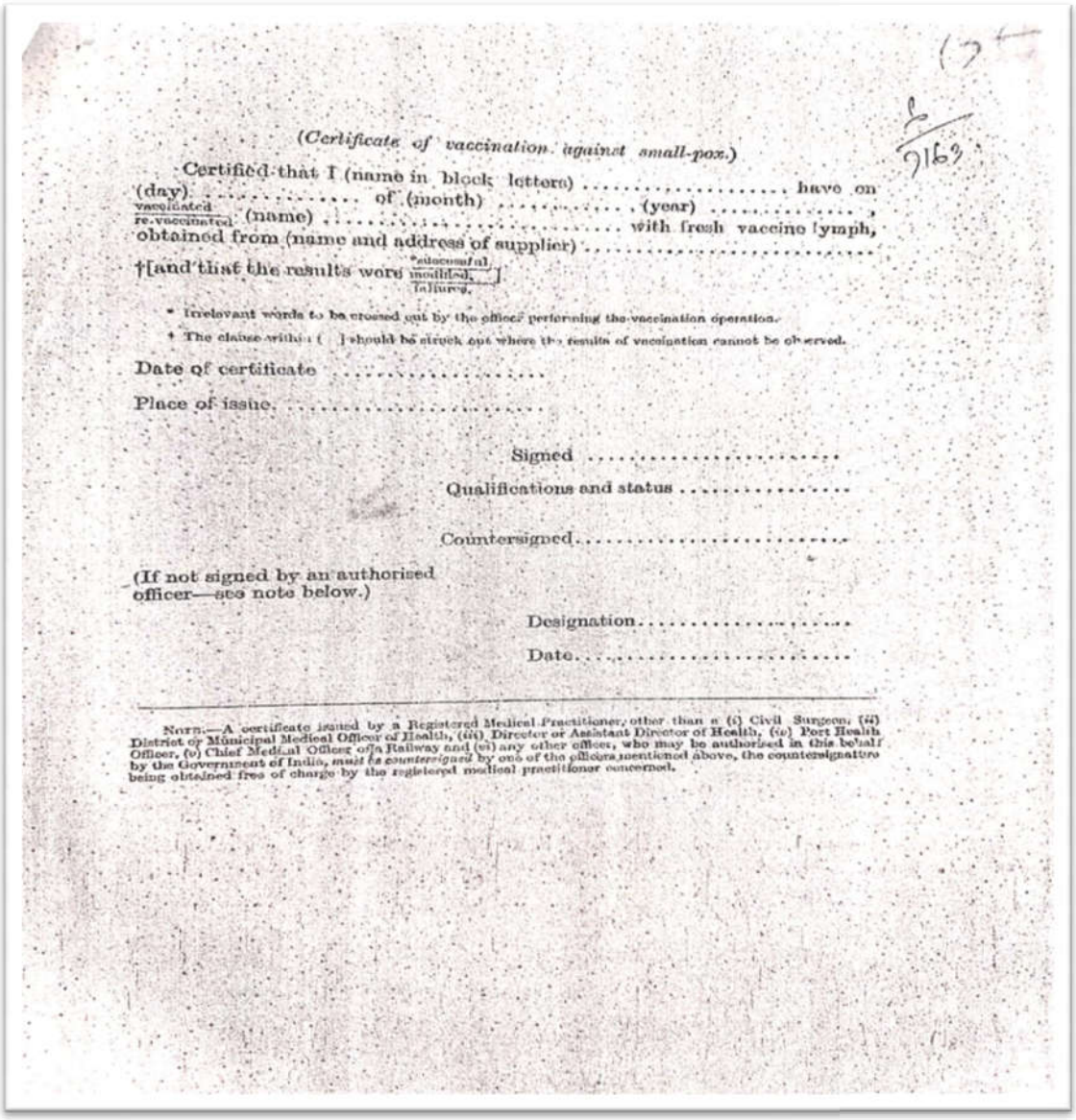
[94] Proceedings Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June 1941, File No-P.H. 20/41.

country.[95] The Government of Burma prescribed that the procedure should be appropriately followed irrespective of the extent of the prevalence of smallpox. Thus, individuals embarking through the port into Burma needed a smallpox vaccination certificate because, during the journey, they might come across an infection. The Government of India, therefore, decided that the prescribed procedures should be followed in the case of the passengers without reference to the extent of the prevalence of smallpox in their home districts or at the port of embarkation. However, this was not required under any provisions of the International Sanitary Convention of 1926. The certificate issued by the sub-assistant surgeons, assistant surgeons, military officers of the I.M.S., and R.A.M.C (Royal Army Medical Corps, established in1898) should be exempted from the countersignature. The North-Western Frontier Province made it and supported by the Government of Bombay, which was related to the I.M.S and R.A.M.C.[96]

[95] Proceedings, Government of Orissa, Department of Local Self government, Public Health Branch, *Vaccination certificate- Instruction issued to bring Public Health requirements' of Overseas countries to the notice of intending officers shipping companies,* September, 1939, File No-PH. 260/39.

[96] Proceedings, Government of Bihar and Orissa, Department of Local Self Government, Public Health Branch, *Measure for the prevention of the spread of smallpox from India,* August, 1934, File No. S-ID-3 or 1934.

Picture No. 3.1: the certificate of vaccination against Smallpox



(Certificate of vaccination against small-pox.)

Certified that I (name in block letters) ..... have on (day) ..... of (month) ..... (year) ..... ,
vaccinated / re-vaccinated (name) ..... with fresh vaccine lymph, obtained from (name and address of supplier) .....
†[and that the results were successful / modified / failure.]

* Irrelevant words to be crossed out by the officer performing the vaccination operation.

† The clause within [ ] should be struck out where the results of vaccination cannot be observed.

Date of certificate .....

Place of issue .....

Signed .....

Qualifications and status .....

Countersigned .....

(If not signed by an authorised officer—see note below.)

Designation .....

Date .....

NOTE.—A certificate issued by a Registered Medical Practitioner, other than a (i) Civil Surgeon, (ii) District or Municipal Medical Officer of Health, (iii) Director or Assistant Director of Health, (iv) Port Health Officer, (v) Chief Medical Officer of a Railway and (vi) any other officer, who may be authorised in this behalf by the Government of India, *must be countersigned* by one of the officers mentioned above, the countersignature being obtained free of charge by the registered medical practitioner concerned.

Source: Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Vaccination Certificate Countersignature,* January, 1937, File No-PH 445/37.

The vaccination certificate meant the production of immunity evidence regarding smallpox by passengers who were intending to travel.[97] From any port of India and for a port beyond India, it required to show the port health officers then only the person was allowed to travel. Otherwise, a person had again vaccinated or re-vaccinated against smallpox. Which should not be less than twelve days and not should be more than three years before the date of sailing.[98] The Bengal Vaccination Act of 1880 made it free at the vaccination depot, but it was amended in 1911. Though the vaccination was free, but for the certificate, they required to pay a nominal charge.[99] In 1940, the Bengal vaccination act provided a certificate for successful vaccination operations in a separate Orissa province. When the vaccination certificate system was introduced, rural people did not understand the necessity of the vaccination certificate, because earlier they could have just shown the variolation mark on their arms. For re-vaccination, it was necessary to show the vaccination certificate that shows the date of vaccination, which was indispensable because the action of vaccination used to work for only seven years; hence, re-vaccination was crucial. If the smallpox epidemic occurred in any specific area, the government used to vaccinate even though a person was vaccinated earlier, which was less than seven years because the indigenous people were used to loss their vaccination certificate, they had no knowledge about it because they were uneducated or ignorant. The certificate was given in a slip of paper with a stamp, which they often lost. Sometimes with specific areas, there were free vaccination but they needed to pay for the

[97] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Vaccination certificate- Instruction issued to bring Public Health requirements of Overseas countries to the notice of intending officers shipping companies,* September, 1939, File No-PH. 260/39.

[98] Proceedings, Government of Orissa, Department of Local Self Government, Sanitary Branch, *Vaccination Certificate Countersignature*, January, 1937, File No-PH 445/37.

[99] Proceedings, Government of Orissa, Department of Local Self Government, Sanitary Branch, *Introduction of free and compulsory Vaccination in North Orissa*, June, 1941, File No-P.H. 20/41.

certificate, hence many times indigenous people did not want the vaccine.[100] All the vaccination policies were though only for the indigenous people but colonial government accumulated the wealth one and another way, and primarily colonized the indigenous mind.

Resistance to the Vaccination:

People did not actively accept the vaccination, there was resistance against the vaccination programs as they used to run away from it.[101] The smallpox vaccination campaigns were not initially successful because people resisted it when the government implemented compulsory vaccination. It was opposition came in various ways from organisations, groups, and individuals. People were not willing to take the vaccine, because they used to think that the colonial government experimenting on them. The process of vaccination took a long time to recover the wound resulted by the vaccine, which was also another reason, the people were apathetic towards vaccination. People were not adopted because some sections of society believed that smallpox was caused by goddess *Maa Sitala* and vaccination was the source to annoy the goddess.[102] The native people were reluctant to adopt it and resisted in Orissa. There were three primary reasons for their reluctance to the vaccine: religious belief, economy, and swadeshiness.

The religious belief of people in Orissa was predominantly tribal, and more than seventy percent of the population belonged to the rural areas. It was one of the most significant grounds to keep away from vaccination. Apart from that, their belief system played a crucial role in deterring them from vaccination. The tribal people used to

[100] Ibid.

[101] Proceedings, Government of Orissa, Department of Local Self Government, Public Health Branch, *Introduction of Free and Compulsory Vaccination in North Orissa,* June 1941, File No-P.H. 20/41.

[102] Fatima Da Silva Gracias, *Health and Hygiene in Colonial Goa 1510-1961* (New Delhi: Concept Publishing Company, 1994), 108.

depend on their faith, custom, and tradition to prevent the disease. They believed that it was against the customary ritual, and then nature would harm not just individuals but also the entire community.[103] The tribal people were entirely reluctant and would also stimulate more vigorous opposition to vaccination.

The weak economy of Orissa stood as an obstacle to implement the programme of vaccination. The most crucial reason was availability of number of the depots and mostly these were located far away from villages. It led to many people were unwilling to visit the vaccination depot. The vaccinator when used to visit the village for vaccination, more than half of the children escape and hide themselves either inside the caves or some time under the big pottery kept at home which was used to store paddy. For instance in Puri, vaccination depots were far from the village because it was hard for the government to spend more money on remuneration of the vaccinator. Each vaccinator made in charge of a definite area, and he visits each village in his concerned area within a fixed schedule beforehand.[104]

The resistance against vaccination need to see through the lenses of nationalism in Orissa. During the first half of the twentieth-century, there was a wave of the swadeshi movement. National movement promoted indigenous medical system against Western medicine. Mahatma Gandhi even visited Orissa during 1921 to 1947 (23 March 1921, 19 August 1925, and 22 December 1928) and spread the concept of khadi or swadeshiness.[105] Hence, the people got more boycott of colonial state health programmes like vaccination. During the Quit India Movement, the vaccinators were attacked in

[103] Biswamoy Pati, "Siting the Body: Perspective on Health and Medical in Colonial Orissa," *Social Scientist* (Nov-Dec, 1998):.3-26.

[104] L.S.S. O'Malley, Bihar and Orissa District Gazetteers: Puri (Patna: Superintendent, Government Printing, Bihar and Orissa, 1929), 137-151.

[105] D.B. Mishra, *Concise History of Orissa* (Cuttack: Kalyani Publishers, 2011), 169.

coastal areas in 1942.[106] For instance, the Paik Rebellion in 1817, considered as the the first rebellion against the British, which shows the strong swadeshi concept against the Western ways. Finally, after Orissa became a separate province in 1936, the government made voluntary vaccination system introduced just before the second world war. The people did not accept it immediately but it accepted through the colonial health programmes, which were implemented through acts, multiple policies, and institutions. After Orissa became a separate province, the 'Director of the Health' department reported that the Odia people got a little more conscious about the vaccine against the smallpox, because of the various awareness programmes on the causes of disease and its prevention.

To conclude, in Orissa, smallpox spread like a bush fire. The colonial government initiated the vaccine as a preventive measure against smallpox, implemented it by various agencies and slowly led to the reduction of mortality. Vaccination worked as an active agent and offered scientific capability and beneficence to the British Raj. However, in the beginning, the indigenous people did not accept vaccination. People's religious practices, scarcity of funds, and the rise of the swadeshi national movement were the primary causes for the unwillingness towards the vaccine. After 1936, gradually, peoples exhibited an interest in preventative measures. That change very much affected the implementation of colonial state vaccination program especial scarcity of funds, operating kits, staff, and safety depots of vaccination and these most vital factors for the successful implementation until 1936. The colonial anti-epidemic schemes were deliberately under-funded; many times, the Municipal and District Boards had faced this problem. They were unwilling to commit to funds available at the ground especially to the employment and training of vaccinators. This affected on

[106] Bishnu Pradesh Panda, *Orissa History* (Bhubaneswar: Giribala Publishing House, 2005), 293.

vaccination program and implementation of these policies. After the separation of Orissa, improvement was noted in public health implementation. However, all these vaccination programs became the most powerful tool to control the people by witnessing reluctance and opposition, subsequently, a gradual recognition and acceptance of vaccination by the people in colonial Orissa.

CHAPTER-IV

LOCATING THE DISEASE OF CURSE- LEPROSY

Leprosy, a chronic infectious disease, is one of the oldest diseases in India. Since ancient times society believed that leprosy was a gruesome curse and as an outcome of sins committed in one's previous life. Even the Puranic literature showed leprosy as something caused by delinquency. Insulting or misbehaving the elders, Brahmans, teachers were all seen as a curse, and finally, the defaulter eventually would suffer with leprosy. These prejudices regarded as 'sin' were very dreaded and these were mainly executed to maintain the balance in the society. With the coming of colonial rule, how these notions under transformed and shaped the disease- will be discussed in this chapter while analysing the causes of leprosy along with its social, cultural conditions. The other section of the chapter tries to comprehend the colonial approach and preventive measures related to the disease and the reaction of the indigenous people towards it.

There was a social stigma attached to leprosy as being impure. Moreover, the leprosy victims, who were mostly of the marginalised sections, were chased out of the mainstream society. Thus, Jane Buckingham argued, "the history of leprosy in India is part of the wider history of the poor."[1] Indian society never considered leprosy as a disease instead it was believed as a curse.[2] Hence, the word 'leper' was often as an

[1] Jane Buckingham, *Leprosy in Colonial South India; Medicine and Confinement* (New York: Palgrave, 2002), 6.

[2] Dr. Indramoni Jena, *Orrisare Swasta* (Bhubaneswar: Gyanyug Publication, 2008), 42-44.

abuse term. Colonial period "once a leper means always leper."[3] Even classical literature inscribed similar types of notions that sins were considered as cause of the disease. According to the Manu Samhita, 'the violators of the teacher's wife get leprosy', which means misbehaving with teachers or any member of his family would get leprosy.[4] In the same tune, the Caraka Samhita also describes that those who insult Brahmans or elders and commits sins, subsequently would suffer with leprosy. Similar way, classical medical text- Sushruta Samhita also pronounces that leprosy as a consequence of commitment of murder of Brahmans, women, wise men, and an act of theft. Further Sushruta's text evidently remarks about the contagiousness of the disease as:

> "Diseases such as leprosy, fever, consumption, ophthalmic, and smallpox of different kinds were transmitted from one person to another by sexual intercourse, by touch, by breath, by taking meals in the same dish, by sleeping in the same bed, and sitting on the same seat, by an outing on the same garments, by wearing the same garland, and by using the same ointment."[5]

Largely, the disease was not extremely contagious like epidemic diseases- cholera and plague. However, the general notion in the society was that, long-standing contact with a leper's family would recurrently multiply the infection of disease. This perception was further boosted in the late 18th and 19th centuries with coming of separate beds arranged in hospitals for patients affected with contagious diseases. Leprosy victims were forced not only to leave from the family but also from the

[3] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposed amendment of the definition of "Leper" and extension of the Lepers Act, 1898, throughout Bihar and Orissa,* (Leper Conference), May, 1914, File. No- Medl./94 of 1914.

[4] Ibid., 5.

[5] O. P. Jaggi, "Medicine in India: Modern Period" in *History of Science; Philosophy and Culture in Indian Civilization,* Gen. editor D. P. Chattopadhyaya (New Delhi: Oxford press, 2000), 180.

community. It was a dreaded disease and hence, needed precaution from the initial stage of incubating from the symptoms.

Before the discovery of Mycobacterium leprous in 1873 by Hansen, leprosy was not thought to be caused by germ.[6] In the contemporary period, leprosy is understood as the '*lepromatous'* and *neurological* type. It seems that there was no clear distinction made between leprosy and other similar non-epidemic diseases.

Indicating Leprosy and Its Symptoms:

Leprosy predominantly affects the poor sections of the society. Living in high-density populated areas, houses with poorly ventilated and inadequate sunlight and where there was a lack of self-hygiene were main causes for spread of leprosy. These not only resulted in the leprosy infections but also paved way for spread of other diseases as well.[7] Leprosy was communicable through physical contacts with the victims and this perception existed until the discovery of germ theory by Hansen.[8] Later, it shifted to the germ theory from the disease being hereditary, contagious, result of unhygienic and stale food. Generally, leper resisted to visit the doctor as if a person diagnosed with disease and he became victim and encounter humiliation rest of his/her life.[9] The disease is a curable disease, only proper precautions are needed in the initial stage of the disease. The disease would be cured if the treatment delayed,

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[6] Abraham Meima, *The Impact of Leprosy Control Epidemiological and Modelling studies* (MC, University Medical Rotterdam, Unpublished thesis Erasmus, 2004), 10.

[7] Pandit N. Bashya Charya, "Leprosy in Ancient India" *Madras: Adyar Oriental Library* (15th August 1889). 5.

[8] Jane Buckingham, *Leprosy in Colonial South India; Medicine and Confinement* (New York: Palgrave, 2002).

[9] Dr. Indramoni Jena, *Orrisare Swasta* (Bhubaneswar: Gyanyug Publication, 2008), 43.

but it would leave scar marks on the victims. Those marks make the victims physically disabled, and it may appear in any part of the body for a lifetime.[10]

Orissa recorded second highest leprosy cases in the country just next to Bihar by the second half of the twentieth-century.[11] The Odia people took the racial comments regarding the spread of diseases personally, and the lepers avoided consulting doctors, which consequently added to the spread of leprosy. Hence, the Leprosy Act III, 1898 was extended from the Bengal Presidency to the Odia-speaking areas.[12] Under this act, the in-charge (leprosy inspector) of curative measure was trying to capture all lepers and assemble them in an enclave under the leprosy asylum. After all the examinations, if a person is found to be leprosy infected, the victim was to be imprisoned within the four walls. There were several leprosy cases; thus, people never dared to come to the forefront of the society because of the social stigma of being a leper, which was much more than physical deformity because they knew that instead of adherence to the victims, they will be refused by the society.

Most importantly, disability due to leprosy is not only physical but it also mentally depressing for the victims because it was considered a curse and hence, the society would find it difficult to accept 'lepers'. After the deformity it had caused, social acceptability would become lesser. This identity of being 'leper' would always stay with the victims even after they were cured. However, the various leper acts formulated by the colonial administration automatically attached the disease as an identity of the person. In addition, the process of cure of leprosy by the colonial

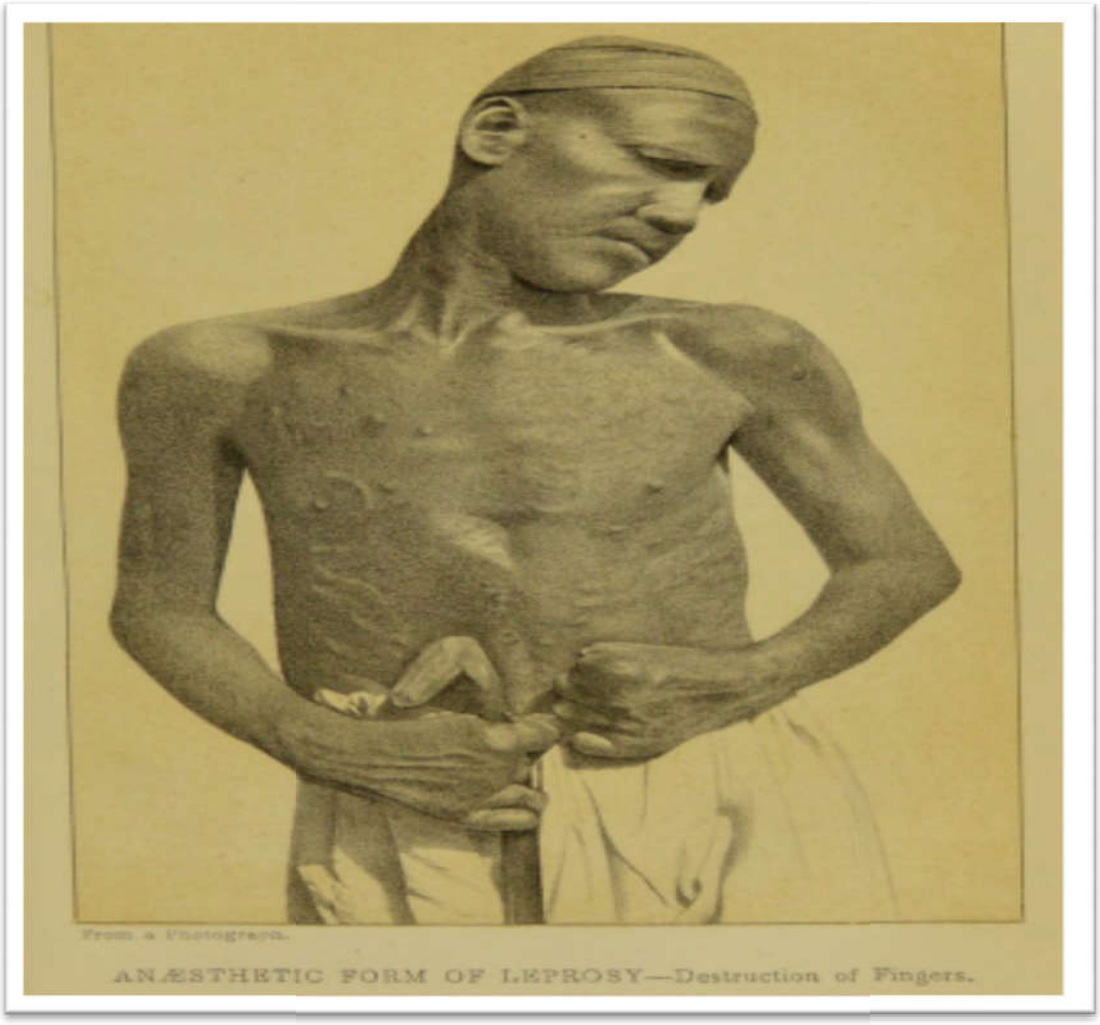
[10] Dr. Indramoni Jena, *Orrisare Swasta* (Bhubaneswar: Gyanyug Publication, 2008), 43.

[11] Harshit Sinha, *Leprosy in India; A study in Medical Geography* (Jaipur and Delhi: Rawat Publication, 2000), 13.

[12] The Lepers Act, 1898 Act No.3 OF 1898, AS ON 1957, 4th February, 1898.

government gave a 'leper' tag to the victims. At the Purulia conference in 1914, medical doctors stated that "once a leper always a leper."[13] Because of this, the victims of leprosy did not want to disclose his/her identity in the society as a leper; hence, they used to avoid visiting a doctor.

Picture No. 4.1: the image of leper, destruction of the fingers



Source: *The Mission to Lepers, A Report of the Fifty-Sixth Year's Work in India*, Issued by the Indian Auxiliary (September 1929-August 1930).

[13] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposed amendment of the definition of "Leper" and extension of the Lepers Act, 1898, throughout Bihar and Orissa,* (Leper Conference), May, 1914, File. No- Medl./94 of 1914.

Picture No. 4.2: the image of leper, the eruption

Source: The Mission to Lepers, A Report of the Fifty-Sixth Year's Work in India, Issued by the Indian Auxiliary (September 1929-August 1930).

The symptoms of leprosy vary from person to person, and as it is a prolonged process, it is tough to identify at the initial stage. It affects either a part of the body or multiple parts and mostly disables them. It majorly affects the skin, nerve, and the feet. The most dangerous impact of leprosy was paralysis, because of which the victims were unable to feel sensations. It also makes the skin rugged, resulting in complete absence of the sense of touch in the affected area. The body becomes stiff and loses flexibility; the hand and feet would lose their softness, and gradually the person loses all the sensations and becomes ulcerative.[14] The voice grows hoarse, and breath becomes repetitive, skin starts wrinkling and burning, joints swell and lose suppleness, which leads to numbness of hands and feet. The unfortunate victim finds himself mentally falling into pieces every day.[15]

With advent of the colonial rule, various perceptions existed among people and among the western medical practitioners about the causes, nature, spread, and dreadfulness of a leper. There were various debates on leprosy as Western medical ideas of disease spreading gradually; one such was Armauer Hansen ideas of disease. He was a physician from Norwegian, memorise for his recognition of the bacterium Mycobacterium leprae in 1873 as the causative agent of leprosy and he conducted extensive research on it and established that leprosy is a particular disease "representing a nasal entity with a definable etymology, and not simply a degenerative condition resulting from various causes." He discarded heredity causes of leprosy and established leprosy as an infectious disease.[16] Leprosy is rarely fatal. It

[14] Government of Bihar and Orissa, Department of Municipal, Medical Branch, *Pamphlet on Leprosy by the Revd. Paul Wagner,* July, 1915, File. No- MEDL.151, of 1915.

[15] Jane Buckingham, *Leprosy in Colonial South India, Medicine and Confinement* (New York: Palgrave, 2002).

[16] Leprosy in India, *Report of the Leprosy Commission in India, 1890-91* (Calcutta: Printed by the Superintendent of Government Printing, India, 1892), 225.

is challenging to understand the mechanisms for the transmission of leprosy, which are still unidentified.[17] The understandings of leprosy are in contrast to each other. The dermatological impact of disease damages peripheral nerves of the body, if leprosy bacteria do affect the skin.

Leprosy had been recognised by the European scientific community in the early nineteenth-century that disease transmitted chiefly by inheritance. A view held by the authority on Indian leprosy sufferers that they got the disease by contagion. Thus, both medical officers saw contagion only a possible means of transmission.[18] For a long time, the inheritance theory of leprosy communication was remained the dominant medical perception. It was later in the year 1847-caused scientific dissent.[19] Some scientists advocated the miasmic approach of communication. By the mid-nineteenth-century, with coming of the concept –leprosy as bacterial disease had broken many prejudices of people and even amongst the doctors.[20] In 1883, Henry Vandyke Carter who had become the chief authority on leprosy in India and made diagram of the bacilli exposed in a leprous nodule. Carter experimented that syphilis and tuberculosis, the source of leprosy bacillus was astonishingly a little local or common annoyance associated with the cruel symptomatic response to ruthless bacterial infection evident. By 1883, European researchers had originated the leprosy

[17] Jane Buckingham, *Leprosy in Colonial South India, Medicine and Confinement* (New York: Palgrave, 2002).

[18] Government of Bihar and Orissa, Department of Local self-Government, Medical, *Triennial report on the working of hospitals and dispensaries in Bihar and Orissa for the years 1926, 1927, and 1928, ,* June, 1927, File. No- MEDL. HR-17 OF 1929.

[19] Daniel Cornelius Danielssen, W Boeck, and Johan Ludvig Losting, *Om Spedalskhed* (Swedish: Chr. Grondahl, 1847).

[20] Henry Vandyke Carter was born on 22 May 1831 in Hull, England, the eldest son of the painter Henry Barlow Carter and mother Eliza Barlow.

bacillus in the lymphatic system, blood, in unhealthy nerve trunks, the liver, spleen, and testes and finally established leprosy spread through a systemic contagion.

The factors forecasted by the colonial medical officers for the origin of diseases were environment, climate, and diet. The vernacular sources in Orissa, like the Odia *'Panji'* offer a brief description of commodities and the kinds of diseases it produces when consumed on specific days. Sri Laxman Mishra, indigenous medical practitioner states that if a person ignores the Panjika's instruction, one will get particular disease. Anubhuta Jogamala has forbidden to have *Putika* (Malabar Spinach) on the day of lunar eclipse, because the leprosy germ used to come by the effect of the moon.[21] Other medical practitioners endorsed the prevalence of leprosy on the Malabar Coast due to the humidity and consumption of 'the flesh of huge sharks and other coarse fishes often in a state of putrescence.' The Leprosy Commission was executed in 1890 to investigate the state of leprosy in India, showed that based on census figures on leprosy distribution. Also, there was inadequate proof to approve a theory of climatic as causation. Leprosy was least prevalent in dry areas. The climate was considered a primary connection and possibility of the causative of leprosy, which was indecisive and subject matter to debate.

Various arguments also related to the origin of leprosy did endorse the dietary theory. The source of leprosy attributed to the frequent consumption of stale or rotten fish, rotten oil and wild cereal. The assumption that fish consumption was an active cause of leprosy had a long debate and back to favour in the late nineteenth-century. It was the most influential argument by Jonathon Hutchinson, conversed at tenth "International Medical Congress" held in Berlin, he established the connection of

[21] Sri Laxman Mishra, *Anubhutira Jagamal*, part one, Sahaj *Chiktsha* (Bhubaneswar: Sri Jagannath Laminators and offset printers press, till now publishing, 2006 first published in 1960).

leprosy and the most important cause was the consumption of fish. This was confirmed in his influential work -*On Leprosy and Fish Eating* published in 1906.[22] T. Farquhar was a retired surgeon-major, and associated with the Bengal Medical Service, and Tilbury Fox, was physician in the branch of skin diseases and eminent dermatologist, at University College, London, played a significant role in the research of leprosy. First time Farquhar, discovered a connection between diet and leprosy. He established that leprosy was relatively unusual in districts where high-quality farming was a long-established tradition. The leper commission 1890-91states that poverty as one of causes of leprosy in India. There was no doubt that leprosy attacks mostly the poor and destitute even more frequently than the rich and prosperous people who suffer a lesser degree.[23]

On 16 February 1914, a special conference held in Purulia in the Bengal presidency, where medical officers not only made statement that "once a leper means always a leper" and proposed an amendment of the definition of "Leper." Colon R. Macrae, Colonel of Bengal Army remarked (on 23rd May 1903) that "whom the process of ulceration has (already) commenced should be struck out," which was a very uncouth definition without the understanding of the germ theory. This interpretation of Colonel Macrea made with prejudice on people. The definition worked as the most dangerous fuel for the leper in the society.[24] In many cases of tubercular leprosy, there was mostly no external ulceration. The patient might be suffering from ulceration at the back of the nasopharynx and in the larynx. Such cases

[22] Jonathon Hutchinson, *On Leprosy and Fish Eating, A Statement of fact and Explanation,* (Creative Media Partners, LLC, 2018).

[23] Leprosy in India, *Report of the Leprosy Commission in India, 1890-91* (Calcutta: Printed by the Superintendent of Government Printing, India, 1892), 94.

[24] *Honorary Secretary, Local Conference of Honorary Superintendent of Leper Asylums in Bengal, Bihar, and Orissa, dated the 16th February 1914.*

would be highly contagious. This question was for consideration of the India Government and referred to the Bengal Government (Bengal Presidency). In a conference held at Purulia in February 1908, several resolutions were passed on lepers. In the same conference, the modification of the definition of leper and the extension of the 'Lepers Acts' throughout Bengal were done. From 6 June 1908, the objective was to include in the definition of tubercular leprosy in which ulceration, though proved, was not visible to the naked eye. The Government of India was not in favour of an amendment of the law and desired that amending the acts should be examined further.[25]At the same time, it was explained that the presence of ulcers should be regarded as the test of leprosy, against which legislative action should be directed. Persons suffering from leprosy, in whom the process of ulceration has not commenced, or whose ulcers have completely healed, should not, therefore, be treated as lepers under the act. Colonel Macrae (Colonel of Bengal, Colonial Army)[26] subsequently remarked on 13 August 1908 that for practical purposes, the definition was comprehensive. He was therefore not in favour of amending it. On 22 August 1908, it was referred to the Leper Conference for their opinion. Several opinions were generated in favour of amendment on the definition. Reverend Mr. Hahn, medical officer in Bengal Presidency in his memorial of the 26th October 1908, Sir Andrew Fraser (he joined Civil Service in British India, and he also a Lieutenant Governor of Bengal in 1903 subsequently he presided the 'Asiatic Society,' during 1905-07

[25] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposed amendment of the definition of "Leper" and extension of the Lepers Act, 1898, throughout Bihar and Orissa,* (Leper Conference), May, 1914, File. No- Medl. /94 of 1914.

[26] Colonel of Bengal Army (Colonel R. Macrae, C.I.E., M.B. (retired), from the 3rd December 1909 to the 28th February 1910. With the approval of the Most Hon'ble the Secretary of State for India, the Government of India are pleased to confer a Good Service Pension of ?100 per annum on the under mentioned officer From the 1st March 1910, in the room of Colonel R. Macrae, C. i.e., M.B., I M S., Retired, *Indian Medical Gazetteer,* (Nov-1913): 456.

decided not to press the point. As the Government of India was not disposed to reopen the question of leprosy's definition, it was for consideration whether it was practically the same that were adduced in 1908 and was sufficient to move the government to alter the statutory definition of the leper. However, the leper conference had no official status (the act was made in 1898, which was more fruitful after such statements).

During the first half of the twentieth-century, there was no definite therapy for leprosy. In 1924, Rev. R.J. Grundy, Superintendent of the Leper Asylum at Cuttack stated that "Those who have been undergoing the most recent treatment for leprosy have shown very considerable improvement. Up to the present we cannot report any cures, but we hope, in the near future, to be able to report that some have so far progressed as to be allowed to leave the institution," but his statement was not satisfactory,[27] because the cure of lepers was a lengthy process, and a very few seemed to have recovered fully from the disease. Most importantly, if one doesn't get the treatment at an early stage, the disease might be a cured but subsequently; it makes some parts of the body of the victim, vulnerable to paralyses and other disabilities. Hence, the government made policy for the treatment of leprosy by the Leper Act-III of 1898.[28]

Puri as the Hotbed of Leprosy:

The surroundings of the temples became rehabilitation centres for beggars, orphans, victims of various diseases because Puri as Jagannath temple place made

[27] Frank Oldrieve, *India's Lepers: How to rid India of Leprosy* (London, Edinburg, New York, Marshall Brother Limited), 1924, 84.

[28] The leper act, *1898 Indian states cancellation and modification of notification etc*. by the govt. Of India before 1-4-37, by provincial govt, the Lepers Act.III 1898, 4th February, 1898 (as on 1957), Acc No. 5787.

easily available of food and accommodation.[29] It attracted large number of mendicants and orphans through them epidemics and non-epidemic (leprosy) diseases occurred.[30] Temples became significant place for the spread of diseases.[31] Temple became a natural space for lepers at Puri on their own settled as lepers tried to escape from social stigma and their family and got accommodation and food easily.[32] Leper asylum committee at Puri was formed by the local officers with the collaboration of local *Zamindars* to provide treatment, accommodation and food for the victims of leprosy. J.R. Blackwood, District Magistrate and President of Puri leprosy asylum committee proposed to the government about the providing shelter and food for indigent and homeless lepers.[33] The District Magistrate and President of the committee- Babu Sarat Chandra Rai, Secretary, Babu Jagabandhu Patnaik and Rajkishore Das, joined the committee. The leper asylum committee gave a letter to the Commissioner of the Orissa division for the same. The shelter was the fundamental for lepers whereas food and clothing were secondary. In the year 1905, the town of Puri had 38 lepers, who had no house to live. They were lived mostly around the temple.

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[29] Biswamoy Pati, and Chandi P. Nanda, "the Leprosy Patients and Society, Colonial Orissa, 1870-1940" ed. Biswamoy Pati and Mark Harrison, *The Social History of Health and Medicine in Colonial India,* (USA and Canada: Routledge, 2009).

[30] Government of Bihar and Orissa, Department of Municipal, Medical, *Report on the working of the Hospital and Dispensaries in this Province for the year 1912.* September 1913, File. No- Medl./190 of 1913.

[31] Biswamoy Pati, "Siting the Body: Perspectives on Health and Medicine in Colonial Orissa" *Social Scientist,* Vol. 26, No. 11/12 (Nov. - Dec., 1998): 3-26.

[32] Government of Bengal, Department of Municipal, Medical Branch, *Leper Asylum at Puri,* April 1905, File. No- 3-L/5, Nos. 12-14.

[33] *Black Wood Esq., District Magistrate and President of Puri leprosy asylum committee.*

Table No. 4.1: lepers at Puri temple and in different surround places in the year 1905.

The place found lepers	Number of lepers
Singhadwar	7
Loknath Ghat	12
Markond Road	5
Gundicha Mandir Garden	5
In the Badadanda	3
Living under the trees on the bank of the Narendra tank	6
Total	38

Sources: Government of Bengal, Department of Municipal, Medical, Leper Asylum at Puri, April, 1905, File. No- 3L/5. Nos. 12-14.

The next year-1906, the number of lepers in Puri were increased to 66 lepers were settled at the Jagarnath temple. The asylum committee of Puri built separate huts for lepers for the protection of the temple town from spread of contagious diseases. The building of 'pukka houses' were too expensive therefore it build huts. The most vital cause of the increase the spread of other diseases among the people at Puri was food, i.e., the 'Mahaprasad,' as it was easily available to the people who visited Puri. The popular belief that temple abode of God of lepers who was known as "Loknath" in Puri. The lepers used to sleep within the walls of this temple. While sleeping, their body should touch the walls with the hope of receiving a heavenly signal, which would indicate to them cure the disease. The belief was not only common amongst the lepers but also among the leper asylum committee as well. Therefore, alongside this temple a site was given for an asylum. This site was located just outside the town and situated in a stretch of barren land close to the sea. The place has advantage of

getting fresh air and makes a healthy environment, which helped to improve the health of lepers.[34] The lepers used to come at Puri because they created space for themselves. There were victims who used to discard them by their family and sometimes the patients voluntarily left the house for the reason that of inadequate love and affection from the family members. The lepers used to come Puri from various places of Orissa and create a space for living on their own. The numbers of leper were more in this region and it was revealed when colonial government conducted a special census only for lepers. The government did not search leprosy patients' at home but they did look for them only at Puri.

The Secretary, a Bengali Pleader of the town, was very keen and exerted himself successfully in raising subscriptions for extending and maintaining the leper colony for two years until his death.[35] There was a proposal to set up an asylum only for 300 lepers at Puri after the 1911 census. However, it led to doubt about what to start, whether it would be a health resort or sanatorium at Puri. The main advantage as suggested was that wealthy pilgrims likely to subscribe, but the experience of the Pilgrim Hospital and water-works did not hold out much encouragement. The cost of building operations and food was higher in Puri than elsewhere in the division. Consequently, the commissioner preferred the other side of the Mahanadi at Cuttack as the site for such an asylum.[36]

The social stigma also attached with lepers asylums. Puri, Bhubaneswar, and Sakhigopal, the people used to believe that asylum was a resort of lepers. The reason behind this was because while the common people were not getting proper food at

[34] Ibid.

[35] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposal for the extension of the Lepers Act, III of 1898, to Sambalpur, Puri and Lohardaga, December 1914,* File. No- MEDL..179 of 1914.

[36] Ibid.

their homes, the lepers were getting routine food like lunch and dinner every day. Before the colonial government intervention at Puri for the lepers, they used to get only the '*Mahaprasad*' (sacred food from the temple) from Jagannath temple as lunch and they beg for dinner at the temple. After the introduction of the Leper Acts III in 1898, food, accommodation, and clothing were taken care. Finally, the health secretary of the medical department allotted some money for leper mainly for their dinner anyway lunch was arranged from the Puri temple *Mahaprasad* in addition to prevent the germs spreading to people from the leprosy victims. From time to time in the asylum provided uncooked rice, dal, and vegetables to the lepers individually to manage their dinner. The estimated cost for providing all the stuff for dinner at the asylum was Rs. 207.5.4 per annum.[37] The *Mahanta* of Temple also used to feed lepers of Puri along with other temples and *Maths* provided food to lepers. [38]

Largely people identify the temple was 'the haven for the victims of leprosy' offered all the indispensable amenities for leper livelihood at Puri. In Orissa division, there were number of *Maths* under which large number of lepers used to get food and accommodation, which was different from the asylums as there were no provisions or facilities like clothing, treatment, and other comforts, which was voluntary work and non-institutional work. The 'Leper Committee' mostly relies on generous donations by the people who visited the Jagannath Temple in Puri and the *Mathas* also contributed to the leprosy asylum. The management committee of the Puri Temple later employed a man for delivering food to *Mathas* from the Pui temple. He was given a salary of Rs. 6 a month.

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[37] *Babu Radha Charan Das, Zamindar of Balasore.*

[38] Government of Bengal, Department of Municipal, Medical, *Leper Asylum at Puri,* April, 1905, File. No- 3-L/5, Nos. 12-14.

Table No. 4.2: number of lepers accommodated at various *Mathas* in 1905 clearly indicated in the below table.

Name of the *Mathas*	**No. of lepers staying in *Mathas***
Mohanta Raghunandan Ramsanuj Das, Emar Math	10 lepers
Mohanta Bhagaban Ramanuj Das, Dakhinparas Math	10 lepers
Mohanta Jagannath Ramanuj Das, Raghabdas Math	10 lepers
Mohanta Govinda Ramanuj Das, Uttarparas Math	8 lepers
Mohanta Adhikary Ramakrishna Das, Oriya Math	10 lepers

Source: Government of Bengal, Department of Municipal, Medical, *Leper Asylum at Puri*, April 1905, File. No- 3L/5, Nos. 12-14.

The leprosy committee of Puri proposed to the government to fulfil the requirement of providing shelter for needy and homeless lepers at Puri in 1905. Later, it appeared that the leper asylum intended merely to provide free accommodation and food with the aid of organised private charity after 1908. Subsequently, Mr. Blackwood's proposals on behalf of all the people seemed suitable, and the Lieutenant Governor was pleased to approve the scheme drawn up by him. Ultimately, the Government took initiatives regarding preventive measures, which extended with the Lepers Act III in 1898, but it works systematically since1908.[39] The

[39] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposed amendment of the definition of "Leper" and extension of the Lepers Act, 1898, throughout Bihar and Orissa,* (Leper Conference), May 1914, File. No- Medl. /94 of 1914.

Leper Act-III of 1898 was extended to the western and northern parts of Orissa.[40] Under the Bengal presidency, there were several asylums for lepers, mostly built with the contribution of zamindaris. Subsequently, various colonial officers recommended for the asylum to be maintained by the government, and these were desirable for financial assistance. There were many local asylums, but they were not able to manage as it should have been, because they were not getting any help from the government. Hence, they were forcefully made inoperative. However, among all only some of leper asylums were functional by the year 1908. The following asylums received financial assistance from the government:

1. Muzaffarpur - Muzaffarpur Asylum.
2. Bhagalpur District- Bhagalpur Asylum
3. Manbhum District.-Purulia Asylum
4. Town of Gaya.- Gaya Asylum

Under the Bengal province, three private leprosy asylums were prevails- Puri and Sambalpur in Orissa, and Lohardaga in Bihar were functional. There were no Government asylums in Orissa until 1908 and mostly operational private asylums faced severe financial crises after 1908, as the contributions of Zamindars were less; subsequently, the government gave financial support to the asylums.[41] The most rigid systems in asylums imposed on leprosy victims to safeguard and protect from the

[40] *http://bdlaws.minlaw.gov.bd/print_sections_all.php?id=74 accessed on 10- 01- 2019, time-11:02, AM.*

[41] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposed amendment of the definition of "Leper" and extension of the Lepers Act, 1898, throughout Bihar and Orissa,* (Leper Conference), May, 1914, File. No- Medl. /94 of 1914.

spread of contagious disease.[42] The general notion prevailed among the masses that if the leprosy victims come out in public might cause of spreading to others as well as the whole locality. Therefore, leprosy victims were treated as prisoners in the asylum. To make some accommodation for indigent or pauper lepers, they admitted the victims to a local asylum at the early stage of the disease. However, the victims of leprosy frequently attempted to escape from the asylum where victims used to feel imprisoned. The victims wanted to wander in the open air and travel wherever they want. Hence, there were many cases of lepers reported escaping from the asylum. According to the 'Leper Acts'- III of 1898, the government tried to implement this provision of compulsory keeping all the lepers in various asylums even those were not indigent. Victims of leprosy were not ready to stay even in pukka houses because they never lived in such abodes earlier. Some lepers used to make houses for themselves on their own, where there was no interference by the public authority.[43] Later, the colonial government also recognised asylum was the only measure to prevent leprosy, which could make available food, accommodation, and clothing facilities too.

Christian missionaries also paid attention to lepers and played active role in providing rehabilitation for the lepers. Leprosy was never a main priority for the colonial administration.[44] Sir Edward A. Gait (Governor of the Province of Bihar and Orissa), wrote "the lepers in asylums maintained by 'The Mission to Lepers' are as happy and contented as it possible for persons to be when suffering from such a

[42] Government of Bengal, Department of Municipal, Medical, *Leper Asylum at Puri*, April, 1905, File. No- 3L /5. Nos. 12-14.

[43] Ibid.

[44] Lauren Wilks, "Missionary Medicine and the 'Separatist tradition: An Analysis of the Missionary Encounter with Leprosy in Late Nineteenth-Century India" *Social Scientist,* Vol.39. No.5/6 (May-June 2011): 48-66.

terrible diseases."[45] In the whole of Bihar and Orissa Province, the special leprosy census of 1911 and 1921 indicated the number of lepers' victims gradually decrease to 4666, from 16935 and 12267 respectively.[46]

The system and facilities of the institution of leper asylums were built in one acre of land for only ten lepers, excluding the garden was built at Sakhigopal. The common folks called the asylums as favourite resort for lepers. However, the unwillingness of governments to provides support to the lepers' asylum in Orissa by 1914 as smallpox measures were its priority. The government reduced its funding the asylums' facilities and funds given only for the medicines. Because the 'First World War' in 1914, caused the British government averse to support medical measures against leprosy.[47]

Later asylum committee for lepers faced financial hurdles. The committee made a petition to the government seeking funding to maintenance of asylums. In Puri, there were asylums run by philanthropists which were started in 1905 by Mr. J. R. Blackwood (I.C.S), the District Magistrate of Puri. He got permission in 1904 from the Government of Bengal and urged, "the scheme must receive full government approval regarding all the features of its management before it can be started at all. The establishment of a leper asylum involves much responsibility."[48] Finally, the District Magistrate planned to provide facilities such as free accommodation, food,

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[45] Frank Oldrieve, *India's Lepers: How to rid India of Leprosy* (London, Edinburg, New York, Marshall Brother Limited), 1924, 66.

[46] Frank Oldrieve, *India's Lepers: How to rid India of Leprosy* (London, Edinburg, New York, Marshall Brother Limited), 1924, 22.

[47] Government of Bengal, Department of Municipal, Medical, *Leper Asylum at Puri,* April, 1905, File. No- 3-L/5, Nos. 12-14.

[48] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposed amendment of the definition of "Leper" and extension of the Lepers Act, 1898, throughout Bihar and Orissa,* (Leper Conference), May, 1914, File. No- Medl./94 of 1914.

and other aids for the indigent and homeless people but it did not executed properly. In November 1905, the Orissa Division's commissioner submitted a report to the Babu Raj Narayan Das and other Zamindars of Balasore. They endowed fund on 20 November 1906 for feeding of lepers in the Puri Lepers Asylum. Kumar Rameswar Malia donated Rs. 2000 in 1907 for the construction of leper asylum at Puri. In addition to it, he was initiated to establish a hospital for leper colony and also built pukka blocks of two rooms in 1908-09.[49]

In 1909, the 'leper colony' was found on the verge of scarcity of funds. To prevent the lepers from begging for their dinner, Mr. Hamilton, the Collector of the Division, on the eve of his departure, gave orders that each leper should receive nine paise a day to enable them to purchase the second meal (dinner). This money had to mobilise the small-invested capital of the colony, amounting to about Rs. 3000, the interest of which used to be devoted to the necessary expenses of upkeep of the asylum. As the management went on haphazard manner, the then-District Magistrate, captain McKelview, and the Civil Surgeon promised a subscription amounting to Rs. 60 per month and since then it had been regularly paid. The Municipality agreed to pay Rs. 300 per year for the services of a local medical practitioner. An appeal made to the public signed by the district Magistrate as Chairman of the committee and received a good response. Following these initiatives, in 1910, Babu Bidhu Bhusan Banarji, superintendent of police, who pleaded with the local, constructed two blocks of three rooms, each with accommodation for 12 lepers in both. In 1911, Rai Kailash Chandra Basu Bahadur, C.I.S., of Calcutta, deposited on behalf of a private donor (Messrs. Gopiram Govindram of Calcutta) a sum of Rs.4000 towards the funds of the colony and for building six wards. A plan and estimate for the work were prepared

[49] Government of Bengal, Department of Municipal, Medical, *Leper Asylum at Puri,* April, 1905, File. No- 3-L/5, Nos. 12-14.

and approved by the donor. However, it was not started the construction work because of the difficulty of acquiring a suitable site.[50] In 1913, a block, the largest of the lot, was completed through the liberty of Raja Surajya Kanta Ray, a zamindar of Faridpur. The cost of these buildings was over Rs. 8000. Besides, these four blocks had been built, the cost of which was partly met from two further donations of Rs.500 each and the balance by the Committee. But in the South Orissa, it was varied, as government gave a proposal to the *Maharaj* of Jeypore to build an institution, but the *Raja* did not respond to it. It seemed that the *Raja* was not interested in the establishment of the leper asylum. The reason was less number of leprosy victims available at that time.[51]

Settling Lepers in Puri:

It was decided that the land belonged to the leper colony would be acquired under the provision of the land Acquisition Act.[52] The government approval was given for acquisition on 6 November 1912 at a total cost of 1570. A pukka road was constructed to the colony for which the Municipality provided the land. The problem arose that there were neither latrines nor kitchens attached to the colony. The lepers cooked their food in their rooms, which subsequently became filthy, and there were practically no servants for keeping the houses clean. Municipality contributed an amount of Rs. 300 a year during 1911-12, which was increased to Rs. 400 in 1913. While the district board, which did not contribute anything, gave Rs. 100 in 1911, and Rs.200, in 1912. His Honour was pleased to make a jump of Rs.500 from his contract grant. (Vide Private Secretary's Office on 5th August 1912). Messrs. B. K. Paul of Calcutta makes an annual grant of Rs. 75 worth for medicines. The establishment

[50] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposal for the extension of the Lepers Act, III of 1898, to Sambalpur, Puri and Lohardaga, December 1914,* File. No- MEDL. 179 of 1914.

[51] Ibid.

[52] Ibid.

consisted of a doctor on Rs. 25, 3 bearers, or servants each on a salary of Rs.5 a month and a peon. The holders were retained to bring the '*Mahaprsad'* from the temple to 'lepers' asylum on every day.[53]

The Census Report- 1911 showed 4694 lepers in the Orissa Division, spread over in Cuttack 1960, Puri 1221, Balasore 1050, Sambalpur 345, and Angul 118. In 1913, at Puri, Leper Colony was 62 leper inmates (44 males and 18 females) were accommodated. During 1913, 652 cases (409 males and 243 females) were treated at the out-door dispensary, while 62 patients remained in asylum as resident lepers.[54] There was no compulsion on the lepers to stay but most of them stayed in the asylum. Earlier, it was opposite; they did not visit the bazaars frequently as in the past. This purely liberal movement came, which gave protection to the public.

Table No. 4.3: leprosy suffers in Puri, Balasore, and Cuttack, per 100,000 of the population under Bengal Presidency.

Year	Puri	Balasore	Cuttack	Total
1881	279	278	228	785
1891	309	254	176	739
1901	243	240	207	690

Source: Census of India, 1901, Volume. VI, the Lower Province of Bengal and their Feudatories, Part-I, the Report, by E.A. Gait. F.S.S (Calcutta: Bengal Secretariat Press, 1902)

[53] Ibid.

[54] Ibid.

The asylum was gradually deteriorating immediately after the First World War. While on the inspection of Puri Leper Colony on 8th May 1914, the concerned officer remarked that "I visited the Colony this morning, and so far as my memory serves me, it is not in as good order or as well-kept as it was when I saw it two years ago. As a home for lepers, it appears to be of some value for, I was told that about 30 of the 63 inmates have been in it five years or more, but an arrangement which merely supplies some accommodation and insufficient food, leaving the inmates to pick up what else they require by sharing in the *Mahaprasad* of the temple and by appealing to public charity, obviously leaves much to be desired. More could be done if the institution received better support, and in this connection, I would invite attention to the remarks made at my previous visit. Probably a good leper asylum, not necessarily at Puri itself, nor on the lines of those at Bhagalpur and Purulia, is what is required for Orissa, and I should be glad if the Commissioner would look into the possibility of getting a work of the kind taken up by missionaries."[55] Orissa was the only division in this province where there was no Acts implemented. The asylum, though the division had the most significant number of the lepers, as shown in the following statement for the feudatory state.

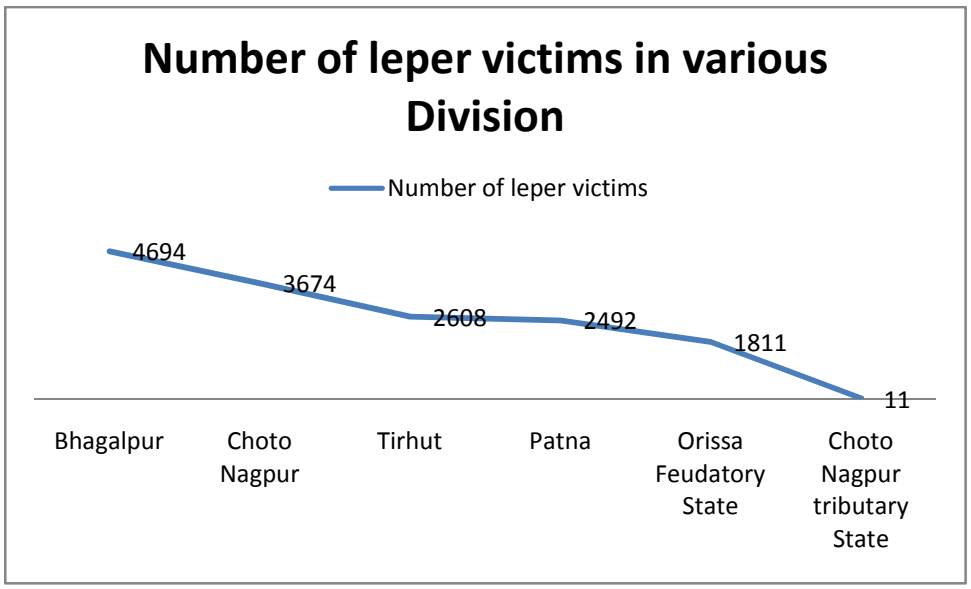
[55] Honour was C.S.B (AYLEY), the designation of the C.S.B (AYLEY) had not mentioned in the given record. *Proposal for the extension of the Lepers Act, III of 1898, to Sambalpur, Puri, and Lohardaga.* File. No. MEDL..179 of 1914. Government of Bihar and Orissa, Medical , Municipal Department, 1914, December.

Table No. 4.4: number of lepers in several divisions in 1914

Division	Number of leper victims
Bhagalpur	4694
Choto Nagpur	3674
Tirhut	2608
Patna	2492
Orissa Feudatory State	1811
Choto Nagpur tributary State	11

Source: Government of Bihar and Orissa, Department of Municipal, Medical, *Proposal for the extension of the Lepers Act, III of 1898, to Sambalpur, Puri, and Lohardaga, December 1914,* File. No- MEDL.179 of 1914.

Graph Line, 4.1: number of lepers victims in several divisions,



The percentage of lepers was the most massive in the district of Puri. The extended leper act to the Sambalpur division was a good initiative. In the case of Puri, it was also complicated as there were 1221 lepers in the district alone. The Orissa Division had a larger leper population than any other divisions in the province

reported in the census of 1911. Apart from this consideration, the exceptional importance was given to Puri town as a pilgrim resort.[56]

Leprosy is a prolonged process to develop and the same as a lengthy process to recovery. The treatment of lepers in Puri, were organised into two separate schemes: one, the establishment of a leper asylum for Orissa at Puri, implying the extension of Leper Act III of 1898 to Orissa; second, the private and philanthropic scheme started by Mr. Blackwood. Primarily the ideas were to mitigate the problem of indigent lepers hence the authorities tries to supply the food, shelter and medical attendance, for which they made asylum at outside the town because they had hope to keep away the leprosy victims from *bazaar* (market), and it implemented well by the Mr. Clerk, the Collector, and Capt. McKelview, the civil surgeon, took great interest in the institution, later their successors did not take it seriously. [57]

Table No. 4.5: leprosy suffers in Puri per 100,000 of the population

Year	Lepers in Puri
1881	279
1891	309
1901	243

Source: Census of India, 1901, Volume. VI, the Lower Province of Bengal and their Feudatories, Part-I, the Report, by E.A. Gait. F.S.S (Calcutta: Bengal Secretariat Press, 1902).

[56] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposal for the Establishment of a Leper Asylum at Cuttack,* September, 1915, File. No- MEDL./41 OF 1915.

[57] Ibid.

Leprosy Asylum Centre in Cuttack:

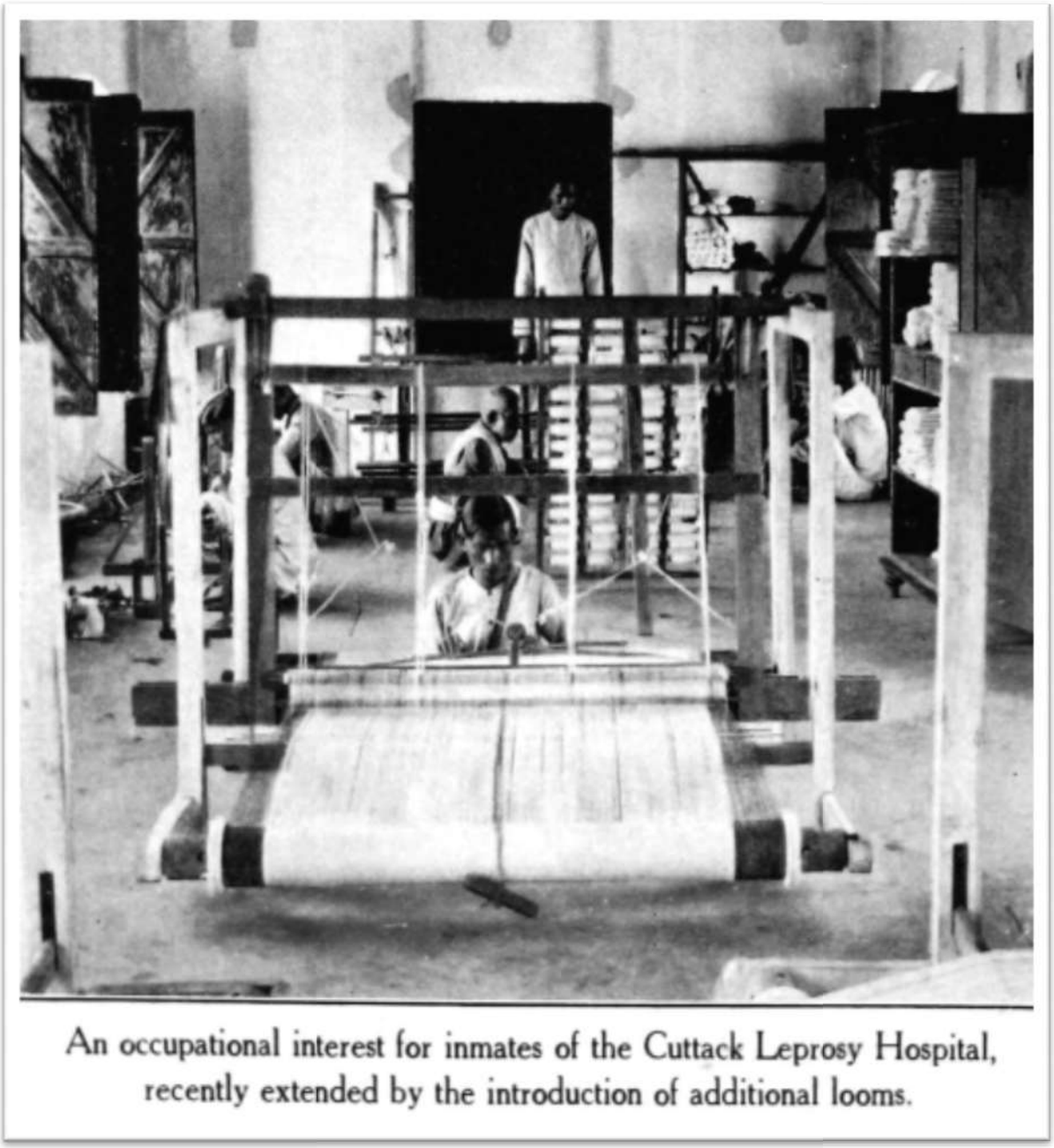
At Cuttack, a proposal was brought in to establish a leper asylum in the Orissa division. It was true that the 'Government of Bengal' gave the notification of 18 May 1901, but the same act, which included Bihar and Orissa and excluded Sambalpur. Later, the same act was applied to Sambalpur district by the Central Provinces following the chief commissioner's notification on 21 January 1903. Especially Babu Radha Charan Das wished that the Leper colony at Puri should be developed into an asylum. The provision of accommodation for 300 lepers for a start was considered sufficient, with a scope for the planning of the buildings in the future. [58]

Missionaries; finally, the Mission to Lepers tried to maintain a well leper asylum with all the facilities at Leprosy Hospital at Cuttack. The mission to Lepers states the year has 1930 was encouraging one because the patients have been keen to improve both body and mind. In 1930, thirty-two lepers inmate already discharged from the Cuttack Leprosy Hospitals, (established in 1919) asylum "symptom-free," reports Mr.S.F. Robinson, the Honorary Superintendent,' and others 118 were on the way to improvements, normally 240 patients were resided. The asylum got filled because lepers came from all parts of the province hence reluctantly tried to make them back those seeking admission in the asylum. For the financial boost, engaged of all the men and women, erected a weaving shed and fitted with four looms in addition to furnishing employment to the patients in *Saries, and Dhoties* for their use.[59]

[58] Ibid.

[59] The Mission to Lepers, A Report of the Fifty-Sixth Year's Work in India, Issued by the Indian Auxiliary (September 1929-August 1930).

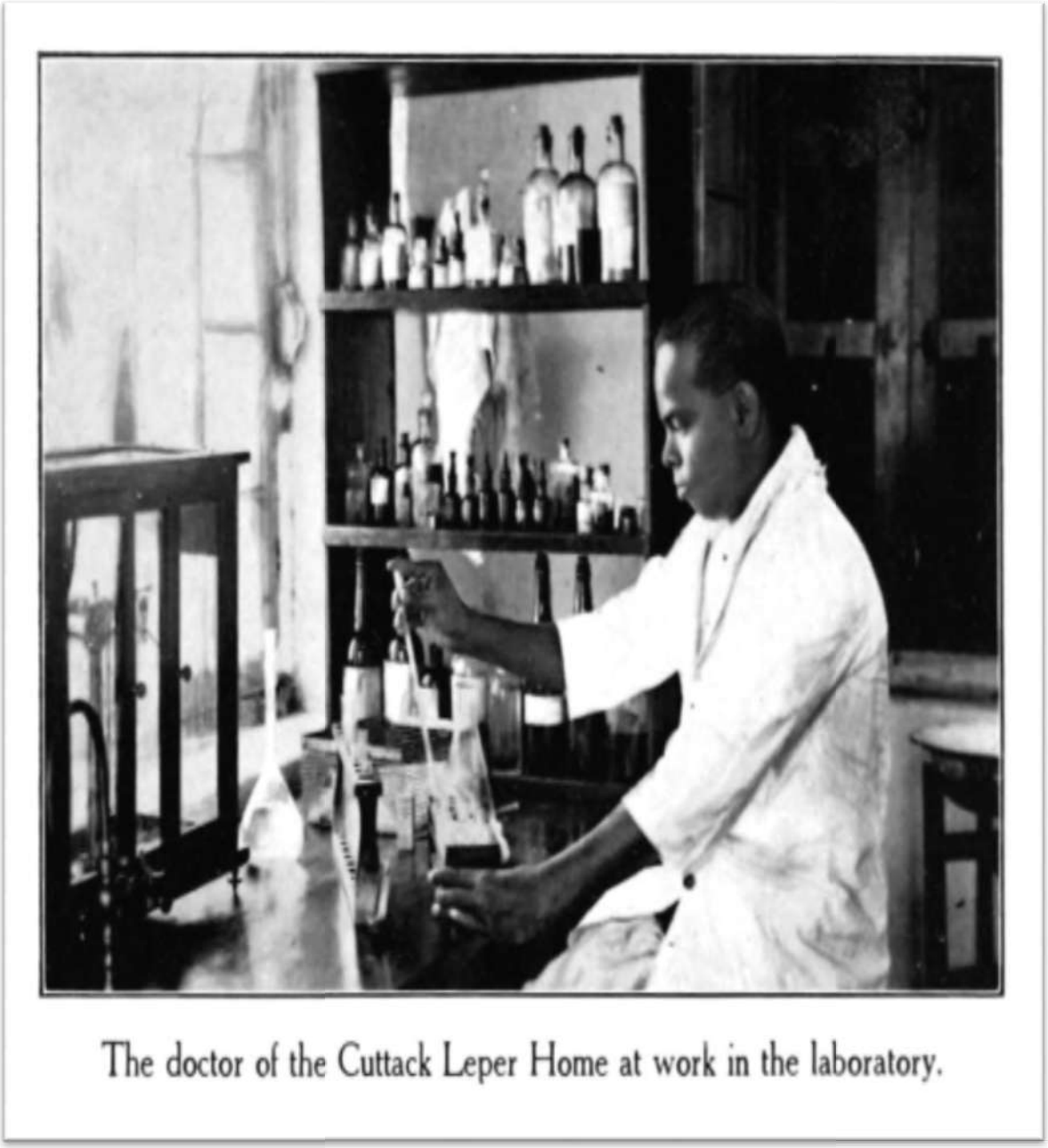
Picture No- 4.3: Cuttack Leprosy Hospital, extended by the introduction of additional looms.



An occupational interest for inmates of the Cuttack Leprosy Hospital, recently extended by the introduction of additional looms.

Source: The Mission to Lepers, A Report of the Fifty-Sixth Year's Work in India, Issued by the Indian Auxiliary (September 1929-August 1930).

Picture N. 4.4: the doctor of the Cuttack Leper Home at work in the laboratory.



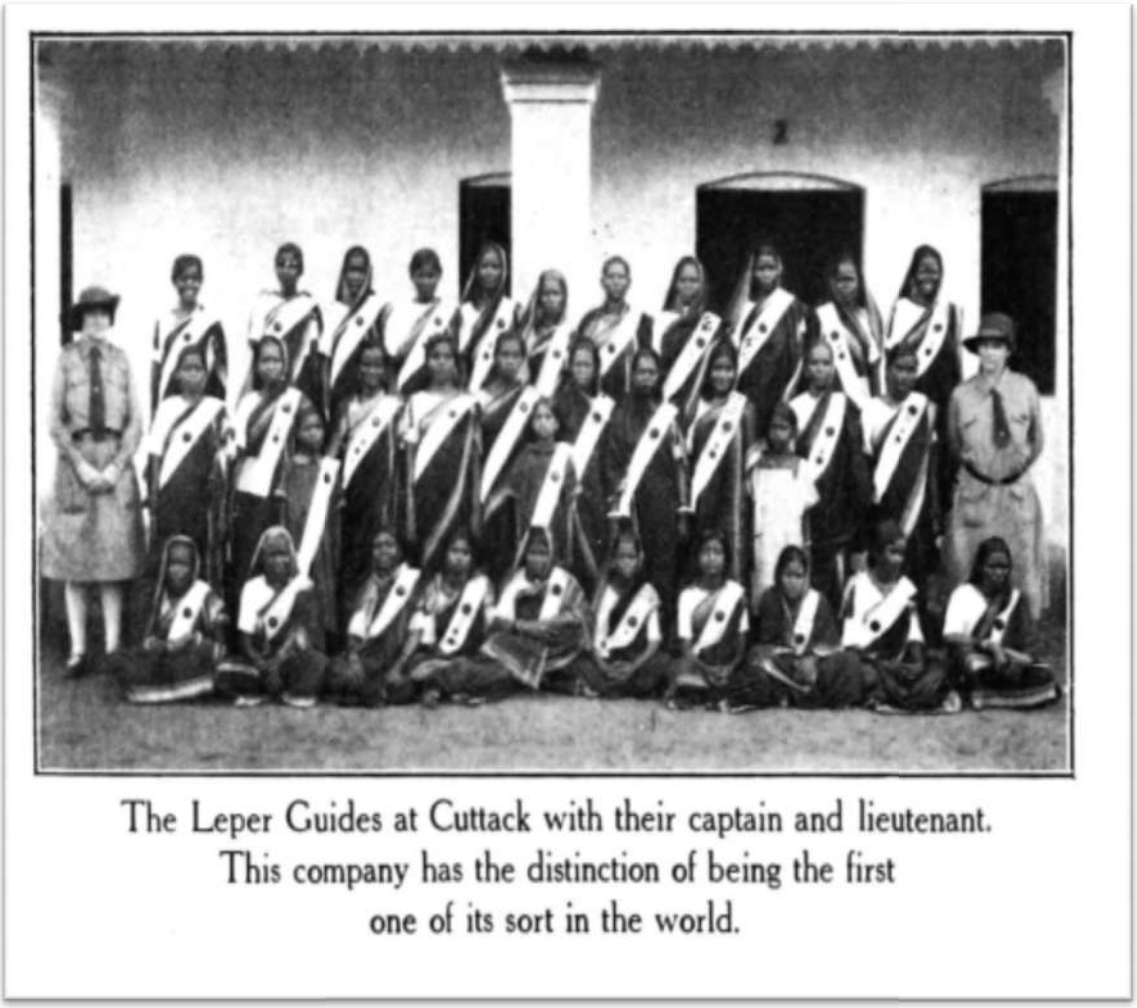
The doctor of the Cuttack Leper Home at work in the laboratory.

Source: The Mission to Lepers, A Report of the Fifty-Sixth Year's Work in India, Issued by the Indian Auxiliary (September 1929-August 1930).

The carrying on research work in the pathology of leprosy with limited funds available for these facilitates. Researches were undertaken that investigated into the nature of the bile pigments present in the serum of lepers. It developed further this aspect of work as and when funds available. The medical doctors of the pathology

retorted that "we have recently started classes, both male and female, for those who were eager to learn to read and write. The attendance is quite good; about 45 in all are attending classes daily. They are taken by lepers. It is so encouraging to see how the inmates fall in with any suggestion that we make to them."[60]

Picture No. 4.5: the leper guides at Cuttack with their Captain and Lieutenant



The Leper Guides at Cuttack with their captain and lieutenant.
This company has the distinction of being the first
one of its sort in the world.

Source: The Mission to Lepers, A Report of the Fifty-Sixth Year's Work in India, Issued by the Indian Auxiliary (September 1929-August 1930).

[60] Ibid., 11.

For the treatment of lepers the 'Mission to Leper' at Cuttack trained many girls as leper guide and which gradually increased the number. The mission was more stressed on training than the test, in 1929 at Cuttack seven leper girl guides who were won their second-class badges. Some of the members became teacher and taught other guides. Each guide has her own garden, and good results have been gained. The gardens would have brought credit to guides who were less handicapped. One badges gained for gardening, but a few have started on the work for the needlework badge. At Christmas time, the Guides invited the women patients and a few outsiders to a play on the life of ruth.[61]

In the Bengal province, the lepers' treatment was voluntary in both the asylums, viz. Purulia and Bhagalpur, which was quite successful. Therefore, an asylum at Cuttack proposed to conduct on the voluntary scheme. The accommodation was for 200 lepers in the initial stage-with sufficient latitude for future expansion. Also, Orissa division had a large number of lepers, viz. 4694 and this number was much higher than any other division of the province. According to the census 1911, out of the total lepers, 3495 were male, and 1199 were female. The accommodation of 200, among them 50 for females and 150 for males, which disclosed leprosy, affected mostly males.[62] One of the causes was males used to go out for work even in filthy environment that considered being one of the reasons to infect leprosy. In the preventive measures, there was not sufficient accommodation for all the lepers in the early twentieth-century.[63]

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[61] Ibid., 11.

[62] Leprosy in India, *Report of the Leprosy Commission in India, 1890-91* (Calcutta: Printed by the Superintendent of Government Printing, India, 1892), 41.

[63] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposal for the Establishment of a Leper Asylum at Cuttack.* September, 1915, File. No- MEDL. /41 of 1915.

Leprosy Asylum Centre in Sambalpur:

Sambalpur was under the Chotanagpur Division of the central provinces before the partition of Bengal. A committee formed to build a leper asylum at Sambalpur district, but there was no evidence of any leper act of Bengal. The committee, however, established an institution in 1885 but the committee failed to manage it, especially due to the shortage of funds. It required the Municipality to take over as the in charge of the asylum. In addition, there was a relationship between government and private in the matter of leper case. However, it was not closed; municipality took over the charge of management partly in collaboration with private partners. Subsequently, they made separate accommodations for males and females. Out of a total 40 inmates, 24 were males and 16 females.[64]

The superintendent of Municipality was the in charge of the institution. The main work of the superintendent was to look after the leprosy victims' food and clothing. The main problem here was concerning the asylum - there was no medical officer. The staff consisted of only a *Muharrir* and a *Chaukidar.* The medical branch of the municipal department of Bihar and Orissa states that the number of lepers reduced gradually in the Sambalpur asylum.[65] The records showed that during the year 1913, the span of seven years from 1906, reduced the number of lepers. In western Orissa, the numbers of asylums were very less; the numbers of leprosy patients were very less in the asylum, as it was the case in the Sambalpur District.

[64] Shri Nilamani Senapati, *Orissa District Gazetteers Sambalpur,* Cuttack-3, the Superintendent, Orissa Government Press.

[65] Government of Bihar and Orissa, Department of Municipal, Medical, *Proposal for the Establishment of a Leper Asylum at Cuttack.*September, 1915, File. No- MEDL./41 OF 1915.

Usually, the patients were not interested in coming to the asylum for treatment and it was considered as a prison.[66]

Donation to Asylum:

According to the census of 1911, there were 17835 lepers in the province. There were seven leper asylums situated in the entire province, viz., one each at Muzaffarpur, Bhagalpur, Deoghar, Puri, Sambalpur, Lohardaga, and Purulia. The one at Puri was known as a 'Leper Colony', which was looked after by an Indian person. It was not suitable and required some considerable improvements, and reported that their management, under those conditions, is in the majority of cases satisfactory.[67] The establishment of asylum at Gaya had sanctioned by the government as a memorial to his late Majesty King Edward VII. It would be under the control and supervision of a board constituted for the purpose. Towards its maintenance, the government had sanctioned an annual contribution from the Provincial Revenues of Rs. 1800 per annum and a sum of Rs. 57 per month equal to the amount ordinarily recovered from local bodies because of the service of a Sub-Assistant Surgeon. The medical officers appointed to this institution would be officers of this class. Towards the asylum's support, a local Indian, Babu Gobind Lal Sijwar had contributed a handsome donation of Rs. 10000.

The Asylum at Deoghar was managed by a committee of trustees appointed by the Government of Bengal in 1903, which was doing relatively fine work and would shortly be brought under the lepers act. Lately, the government had contributed Rs. 2000 towards the construction of an enclosure and partition walls for the asylum. It

[66] Shri Nilamani Senapati, *Orissa District Gazetteers Sambalpur,* Cuttack-3, the Superintendent, Orissa Government Press.

[67] Government of Bihar and Orissa, Department of Municipal, Medical, Triennial Report on the working of the Charitable Hospitals and Dispensaries in Bihar and Orissa for the years 1911, 1912, and 1913, September, 1914, File. No- MEDL./220 of 1914.

also had promised to bear half of the Medical Officers' cost, a Sub-Assistant Surgeon, who would be appointed to the asylum. The provisions of section nine of the Leper Act of 1898 had been extended to the towns of Gaya, Bhagalpur, Muzaffarpur and Purulia. There was accommodation in all the seven asylums in the province for 656 male and 453 female lepers at the end of 1913. The largest asylum was at Purulia, where 637 patients were accommodated. 3756 lepers were treated in these asylums in 1913 against 3415 in 1912 and 4184 in 1911. Of these asylums, four were managing by the 'Mission to Lepers' in India, two by Private Funds, and one by a Municipality aided by local subscriptions. Some of them also received annual grants from government. In consideration of the quite well work done by the Purulia Lepers Asylum, in 1913, government increased its yearly grant from Rs.12000 to Rs. 15000 for a year. The total cost for the up-keep of all these institutions was Rs. 69256 in 1913, Rs. 68284 in 1912, and Rs. 79533 in 1911. The government contributed 24.4, 23.2, and 18.0 percent and local bodies 2.5, 1.6, and 1.5 percent, respectively. The rest of the income was derived from private subscriptions and contributions from the 'Mission to Lepers.'[68]

The Civil Surgeon of the Santhal Parganas viewed that Nastin's[69] treatment was adopted in the case of some of the lepers in Deoghar with marked amelioration of the symptoms. At Purulia, this treatment was not continued in 1912, as the results, according to the Civil Surgeon, were not favourable. However, a small grant was

[68] Government of Bihar and Orissa, Department of Municipal, Medical, *Report on the working of the Hospital and Dispensaries in this Province for the year 1912.* September, 1913, File. No- Medl./190 of 1913.

[69] *A fat extracted from the microbe involved in leprosy, formerly believed to be useful in treating the condition.*

provided for continuing with this mode of treatment.[70] As an important part of the preventive measures, the 'Leper Acts' was passed.

Passing of Leper Act III, 1898:

The colonial government for the prevention of leprosy passed the leper Act. Under the section III 1898, the Government with the notification of the official gazette made 'Leper Act', "leper asylum" for the pauper leper. The leper asylum's role was most essential to contain the disease. There were no adequate arrangements for the lodgings and medical treatment of lepers was satisfactory. Subsequently, the leper asylum used to notify the local people to send the victims of leprosy, as soon as possible, often people reluctant to join. For the proper implementation of Leper Act III 1898, a 'Constitution of Board' was formed. In the board, there would be at least one Medical Officer from a government hospital and set up asylum for every leper under section III. The panic about the contagion and spread to others, a law made to arrest the pauper lepers. The victims of leper used to roam every place, especially for the alms, most of the time. The lepers were not interested in going to the asylum for their treatment because the victims used to felt the asylum as a jail. Therefore, under section III, the Government gave an order that any police officer or any other person who was empowered authority to manage lepers. The authorities gave powers to detain any suspected person particularly pauper leper without a warrant. The authority should send the suspected victims of lepers to the adjacent or convenient police

[70] Government of Bihar and Orissa, Department of Municipal, Medical, Triennial Report on the working of the Charitable Hospitals and Dispensaries in Bihar and Orissa for the years 1911, 1912, and 1913, September, 1914, File. No- MEDL./220 of 1914.

station under section III.[71] Without unnecessarily hold-up, lepers who would have to certify a person, as leper taken to police inspector. Before admission into the leper asylum, there was investigation with five 'forms' regarding the lepers for identification, and kept the leper in the asylum to confirm medical certification by filling up the forms of 'A,' 'B,' 'C,' 'D, and 'E'. The suspected people would be given certificate. The person found 'negative', would give be given him/her a certificate the form 'A'. After getting such person was instantly released from the custody. The person found with leprosy symptoms with restrictions they should immediately hand over to the police officer. In whose custody, the leper must be issued a certificate on Form 'B' outlined in the schedule, and without unnecessary delay, the victims of lepers sent to the district Magistrate as per the jurisdiction under this Act III. The Magistrate confirmed leprosy, would send to an asylum with the form-'C'. Any leper failed to provide leprosy negative certificate or form- 'A' the victims would sent to the magistrate or sent to in-charge of police officer. Subsequently with an order in the Form 'D' outlined in the schedule given to leper and finally sent to a leper asylum, where such victims of leprosy should be detained until released order given either by the Board or by the District Magistrate. For the discharge of a leper, any two-committee members had to sign and fill the form of 'E' under the provision of this Act. [72]

Magistrate or the first class Magistrate who all authorized on behalf of the government for the procedure concerning for pauper lepers. Then, certificates Form 'B' issued to person. Any person being a leper or the person was a poor leper; he

[71] The leper act, 1898 Indian states cancellation and modification of notification etc., by the govt. Of India before 1-4-37, by provincial govt. the Lepers Act, 1898 act no.3 of 1898 [as on 1957], 4th February, 1898, Acc No-5787.

[72] Ibid.

might, would send the indigent leper in charge of a police officer, together with an order in the form of 'C' outlined in the schedule, to a leper asylum after recording the evidence and submitted to the District Magistrate. Leper was locked up until released order come from the Board or the District Magistrate. Sometimes the leper accused used to deny the allegation of having leprosy; under such circumstances, the Magistrate would have examination all procedure to get necessary evidence to prove the person's claims to be false. This was one of the causes for the delay to confine a victim in the asylum under section III. Thus, the Magistrate had to confine them a few times for the observation, and sometimes they used to get bail. The magistrate was also taking care of the satisfaction of such a pauper leper. Rather transfer the leper to an asylum by the Magistrate; they could have paid more attention to the leper to their companions or family members if the Magistrate felt, the victim was fit to enter into a bond with one or more sureties. Again, when the Magistrate found that person was not a leprosy victim, not a pauper leper, he should release him.[73]

Under section III, there were some prohibitions in identified areas. The official gazette ordered that lepers should not prepare anything for sale like; food, drink or any drug and also cloth intended for use of others. Again bathing, washing clothes, and collect water from the public tank was restricted the lepers by the respective municipal and local authority by-law. Lepers were also barred from the driving, ride any public transport which all used for hire, especially in the railway station. If any lepers disobey, the punishment was given by imposing a fine to the extent to twenty *taka* (20 rupees). The Offence was punishable under section III, lepers binding him to depart immediately from the local area which specified by the authority. Under section III, the provision was that a leper could not enter into the local selected

[73] Ibid.

regions until an Inspector of Lepers not have ordered him with a certificate in Form 'A' outlined in the schedule. [74]

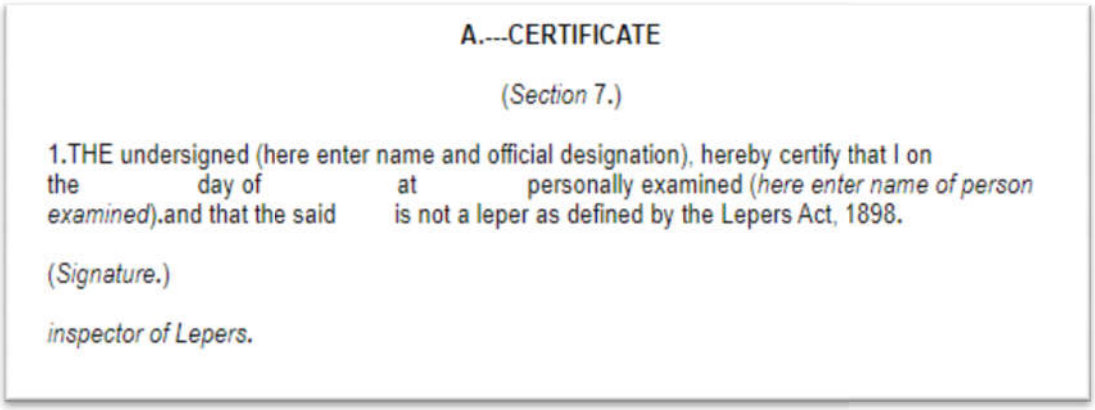
In section III, a leper not allowed to do any trade because the contagious disease would spread to others. So, the authority tried to confine the lepers under a specified place. If any lepers violate the rule and do the trading, there was a provision to financial punishment by imposing a fine of fifty *Taka* (50 rupees).[75] Often the authority tried to confine the lepers in the asylum with the magistrate form 'C' and 'D,' lepers were used to escape from the asylum. Hence, the administration again made a kind of system under section III and re-arrested lepers; thus, 'lepers' escaping without the permission of the superintendent, might be detained without a warrant by police officers or any other person who was authorised by the government. Elusive lepers could be immediately taken back to the leper asylum. The Board of Inspections for leprosy and their members used to organize a meeting for every three months and inspect leprosy patients at the asylum. They used to verify the entry books for appropriate behaviour and good management of the facility and the condition of the asylum.[76]

[74] Ibid.

[75] Ibid.

[76] Ibid.

Picture No. 4.6: Leper Certificate - A



A.---CERTIFICATE

(*Section* 7.)

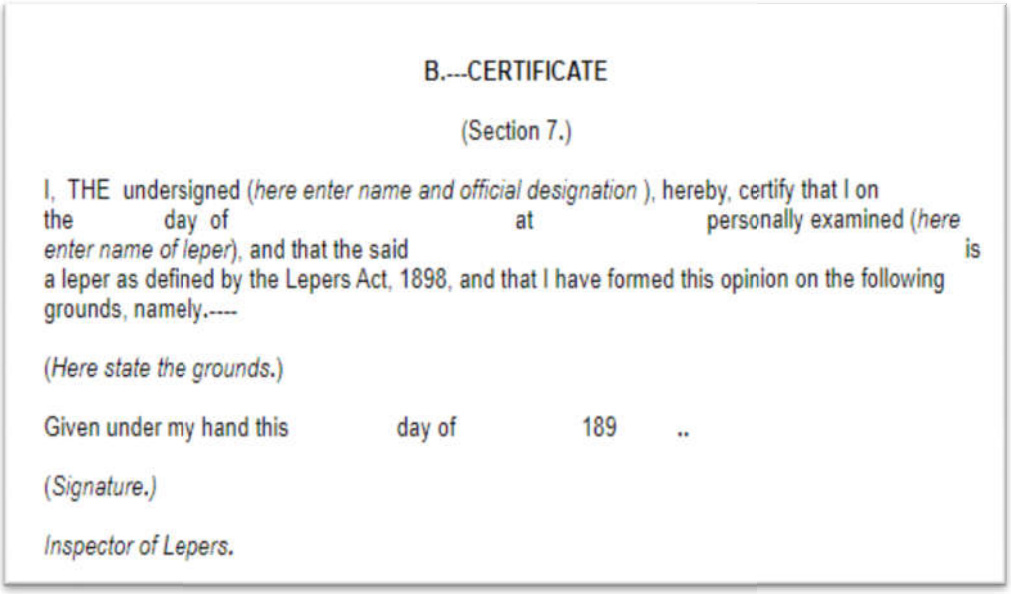
1.THE undersigned (here enter name and official designation), hereby certify that I on the day of at personally examined (*here enter name of person examined*).and that the said is not a leper as defined by the Lepers Act, 1898.

(*Signature.*)

inspector of Lepers.

Source: the Lepers Act, 1898, Act no.III of 1898 (as on 1957), 4th February, 1898.

Picture No. 4.7: Leper Certificate - B



B.---CERTIFICATE

(Section 7.)

I, THE undersigned (*here enter name and official designation*), hereby, certify that I on the day of at personally examined (*here enter name of leper*), and that the said is a leper as defined by the Lepers Act, 1898, and that I have formed this opinion on the following grounds, namely.----

(*Here state the grounds.*)

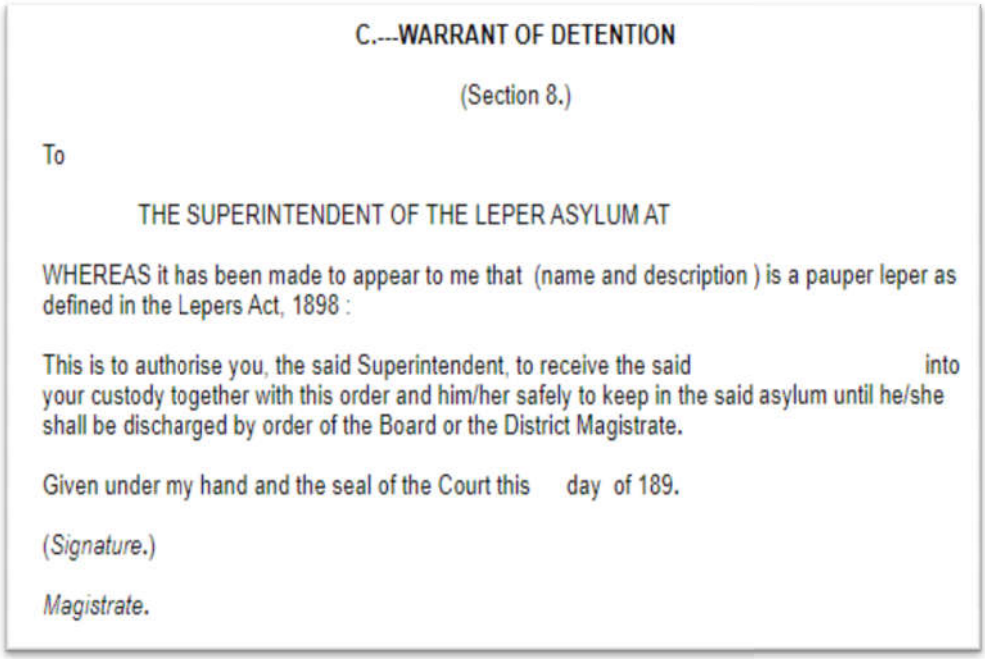
Given under my hand this day of 189 ..

(*Signature.*)

Inspector of Lepers.

Source: the Lepers Act, 1898, Act no.III of 1898 (as on 1957), 4th February 1898.

Picture No. 4.8: Leper Certificate – C



C.---WARRANT OF DETENTION

(Section 8.)

To

THE SUPERINTENDENT OF THE LEPER ASYLUM AT

WHEREAS it has been made to appear to me that (name and description) is a pauper leper as defined in the Lepers Act, 1898 :

This is to authorise you, the said Superintendent, to receive the said into your custody together with this order and him/her safely to keep in the said asylum until he/she shall be discharged by order of the Board or the District Magistrate.

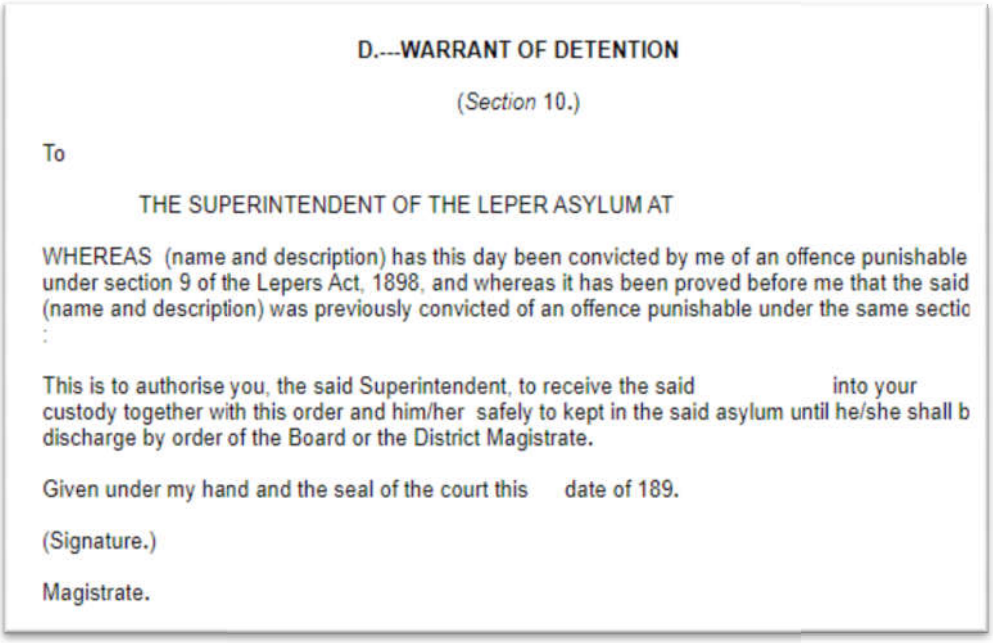
Given under my hand and the seal of the Court this day of 189.

(*Signature.*)

Magistrate.

Source: the Lepers Act, 1898, Act no.III of 1898 (as on 1957), 4th February 1898.

Picture No. 4.9: Leper Certificate - D



D.---WARRANT OF DETENTION

(*Section* 10.)

To

THE SUPERINTENDENT OF THE LEPER ASYLUM AT

WHEREAS (name and description) has this day been convicted by me of an offence punishable under section 9 of the Lepers Act, 1898, and whereas it has been proved before me that the said (name and description) was previously convicted of an offence punishable under the same sectic :

This is to authorise you, the said Superintendent, to receive the said into your custody together with this order and him/her safely to kept in the said asylum until he/she shall b discharge by order of the Board or the District Magistrate.

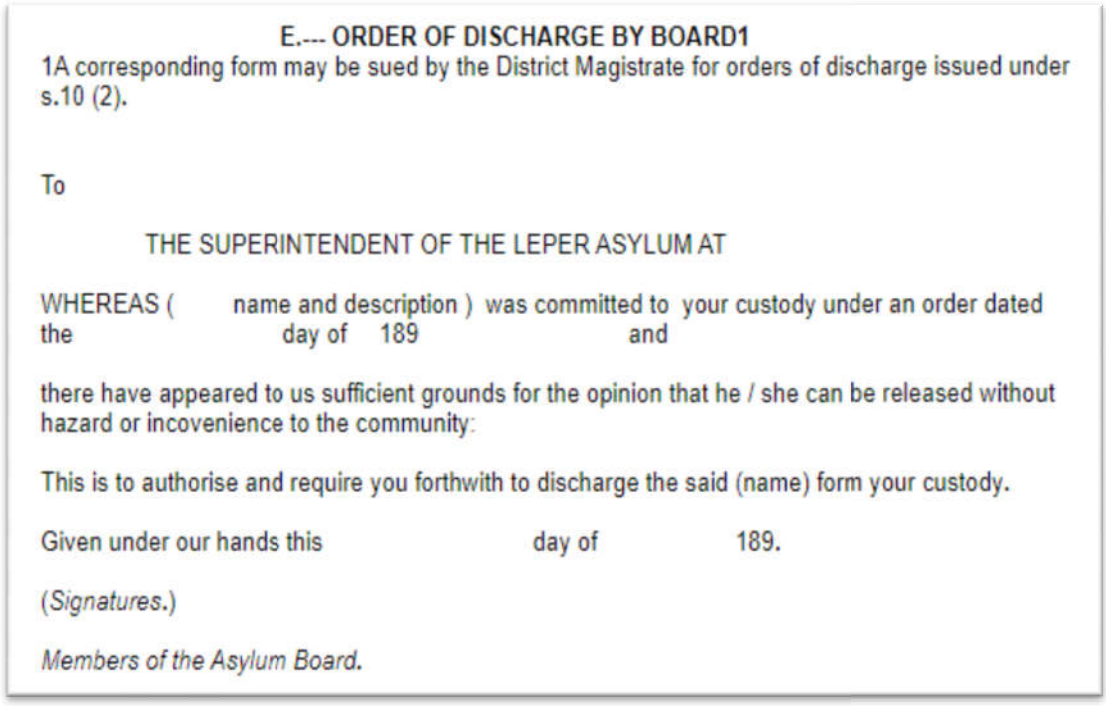
Given under my hand and the seal of the court this date of 189.

(Signature.)

Magistrate.

Source: the Lepers Act, 1898, Act no.III of 1898 (as on 1957), 4th February 1898.

Picture No. 4.10: Leper Certificate – E



E.--- ORDER OF DISCHARGE BY BOARD1

1A corresponding form may be sued by the District Magistrate for orders of discharge issued under s.10 (2).

To

THE SUPERINTENDENT OF THE LEPER ASYLUM AT

WHEREAS (name and description) was committed to your custody under an order dated the day of 189 and

there have appeared to us sufficient grounds for the opinion that he / she can be released without hazard or incovenience to the community:

This is to authorise and require you forthwith to discharge the said (name) form your custody.

Given under our hands this day of 189.

(*Signatures.*)

Members of the Asylum Board.

Source: the Lepers Act, 1898, Act no.III of 1898 (as on 1957), 4th February 1898.

Above cited certificated given according to the leper Acts 1898. All the certificates had different meanings. For example, certificate 'A' dealt with the negative report of the lepers, with the name of victim, examined person and certified by the Inspector of Lepers. In the same way, certificate 'B' given to leper confirmed person. The certificate 'C' meant for the transfer of the authority from the inspector of lepers to the district magistrate for the custody with the concerned of District Magistrate. The certificate 'D' as certificate of warrant for the detention by the authorities until the District Magistrate issued the discharge order. Finally, the certificate 'E' was issued for discharge by the concerned authorities from the

detention centre. Release of the victims was being done when the administrator made sure that the victims are no hazard and inconvenience to the community. [77]

Fighting an Unprecedented Public Health Crisis:

There were no effective preventive measures to eradicate leprosy until the first half of the nineteenth-century. Thus, this aspect, together with the others, made a dreadful disease. Among the various epidemic and non-epidemic diseases, leprosy was significant amongst the non-epidemic. It was prevalent in the larger sphere of the communities and has a long history in India. The history of leprosy in Orissa was the study of colonial administration with the poor class. The vagrant Indian poor people were suffering more from leprosy was mostly visible in colonial Orissa. The Colonial rules targeted especially to the poor, for the leprosy measures through their administration, but the preventive measures in colonial Orissa, commenced at the end of the twentieth-century. The indigent were the more recipients of the British institutional care, various leprosy cases identified and confined under several asylums, and treated them over there. In the Hindu culture, the indigent leprosy victims were suffered by social and religious elimination.

The articulations of colonial control over leper by the medical and official authorities were practice in all its intricacy, ambiguity and limitation. In consequence, the preventive measures of colonial administration, gave an identity to the victims of leprosy. Further, it provides some tone to recognize the victims of disease as an important part of human history as a vulnerable infectious disease. Among all the infectious diseases, leprosy was one of the dreaded diseases in different than the others. It interfered in both the private and public spheres of the infected persons. Subsequently, the 'Mission to Leper' was launched in Ireland in 1874, and it was

[77] Ibid.

initiated in India to treat lepers. Later, the Indian Council of the "British Empire Leprosy Relief Association" in 1925 provided a fresh impetus to organise anti-leprosy programme in India. As a result of this association's work, the knowledge regarding the problem of leprosy in the country increased. By 1937, 32 institutions of the mission to lepers were established, and had 8,000 inmates. After the separation of Orissa, the preventative care of lepers was upgraded.

In colonial administration, mainly two things occurred before and after the separate province of Orissa: the government used to search lepers in the rural areas, but the lepers were mostly found around the temples and *maths* more particularly in Puri district. After Orissa became a separate province, the government started an initial prevention by diagnosing and identifying children in schools as preventive measures. This helped to identification early days of disease. Other public health measures for leprosy, along with treatment proceeding the process of isolation from the mainstream society. The process of captured to lepers, and enclaves within the four walls, and the testing processes of lepers, were all the process by the colonial authority for lepers to prevent them which created problems for the leprosy patients. All these things gave an identity to a leper in society. Even after the lepers got well, there was no change in the attitude of the people. The people looked at lepers as the same yet after cured. Even at the conference in Purulia in 1914, it was commented that "once a leper meant always a leper." Before colonial administration in colonial Orissa, leprosy was prevailing, for instance, Dinakrushna Das (1650-1710 Poet of Orissa), in the last part of his life, affected by leprosy and driven away from Puri. He was given shelter by a rich man in a nearby place of Khorda district. But importantly, could say the people did not appeal to Danakrushna Das, as a 'leper' since he was a

victim of leprosy. Even "*Darhyatar Bhakti Rasamruta*," (Odiya Mythology) not supporting the statement that driving out from Puri to Dinakrushna Das.

Conclusion:

In colonial Orissa there were various epidemics and non-epidemic diseases prevail, and leprosy was significant among the non-epidemic. The vagrant poor people were suffering more from leprosy was mostly visible in colonial Orissa. Puri was the havan for the lepers in colonial Orissa, because the temple (Puri and Loknath) became a space for lepers because of food and accommodation, particularly for the lepers. The unacceptable notion of society forced leprosy victims to come out from the community and finally from home. The history of leprosy in Orissa was the study of colonial administration with the poor class. Hence the Colonial rules targeted especially to the poor, for the preventive measures against leprosy, in colonial Orissa commenced at the end of the twentieth-century. Though, the colonial government was not aware of the reaction of the preventive measures; the process of capturing the lepers, and to enclave them within the four walls, the testing processes of lepers, were all process by the colonial authority for lepers to prevent them from spreading the disease, which created problems for the leprosy patients. These gave an identity to a leper in the society, which was created irrespective of caste, creed, and religion, as the victim of leprosy was a ‘Leper’ even after they were cured of the disease.

CHAPTER-V

INDIGENOUS HEALTH PRACTICES TO WESTERN MEDICINE: INTERVENTIONS AND IMPACT

Before the advent of Western medicine, Indians had complete faith in their medication, especially folk medicine, Ayurvedic medicine, Siddha, and Unani. People depended mostly on indigenous medical treatment to cure various diseases. These indigenous medicines were not only seen as medicine but were also a part of their belief, tradition, culture.[1] The chapter deals with medical encounters that took place in colonial Orissa.

In India, since time immemorial, the 'indigenous medicine' widespread and made available healthcare services in the pre-colonial regime as an affordable and effective medical system.[2] The indigenous practitioners executed their conventional knowledge with their traditional medical instruments and pursued the ancient conventional medication. After the advent of the East India Company rule, the Western medical practice had made inroads in India, but initially, it was confined primarily to Europeans and the army. Until the early eighteenth-century, Europeans sought medical assistance especially from Indian medical practitioners- *Kaviraj, Vaidyas,* and *Hakim*,[3] because the European doctors were not familiar with the

[1] Ministry of Health and Family Welfare, Department of Indian System of Medicine and Homoeopathy, Government of India, *Indian System of Medicine and Homoeopathy in India 2001* (New Delhi: 2001): 11.

[2] Ministry of Health, Government of India, Delhi, *Report on the Committee on Indigenous Systems of Medicine*, Vol.I (1948): 1.

[3] Proceedings, Government of Bihar and Orissa, Department of Local Self-Government, Sanitation Branch, *Public Health Bureau, Bihar and Orissa, (Dissemination of Instructions Regarding the Causes and Prevention of epidemic Disease.)* November 1922, File. No. S - 114 of 1922.

climatic condition and local diseases in India. Even after a century later, the introduction of Western medicine, many people in India, particularly the rural people, do not know it appropriately. In this context, Radhika Ramasubban argued that until 1900, the Western medicine execution was very little influence over the mass of the Indian people. The colonial administration gave more importance to commercial urgencies and their military than the medication and almost completely ignored the needs of the Indians.[4]

Indigenous medicine structure gradually emerges from a long period of stagnation, and instead of decline, it was rejuvenated. However, gradually the dramatic transformation of Western medicine took place; it enjoyed a formidable degree of authority over the Indian methods of treatment. Although with slight passive resistance, many Indians accepted it slowly and it gained gradually popularity among the Indian middle class of Western-educated.[5] At the beginning of the twentieth-century, the colonial state had given more importance to the control and prevention of various diseases. The medicine became a political, economic, and cultural force in British India.[6]

Western medicine came with the Portuguese occupation of some parts of India. The Indian tropical climate was very gruesome for the Portuguese; for instance, the tenth Viceroy and Governors died in Goa due to the tropical diseases. The following dreadful incident was when 25000 troops died during the period of 1602-

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[4] Radhika Ramsubban, "Imperial Health in British India 1857-1900" in *Public Health and Medical Research in India: Their Origins and Development under the Impact of British Control Policy*, ed. Stock Home, 1982 (Mac Leod, R.M and M.Lewis (ed.): *Disease, Medicine and Empire),* 38-60.

[5] Mr. Vijai Govind, "The Advent of Modern Medicine in British India (1600 AD-1900 AD)," in *Western Colonial Policy* Vol-II, ed. N.R. Ray (Calcutta: Institute of Historical Studies, 1983), 133.

[6] David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth Century India* (Delhi: Oxford University Press, 1993), 12-14.

1632 in Royal Hospital. By this juncture, they established Royal Hospital into a centre, to impart medical education.[7] Subsequently, the British colonial era was more important since they ruled for a long and initiated a major shift in public health in India.

From the early nineteenth-century, medicine and disease began to extend the wide-ranging survey of the company's terrain. The environment of India for the colonies compelled them to study the medical topography. The medical literature or British medical research works related to India paid more attention to understand India's medical topography and presented an exhaustive account of diseases and their treatment. For instance, John Clarks observation on '*Diseases in long Voyages to Hot Countries'* (1773), Charles Curtis '*An Account of the Diseases of India*' (1802), Williams Hunters essay on the '*Diseases Incident to Indian Seamen or Lascars, on long Voyages*' (1804), James Johnson's, '*The Influence of Tropical Climates*', more especially the '*Climate of India on Europeans Constitutions'* (1813), James Annesley's '*Sketches of the Most Prevalent Diseases of India'* (1825) and Williams Twinning's '*Clinical Illustrations of the More Important Diseases of Bengal'* (1832) and Charles More Heads '*Clinical Researches on Disease in India 1856'* provides an encyclopaedic range and its incorporation of European and Indians were healthy within a single framework of analysis. All these work mostly addressing medical topography, climatic condition, and various seasons of India, and the distribution of various diseases. James Annesley's *Topographical and Statistical Reports'* for the Madras Presidency were an initial effort to put this idea into execution. *Materia Medica* by William Boericke, was a well-informed of medical practices and healing influenced at an extensive level. The various Western medical work published in the

[7] O.P. Jaggi, *Medicine in India: Modern Period, History of Science, Philosophy and Culture in Indian Civilization.* Vol. IX (New Delhi: Oxford University Press, 2000), XIII-XIV.

course of time and influenced indigenous people.[8] The other medical literatures were also giving a sense of understanding the diseases and medical practices, Benjamin Heyne and White Law Ainslie in Madras and H.H. Wilson in Bengal were surgeons, and they all had investigated Ayurveda. J. F. Royle's '*Antiquity of Hindu Medicine'* in 1838 and T.A.Wiss' '*Commentary on the Hindu System of Medicine'* followed up their works in 1845. A critical attitude towards the Hindu medication was evident in all of their works. Ainslie India's '*Materia Medica.'* was much impressive and realistic value. He found out that Ayurveda medicine was a gift of God and reveals, it mostly mixed up with religion. In the beginning, they tried to understand the Indian ecology, social, and economic conditions by understanding these Western medical practitioners, and gradually acquired experiences.[9]

Poonam Bala argued that the indigenous system of medicine under colonial administration flourished to some extent; for instance, the Ayurveda Colleges found in Bengal, Bombay, and Madras and these gave encouragement to Indian medical practitioners.[10] The Gobinda Sundari Ayurvedic College, established in 1922 by *Kaviraj* Ramachandra Mallick, and the Vishwanatha Ayurvedic College established in 1932 in Bengal presidency.[11] Before the establishment of these two Ayurvedic colleges in the Bengal Presidency, another medical school was existed by colonial state for the native in 1822, which was known as 'Medical School for Natives' established in Kolkata. In the school, the instructions for Western medical education,

[8] David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth Century India* (Delhi: Oxford University Press, 1993), 15-45.

[9] Ibid., 20-25.

[10] Dinesh Bhugra and Ronald Littlewood, "Indian and Western medicine: Rival Traditions," *in British India: in Colonialism and Psychiatry,* ed. Poonam Bala (Delhi: Oxford University Press, 2001), .237.

[11] Sujata Mukherjee http://en.banglapedia.org/index.php?title=Ayurvedic Medicine, date 25/10/2020.

were imparted through the vernacular language.[12] And also shows, the patronage of indigenous medicine by the government and facilitated the progress of Indian medicine until eighteenth-century.[13]

Later, with the establishment of number of hospitals and dispensaries by municipal, local administration, philanthropists diluted the alien appearance of Western medicine, and it became internalised medical practice among Indians. In addition, a trend further exemplified by escalating Indian participation in Indian Medical Service (I.M.S) once became a stronghold of European employment, but it was gradually Indianised.[14]

In Orissa, during the third decade of the twentieth-century, in the triennium years of 1923, 1924, and 1925 great efforts were made to render the province self-supporting in supply of medical officers. With the creation of new provinces -Orissa and Bihar in 1912, colonial officials felt that it need a medical college. Bengal was the only province that had a medical college in Calcutta, but it did not satisfy the medical needs of the province. Hence, the Bihar and Orissa provincial government decided to commemorate the visit of Royal Highness, the Prince of Wales, to Patna in December 1921, by establishing a medical college in Patna. A committee was constituted and about seven lakhs private subscriptions were collected. Before the scheme could proceed with it, the only possible way for the Medical College to be established in Patna was near the hospital. It was the beginning of Western medical education in the

[12] Poonam Bala, *State and Indigenous Medicine in Nineteenth and Twentieth-Century Bengal: 1800-1947* (University of Edinburg: Unpublished Thesis, 1987), 6.

[13] Binay Bhusan Roy, *Chikitsha Bigner Itihas; Unis Satake Banglay Paschayat Sokhar Prabhab (*Kolkata: Sahityalok, 2005).

[14] Roger Jeffery, *the Public Health in India* (Berkeley: University of California Press, 1988), 205-210.

province.[15] The indigenous medical institutions and medical practitioners were gradually degrading in their status in reference to the predominant colonial notions and administration. Claiming that they were unscientific and outdated, the colonial administration tried to subjugate the indigenous knowledge and wisdom.[16]

Revival Movement of Ayurveda:

In India, the revivalist movement for Ayurveda took place at the beginning of the twentieth-century. Advocates of Ayurveda initiated this movement to restore and promote indigenous medicine with Western medicine. Gangadhar Ray (1789-1885), initiated the movement as an alternative to Western medicine in the Bengal presidency. The primary goal of the movement was for the recognition of state patronage and the establishment of more Indian medical institutions. As a result, an Ayurveda wing was started on the line of Western-oriented education. It also proposed the fixed cost of indigenous medicines, and consultation fee was introduced, and mostly it did not exceed the price of allopathic medicine. Subsequently, in 1907, all India Ayurveda Congress was set up.[17] The movement also supported by the "Indian National Congress" and passed a resolution in support of the popularisation of schools, colleges, and hospitals for Indian medicine and its practice. In 1908, Shaymadas Vachaspati set up a National University in Bengal, which was called Gaudiya Srvavidyayatnam, as part of the Non-Cooperation Movement. During the year, Gandhi laid the foundation of an Ayurvedic College in Calcutta, which was attached with a large hospital. Chandra Kishore Sen, a *Kaviraj*, opened a dispensary

[15] O.P.Jaggi, "History of Science, Technology and Medicine in India" Vol. XV, *Western medicine in India; Social Impact* (Delhi, Lucknow: Atma Ram and Sons, 1980), 6.

[16] Ibid., 11.

[17] Sujata Mukherjee, http://en.banglapedia.org/index.php?title=Ayurvedic Medicine, date 25/10/2020.

in Calcutta, where he sold indigenous medicines and many Ayurvedic books at reasonably priced.[18] Though the books were cheap at cost, due to the lack of education, the books were not much sold. The supporters of the Indian National Movement sought the indigenous system to revive itself for the betterment of the people of India.[19]

Even in the early twentieth-century, Ayurveda had some kinds of support from the elite class. In this context, Poonam Bala states that, the indigenous methods of medication remained a key medical relief to a vast majority of the Indian populace. But the colonial government did not boost indigenous medicine, their practitioners, neither institutionally nor through the state funding. The Ayurvedic medical institutions were significantly less in number, compared to Western medical institutions. For instance, at the time of Indian independence, there were limited number and these were only 57 indigenous medical institutions existed.[20]

In Colonial South India, the revivalist movement of Ayurveda was begun under the leadership of Pandita Divi Gopalacharyulu in Madras Presidency. He was the profounder and propagandist of Ayurveda medicine. After his death in 1920, the trend persisted under the leadership of Achanta Lakshmi Pati. Lakshmi Pati was one of the chief disciples of Gopalacharya, who propagated Ayurveda in many parts of the county. They were the leaders of all Indian Ayurveda movements in the middle of the twentieth-century.[21] Achanta Lakshmi Pati served as the Principal of the Madras

[18] Ibid.

[19] Vempalli Raj Mohammad, *the History of Medicine and Public Health in Madras Presidency (1900-1947)* (University of Hyderabad, unpublished thesis, 2015), 350.

[20] Poonam Bala, *Indian and Western medicine: Rival Traditions in British India,* 240-241.

[21]Sathya N.Dornala and Snhelata SN Dornala, "Bhishagrata Achanta Laksmi Pathi; Pioneer in Ayurveda Public Health," *Journal of Integrated Active Medicine* Vol.3, No.3 (July-September, 2012): 158-161.

Ayurveda College very efficiently and effectively. He also formed the Andhra Ayurveda Pharmacy in 1920 with a hundred thousand rupees. The pharmacy manufactured medicine and supplies to all local boards and dispensaries at a low price. Similarly, he also gave his services efficiently to the Vignana Chandrika Mandali, India Equitable Insurance Company, Andhra Sahitya Parishad, and Avadi Arogya Ashram for the revival of Ayurveda. Achanta Lakshmi Pati successfully ran the Madras Ayurveda Kalasala, Sri Danwantari, and the Andhra Medical Journals. Srimati Rukminamma, Achanta's wife, set up 'Desi Medical College' with the support of her husband's, when she was the Health Minister. He also gave some financial support to Dr. Yalla Pragada Subba Rao, Tetra Cycling founder, for further studies in America. He was the man of the Ayurveda Movement in India.[22]

Gradually, Achanta Laksmi Pati himself acknowledged that the importance of Ayurveda medicine was decreasing day by day. Moreover, the Ayurveda Medicine practitioners were not available in the countryside; however, the patients did not have any good contact with Ayurvedic practitioners. The indigenous medical practitioners maintained secrecy in the treatment. He also says that Western medicine had exposure to become skilled at various methods of treatment in multiple facets, which was not there in Ayurveda. The Ayurveda practitioners only followed whatever they knows conventionally; they were not ready to adopt new medical technology and new techniques with modern medicine. The indigenous people believed the old system of traditions and beliefs.[23] In 1929, the Principal of the Indian School of Medicine in Madras made a report on the execution of the indigenous system medicine in the United Provinces towards the encouragement and development of Indian medicine. He recommended that a lump sum provision of Rs.50,000 be made for the grant-in-

[22] Ibid., 158-161.

[23] Ibid., 158-161.

aid to acknowledge the schools of Indian medicine and Rs.50,000 for recognised hospitals and dispensaries of Indian medicine. And again, he recommended that, give freedom to local bodies to choose registered practitioners of Indian medicine for their rural dispensaries. But the government did not agree to make lump sum provisions in the budget, and Madras Presidency also faced similar problems. It shows the subjugation of indigenous medicine through the lack of state patronage and discouragement of Indian medicine during the colonial administration.[24]

In 1912 British introduced a new policy of registration for the practicing of Indigenous and Western medicine. The only criterion was that, they should be local and people should be known well in respective areas. The Medical Registration Act created a clash with the European doctors were extend their service to treat the Indian population. It was more sensitive than the colonial medical profession. There was a probability of political implication in interference in traditional practices. A very less number of Indians qualified practitioners of Western medicine and restrictions imposed on the unlicensed practice. The slow promotion of I.M.S created inside conflicts among the Indian medical practitioners. Gradually the colonial state discouraged the Indian medical practitioners.[25] Even then, Western medicine became one of the most confident system of practice.[26]

In the province of Orissa, Puri District Board suggested to train the school teachers to fulfill the requirement of health workers at the time of epidemics. The Indian Doctors trained the schoolteachers, and they used to give a lecture at *Bhagabatghar* (Bhagabat talk), *Hats* (Weekly market), *Melas* (Fair and Festivals).

[24] Government Order .No. 965, Public health Department, 8th April 1929, Madras, 1.

[25]Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914* (New Delhi: Cambridge University Press, 1994), 31-35.

[26] O.P Jaggi, History of Science, technology and Medicine in India, Vol. XV, *Western medicine in India: Social impact* (Delhi Lucknow: Atma Ram and Sons, 1980), 14.

The vice-chairman of the District Board opined that every month the Medical officers and headmaster of the school should give a lecture in their respective places. As part of the awareness programme two public health subjects were taught in every school. The subjects were sanitation and hygiene, and which was compulsory in all the primary schools.[27] The Assistant Surgeons trained all the teachers. In Mongher (Bihar) Municipality, they trained all the *Hakims* and *Vaidyas* and gave lectures on subjects of sanitation and hygiene in every possible public area. In Bihar, particularly the Patna District Board used all the Sub-Inspectors of schools and teachers for the public health awareness program.[28] It aimed to create consciousness in every home through their school-going children.[29] Public health officials tried to create consciousness among the masses through various lectures, lantern slid, pamphlets. In addition to these, to make people conscious about health and sanitation, the District Board used to distribute the prize to educated people who shows proficiency in the same subjects. The school teachers encouraged the student by conducting essay writing competitions on sanitation, hygiene, and give prizes to the best writings.[30]

In Bengal, Gangadhar Sen and Gangadhar Ray, Ayurveda practitioners and propagandists and published 'Ayurveda Sanjivani,' and it was the first Bengali magazine to spread knowledge on Ayurveda. Both Sen and Ray reacted through revolutionary work against Western medicine, but it did not succeed.[31]

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[27] *Hygiene is focused on keeping us clean, and aims to improve the health of an individual human being while sanitation focuses on what to do with the waste we produce.*

[28] Proceedings, Government of Bihar and Orissa, Department of Local Self-Government, Sanitation Branch, *Public Health Bureau, Bihar and Orissa, (Dissemination of Instructions Regarding the Causes and Prevention of epidemic Disease.)* November, 1922, File. No. S.- 114 of 1922.

[29] Ibid.

[30] Ibid., 51.

[31] Mr. Vijai Govind, "The Advent of Modern Medicine in British India (1600 AD-1900 AD)," in *Western Colonial Policy* Vol-II, ed. N.R. Ray (Calcutta: Institute of Historical Studies, 1983), 133.

The Orissa Medical School at Cuttack was established in 1875, with the objective of supply of qualified Indian doctors for the British. It was housed on the upper storey of the general hospital at Cuttack, and it got a separate building in the year 1904.[32] After 1936, extensive improvement takes place in Cuttack General Hospital with two wings consisting of 32 beds, each at the and provision of 8 beds at the lady Woodburn ward. For this, the government spent Rs.1, 07,127. Another hospital for filariasis was established at Puri with cost of Rs.18, 273 built an outpatients block, another for pilgrim hospital at Puri with the budget of Rs.13, 899, because cholera was the most dangerous epidemic disease, which devastated more people in Puri, especially at the time of the festival.[33]

Woman medical education was also initiated, and it elevates the position of women in the society. Subsequently, in the early twentieth-century, there were many women become doctors, nurses, modern trained dais. Indian women doctors took in charge of all the Sadar hospitals except Dumka, Chaibassa, and Angul, and seventeen sub-divisional and seven other hospitals in Bihar Orissa province. At the Banwari Lal Hospital and the Sadar hospitals at Muzaffarpur and Hazaribagh, the lady doctors have the same qualifications as assistant surgeons; at all the other hospitals as sub-assistant surgeons. And the provincial Committee of the Lady Dufferin Fund gave

[32] L.S.S. O'Malley, *Bihar and Orissa District Gazetteers: Cuttack* (Patna: Superintendent, Government Printing, Bihar and Orissa, 1933), 76.

[33] Shri Nrushinha Charan Behuria, *Orissa District Gazetteer: Cuttack* (Cuttack: Orissa Gazetteers Unit, Department of Revenue, Government of Orissa, 1992), 543-601.

grants towards the payment of the lady doctors at different hospitals of Rs. 3800 in 1923, Rs. 5,955 in 1924 and Rs. 7,280 in 1925.[34]

The women nurses were supplements in many hospitals and dispensaries after training of midwives and dais. At the close of triennium of 1923-1925, there were only 19 midwives and 21 daises employed at various institutions in Orissa and Bihar. These women not only work in the hospitals, but their services were also available beyond the hospital among the general public. There was no registration of trained midwives in the province. Training for dais was initiated at various centres, but in these centres, classes were discontinued owing to the lack of sufficient number of suitable pupils. In the course, the inspection for daises were held in several centres as Patna, Gaya, Chapra, Motibari, Bettiah, Bhagalpur, Cuttack, Balasore, Sambalpur, Hazaribagh, Ranchi, Murhu, and Purulia. One Hundred and twenty-seven (127) dais were under inspection at these centres during 1923-1925. Among these, only 57 successfully passed the examination at the end of the course. The cost of training for dais was Rs. 1,113 in 1923, Rs. 1,266 in 1924 and Rs. 1677 in 1925. For training of dais the Provincial Committee of the Victoria Memorial Scholarships Fund gave grants of Rs. 1,183 in 1924 and Rs. 540 in 1925. This was mostly provided after the establishment of local self-government through the means of provincial administration.

The maternity and child welfare was taken place in England after the First World War; while they lost many human resources, they gave more focus to reproduction and child welfare. Hence a National Council was formed to prevent this

[34] Government of Bihar and Orissa, Department of Local Self Government, Medical, Triennial Report on the working of the hospitals and dispensaries in Bihar and Orissa for the years 1923, 1924, and 1925, March 1927, File No-Medl. IIR-25 of 1926.

needless sacrifice of the life and health of the infant population. The aim of the council was not only to care for the infants' early life but was also to care more about the mother during pregnancy, confinement, lactation, and instruction to the parents, of their duties towards children. Gradually the movement extended to India and enthusiastically supported by Lady Reading.[35] Secondly, the provincial council was formed and celebrated baby week in all over the country. In Bihar and Orissa province launched the baby week in 1924, and it was celebrated at Patna, Ranchi, Cuttack, Balasore, Bhadrak, Darbhanga, and Muzaffarpur. Funds were generated through public collection and subsequently commenced a clinic in Patna and Cuttack. People greatly appreciate the importance of the work done, and the attendance at these clinics steadily increased.[36]

At Cuttack, a maternity and child welfare centre started in 1924, and a nurse was in charge. Funds generated by the committee of the Provincial Red Cross Society. In Balasore a grant of Rs. 2,000 was given by the Lady Dufferin Fund Committee for the inception of similar work. The provincial branch of the Indian Red Cross Society was a flourishing condition even financially and has always been ready to help in medical matters. Many generous gifts have been given to hospitals to provide additional comforts much appreciated by the Indian patients. The reports of this centre were most encouraging. A little amount of public support was gained in popularity,

[35] *Stella Isaacs, Marchioness of Reading, Baroness Swanborough, GBE (6 January 1894 - 22 May 1971), née Stella Charnaud, was an English philanthropist who is best remembered as the founder and chairman of the women's Voluntary Service (WVS), now known as Royal Voluntary Service.*

[36] Government of Bihar Orissa, Department of Local Self Government, Medical Branch, Triennial Report on the Working of the Hospitals and Dispensaries in Bihar and Orissa for the years 1923, 1924 and 1925, March, 1927, File. No. MEDL. IIR- 25 of 1926.

and subscriptions have increased. Rs. 2000 was given to the committee appointed in connection with the National Baby Week celebration in the province.[37]

Gananath Sen and Gangadhar Sen were prominent *Kaviraj* in Bengal explained very accurately, the reasons that led to the decline of indigenous medicine. The decadence of Ayurveda was due to the lack of recognition by the own people and no proper support by the colonial state.[38] Gradually, people switched to Western medicine. The *Zamindars,* Princes, Local Bodies, who were natural patrons of indigenous medicines, were ceased to patronise their own medicine, which was one of the causes for the decline of indigenous medicine. The colonial administration tried to trap all the indigenous practitioners in various ways.

Incentives were one of the biggest trap hence; given to the Indigenous practitioners. The students of Western medicine were given a stipend of Rs 8, and after completing their medical training, it increased to Rs.20 and an extra Rs 5 for the field duty.[39] The incentives were given to the indigenous as a significant trap to make them switch to the Western medicine practice. The Western education and newspaper advertisement was another influential factor to shift indigenous people to Western medicine. The awareness of various diseases through print media also helped to popularise Western medicine among educated Indians. Sanitary Commissioner of Bihar and Orissa

[37] Ibid.

[38] Shri Nrushinah Behuria, *Orissa District Gazetteer: Cuttack* (Gazetteer Unit, Department of Revenue, government of Orissa), 866.

[39] O.P. Jaggi, *Medicine in India: Modern Period, History of Science, Philosophy and Culture in Indian Civilization.* Vol. IX (New Delhi: Oxford University Press, 2000). XIV.

province, Dr. Tiwari, extended the proposed lecture and the advertisement in the newspaper for the creation of awareness among people about diseases and medicine.[40] On the other side of the coin, Western medicine was supported officially, prevailed institutionally, and patronised by the state. Further, Gananath Sen argued that Western medicine mostly attracted to study as it got state recognition, status and there was ample chance to get employment by entering into the government medical service. While the indigenous medicine practitioners pay in *annas*, at the same time, Western medicine practitioners used to get paid in rupee one; it was an attractive/lucrative salary that pushed indigenous practitioners towards the Western practices. The job mostly goes to those who had colonial educated certificate; hence gradually, the people switched to Western education. Even those who wanted to gain Indian medical knowledge were discouraged, which created trepidation among the Indian people.[41]

The colonial administration stimulated indigenous medical practitioners' shift towards Western medical practice. The provincial government of Bihar and Orissa advertised in *Utkal Deepika,* an Odia Newspaper, and offered the *Baidyas, and Hakims* of Orissa to take admission in the Allopathic medical course in Medical School even for one year. The advertisement also recommends for the codification of laws, rules, and regulation. However, some established *Kabiraj* and *Hakims* were reluctant to join and continued their medical practices with their indigenous knowledge and treatment methods. It was challenging to impart Western medical education to *Baidyas* and *Hakims*; hence, it was obvious that government's time and

[40] Proceedings, Government of Bihar and Orissa, Sanitation Branch*, Local Self-government, Public Health Bureau, Bihar and Orissa,* (Dissemination of Instruction Regarding the causes and prevention of Epidemic), November, 1922, File No.S.-114 of 1922.

[41] N C Shah, "Some Thoughts on Hindu Medicine — An Address by Kavirāj Mahāmahopandhāya Gananath Sen," *Indian Journal of History of Science,* 52.4 (18th July 2017): 446-463

wealth would be all in vain. *Baidyas* and *Hakims* could have done only *KataKati* (dissection) and *Dhatribidya* (midwives) if they had been imparted medical education. If the new *Baidyas* and *Hakims* were imparted Western medical education, there would not be any problem.[42]

The Ayurveda practitioners were not ready to accept Western medicine. At the same time, the government was reluctant to support and give financial help to establish Ayurvedic institutions. Subsequently, the Cuttack District Board helped apathetically for the Ayurveda Medicine store, "Kabiraj Ousadhalay" at Cuttack. In 1924, government gave Rs. 1220 per annum, and the next year, the government asked about the expenditure, *"tanka 1220 kana hela? Masakruta sahe sahe bara maseke barasaha chidigala, au 20 tanka adhika kahinki diagala"* (what did you do with Rs 1220? If calculated, 100 rupees per month, it comes to 1200 for twelve months; why were you given 20 rupees extra?), the successful expenditure of that rest 20 rupees depended upon the establishment of new Ayurvedic hospital. Kabiraj of "Kabiraj Ousadhlay" replied the government, for Western medical 20000 to 25000 was given for building and 2500 per annum, at least to give us 2000 per year. From the grant of 1220, what would be taken by the Kabiraj and Assistant, and what about medicine? Kabiraj from "Kabiraj Ousadhlay" requested the government to increase the amount for the next year.[43]

In 1926, a book was published by Baidya Bachastpati Pandit Brajabandhu Tripathy Sharma, *Drabyagun Kalpadrum,* (Ayurveda book) to show their passive resistance against Western medicine, which brought revolutionary changes among the locals of Ganjam. The book became very popular and published many times, in 1943

[42] *Utkal Deepika*, *Odiya New paer,* 24-10-1923.

[43] *Utkal Deepika*, *Odiya New paer,* 27-12-1924.

second edition, in 1953, third edition, and in 1979, came fourth edition, which was published more than 30 times, still available. [44]

In the early twentieth-century Orissa, the colonial government tried to capture the indigenous practitioners in various ways: for instance, asking suggestions from indigenous practitioners about local diseases by which they attempted to show their concern about indigenous practitioners.[45] The practitioners tried to escape that trap, in different ways as the *Baidyas* and *Hakims* would not be able to practice Western medicine, stated *Baidyas*.[46] On the other hand, they gave a proposal to the government for the establishment of Ayurveda medicine stores. The practitioners even tried hard in contrast to Western medicine; for instance, Ayurveda medicines were tried to make available easily and cheaply; they also published books which meant to reach at every home for Ayurveda treatment.[47]

In Ganjam, of south Orissa, Pandit Brajabandhu Tripathy, the Ayurveda practitioner, and Sarada Debi was the wife of Tripathy; he loved her immensely. Sarada Debi got infected because of a rat bite in 1921 and she suffered for more than six months. Brajabandhu consulted witchcraft, black magic, even the doctors, but it did not succeed; subsequently, in the end, he himself tried to treat it through his Ayurvedic knowledge (he studied Ayurveda), and finally, he was able to cure it from the infection. Pandit Brajabandhu learned Ayurveda Medicine from Pandit Somnath Sastri in Cuttack, and also he learned Grammer, Srimad Bhagabat, Nyaya Sastra, and

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[44] Brajabandhu Tripathy, Drabyaguna Kalpadruma, (Bhanjanagar: Kabiraj Pandit Sri Debiprasad Tripathy sarma, 1926), III-IV.

[45] Proceedings, Government of Bihar and Orissa, Sanitation Branch*, Local Self government, Public Health Bureau, Bihar and Orissa,* (Dissemination of Instruction Regarding the causes and prevention of Epidemic), November, 1922, File No.S.-114 of 1922.

[46] *Utkal Deepika*, *Odiya New paer,* 24-10-1923.

[47] Brajabandhu Tripathy, Drabyaguna Kalpadruma, (Bhanjanagar: Kabiraj Pandit Sri Debiprasad Tripathy sarma, 1926), III-IV.

subsequently he awarded an honour as Ayurvedapadhaya in 1919, before his joining as headmaster in a government school (Sanskrit Toll) in Asika (in Ganjam) in 1919, he was not involved in Ayurveda in his early career.[48]

Early twentieth-century India was at its peak in agitation against the British administration. During that time, Mahatma Gandhi came to Orissa in 1921 and later also and propagated khadi means swadeshi, which tremendously influenced Brajabandhu and he tried to revive the Indian culture. Hence, he left the government job and started work as an Ayurveda practitioner. At the same time, Paramananda Sahu from Nimakhandi, Harihar Panda from Asika, Srabasta Panda from Mandar, with their suggestion and inspiration, boosted him to revive the Ayurveda Sastra. He tried hard to publish an Ayurvedic book called *Drabyaguna Kalpadrum* in Odia, but it took six years to complete the first publication in 1926. It got successfully published because he left government job and could concentrate more, after the publication, he joined Purusattampur Sanskrut Toll, which was not run by the government. He came back to Bhanjanagar from Purushattampur and opened an Ayurvedic Medicine Store called "Jibanbandhu Ousadhalay." He sacrificed his life for public service to serve as an Ayurvedic practitioner and took this profession very seriously. He joined the Indian Independence Movement during 1930-31 in the Civil Disobedience Movement and salt satyagraha in Orissa. He got more inspired to propagate Ayurvedic medicine, and after his return from the Salt Satyagraha, he immediately translated both the volumes written by Biswnath Sen to Odia, which were on Ayurvedic *Chikitsyabarna*. He took revolutionary activities to propagate Ayurvedic medicine to every home, so he published a book called *Gharara Baidya* (people could prepare medicine at home). Interestingly, he never said against Western medicine. His motto was for easy

[48] Ibid., III-IV.

availability of Ayurveda treatment with a low price, which he believed, would hold all the indigenous people together and keep away from Western medicine.[49]

Pandit Brajabandhu's propagation of Ayurveda influenced many common people of the region and also prominent people of the areas, as Manyabar Sri Biswanath (head of the Bhanjanagar regions) asked him to make an organisation and propagate Ayurveda medicine in the region. Soon, he organised the "Ghumusura Ayurveda Pracharaka Samiti" in 1937. Immediately after that, he opened a school named after Biswanath, "Biswanath Ayurvediya Sanskruta Toll" Ayurveda educational institution and asked for the fund to the government. However, the fund received was very less. He was the headmaster of the school and taught Ayurveda in the school. For the students of the school, he published a book through the "Baidya Sandeha Bhanjan Granthamala" and their first publication came in 1937, by the title *Bipadara Baidya*. After two years, other two volumes came in 1939 as the second volume- *Roga Bigyan*, third volume- *Roga Parikshya* responsibly published. In 1940, he published other two books, *Bisharaga Chikitsaya* and *Danta Raga Chikitsya,* which all meant to counter Western medicine very passively.[50]

In 1942, he published a book *Rasahan Rahasya* through the "Baidya Sandeha Bhanjan granthamal," the book for the common people to understand the causes of diseases and their cure. Gradually, the demand for Ayurvedic medicine was increased; for instance, the book *Drabyaguna Kalpadrum* in 1926 got more public demand, and subsequently came the second edition in 1943. Consequently, Brajabandhu was honoured as a "Bachaspati and Bidyabhusan" from "Kashi Bidad Parishad" in 1943.

[49] Ibid., III-IV.

[50] Ibid., III-IV.

His *Drabyaguna Kalpadrum* came again in 1953 as third edition with the scientific justification of diseases and their cure.[51]

After Orissa became a separate province in 1936, a "South Orissa Baidya Sammilany" was organised in 1938 by the Ganjam Baidyas and gathered all the *Baidyas* from Ganjam, Koraput, and Odia *Baidyas* from Vishakhapatnam. They planned for a conference and fixed the date on the last week of January (1939) at Berhampur. They decided that at the time of conference, there would be an essay writing competition, particularly on *Vaidyas* and Ayurveda, Such;

1. The execution of "South Orissa Baidya Sammilany"
2. Annual Baidya Conference Organisation
3. Ayurvedic Bill in Legislative Council
4. The treatment for the rural areas by the *Vaidyas*, mainly: Leprosy, Malaria, *Kshaya Raga (*Tuberculosis), *Godara raga (*filaria*)* to give more attention.

The conference would discuss about the Ayurvedic Schools in different parts of the Orissa, for Instance: Ayurvedic School at Cuttack, Balasore, Puri, Ganjam, and Sambalpur. It was chaired by Kamakshya Prasad Sarma at Berhampur in Ganjam.[52]
On the other side, homeopathy practitioners also tried to establish officially; hence, a committee was organised in 1946 and which submitted a memorandum to the government for the recognition. Sri Somnath Panda, M.L.A. member of the committee who was honoured from Bengal Homeostate faculty, as a perfect homeopathy practitioner. The committee stated there was no problem with the availability of Homeo practitioners.[53]

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[51] Ibid., III-IV.

[52] *Deshkatha*, *Odiya News Paper,* 30-12-1938.

[53] *Nabeen*, *Odiya News Paper,* 9-7-1946.

Prior to the introduction of the modern system of healing, the Ayurvedic system was popular mainly among the people of the plains. The easy availability of the herbs used for medicines and the cheapness of the system contribute towards its popularity. The *Vaidyas* and *Kavirajas* were the chief exponents of this system. After the introduction of Allopathic medicine institutionally and the lack of state patronage, the importance of the *Kaviraj* system gradually declined. However, there were many attempts to prevail the indigenous medicine, but they could not succeed.[54] Madhusudan Das established a medical institution named 'Lady Thomson Women's Dispensary' in the campus of Ravenshaw College for treatment of women in 1886.[55] In the same way, Gourisankar Ray also established a charitable dispensary at Dishitpara in 1913.

Western medicine until the first half of the nineteenth-century was only limited to colonial enclaves. The medicine slowly used by the British to combat the various epidemic and non-epidemic diseases. It extended to Indians with the sanitary commission in 1864 and gradually changed from cure to preventive measures. The discovery of new science and the development of different successful research for various medicines for different diseases changed the ideas and notions of the people accept Western medicine. The indigenous notions related to the spread of various diseases gradually changed. The abatement of the mortality rate was controlled through the process of Western methods, primarily through the state sponsored health policies.

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[54] Shri Nrushinha Charan Behuria, *Orissa District Gazetteer: Ganjam* (Cuttack: Orissa Gazetteers Unit, Department of Revenue, Government of Orissa, 1992), 797-798.

[55] Dr. Siddhartha Kanungo, "Role of Madhusudan Das in Making Modern Odisha" *Odisha History, A Comprehensive Compendium of History, Culture, Lifestyle and Tourism of Odisha (27* March, 2018).

The indigenous medical practitioners-*vaidyans*, *kaviraj*, and *hakims* were tactically reluctant to practice Western medicine. Even though state tried trapping them by giving monetary benefits to those who shifted from indigenous to Western medical practice, they resisted and continued to practice their traditional medical practices,. State also deliberately suppressed indigenous medical systems by not providing financial aid to these institutions.

CHAPTER- VI

CONCLUSION

The history of public health in Orissa under the British Raj is fascinating and significant as Orissa was under three different colonial administrative set-ups and practices, namely Bengal Presidency, Madras Presidency, and Central Provinces. The region continuously pushed to margin from all three presidencies and provinces until 1936. These produced various complexities in the implementation of sanitary and health measures in the region. There were also specificities and diversities of colonial medical interventions, particularly at the provincial level, to combat epidemics and non-endemic diseases during the nineteenth and early twentieth centuries. The region was largely an ignored region even in the large corpse of historical literature of medical history produced in India. In view of these, the present thesis examined the various dimensions of colonial medical interventions of the three different presidencies and the Central Provinces at different times against epidemics and non-endemic diseases within Odia-speaking areas. The medical intervention in Orissa was different from the rest of India as it was entirely rural and tribal regions existed, and responses of the people witnessed on medical interventions undertaken by the colonial state from 1858 to till 1947.

In Orissa, epidemic and non-epidemics diseases like cholera, malaria, leprosy, and smallpox were widely spread. Colonial officials perceived Orissa as the "most pathological" province, “valley of death” in India because of its “unhealthy climate, regions as well as recurrence of diseases. The study traces the medical topography specific to the locality, ecology, people, and spread of major diseases in colonial

Orissa. Two major diseases - Cholera and Malaria spread across the colonial Orissa. Epidemics diseases-cholera and malaria took place mostly because of the insalubrious environment, and geography was the sole responsible factor for the epidemic, as malaria was more notorious in Koraput, the coast of Chilika, and Balasore; and cholera mostly found in north Orissa, particularly at Puri. Cholera was the most dangerous and destructive epidemic disease and it spread across the region caused by Puri pilgrimage. It was projected as major cause of spread to all over the region. Puri as an abode of cholera had no proper arrangements of water supply, latrine, accommodation, or the disposal of refuse for the pilgrims, which made them an easy prey to victims. At the time of '*Ratha Yatra*,' which falls during the rainy season, the pilgrims convert the roadside pathways into huge sewage drains. They encamped and swarmed under the trees; they cooked, ate, drank, and overtly attended to the call of nature wherever they slept. In August 1818, the Madras Medical Board stated about cholera "the disease is characterized by the suddenness of its attack" and directed to death. However, colonial states elevated debates about sanitation, habits of people, and housing of pilgrims in Puri to cover its failure in providing sanitary and health measures to control the diseases.

Malaria was another important disease that spread mostly to the hilly regions in Orissa. Malaria was aggravated, especially after the colonial expansion into these regions through various state-development activities such as railways, road networks to access forests. Malaria was different kinds of fever and was marked as an endemic, and it was another entity to lead the chart of death toll. For a long time, malaria was a treacherous disease and extremely severe in particular places. It was widely prevalent throughout the province of Orissa. The affected areas were Chilika lake coast, the deltaic regions of Puri, Cuttack, Balesore, and Ganjam districts, but Koraput was the

worst affected district. Sambalpur was less affected than the other parts of Odia-speaking areas. As a result, ecological balance wrecked malaria spread rapidly and caused a huge death rate. Vital statistics were not properly maintained in the region and as a result deaths were very often under-reported. Colonial state health and sanitary policy initiatives in the region, often challenged by the inadequacy of staff, lack of transport facilities, unsatisfactory method of reporting epidemics, and paucity of funds to local boards. For the prevention of malaria, the quinine was freely distributed and breeding places of mosquitoes were removed by using kerosene oil wherever it was possible, removal of grass, weeds, and jungle growth around the edges of extensive water collection were implemented. These measures were implemented under the supervision of the Deputy Sanitary Commissioner.

Another major epidemic disease, i.e., smallpox, spread like a bush fire due to the unhygienic environment. Smallpox was the most devastating disease in Orissa. Orissa has a long and unenviable reputation for the prevalence of smallpox, which used to break out as an epidemic and witness a huge death toll in every year. Most of the time, the diseases occur due to an insalubrious environment, unhygienic food, impure water, and wrong housing plan. However, these generated different perceptions from Western, indigenous medical practitioners and people. The indigenous people believed that diseases occurred because of the wrath of gods and goddesses and sometimes due to witchcraft. Hence, to appease them, they used to worship various gods and goddesses related to the respective diseases. For instance, *Maa Sitala*, and *Joogah Pennoo* were worshipped goddess for smallpox, god *Loknath* for leprosy, and Goddess *Thakurani* for cholera, Disease of Devil (village deity) for malaria. Vaccination introduced as part of prevention and control measures in the region. It worked as an active agent and represented the scientific capability to control

the people. However, the indigenous people initially did not accept the introduction of vaccine, because of socio-religious factors and the feeling of *swadeshi*. After 1936, the people made themselves a little more conscious about the preventative measures. Slowly it resulted in the reduction of mortality and control of smallpox, but it was not up to the mark. Initially, colonial state successful campaigns against smallpox faced difficulties with lack of funds, operating kits and staff, and supply of safe vaccine. The compulsory smallpox vaccination policy was introduced in Orissa in 1880, and was made mandatory under the Bengal presidency, which lies on the northern part of Orissa. The same program was introduced in south Orissa in 1920. The vaccination in Northern and Southern Orissa given free in specific areas, especially in municipality; however, it did not function actively. Subsequently, vaccination was made voluntary before the Second World War. In the case of smallpox infection, the western part of Orissa was healthier than the northern part in the case of smallpox, because the vaccination was introduced in 1874 by the central provinces, but it was introduced only within this provincial government ruling areas. These programs were the most vital factors to combating smallpox. However, it often faced several hurdles to implement the anti-epidemic schemes as were consciously under-funded many times to the Municipal and District Boards, and very little funds available to the employment and training of vaccinators. The more synchronized policies were introduced. Subsequently, in 1927, smallpox vaccination made compulsory for all individuals from eight months of age. The same individuals had to be revaccinated at the age of seven. Besides, vaccination made mandatory for those children admitted into government school, and it made compulsory before taking up a government job. However, inadequate funding of the government is an obstacle for the vaccination programme. Sometimes, the people were also reluctant to visit free vaccination depots

due to longer distances. The state medical and sanitary intervened with specific policies and acts to address the disease of smallpox. Most of the time, it was in contrast with the indigenous methods of treatment of smallpox. Therefore, often this programme was not successful enough.

Leprosy was a significant non-epidemic disease in colonial Orissa. It was a dreaded, chronic infectious disease. However, the native people never considered leprosy as a disease; instead, it was thought to be a curse. In India, those who had leprosy were alienated from mainstream society and from the victims' families. The vagrant poor people were suffering more from leprosy was mostly noticeable in the region. Puri became the haven for the lepers. Among the various theories on the origin of leprosy, many speculated about leprosy being communicated by the bacillus enters into the body through the stomach and could be contracted by consuming poorly 'cooked' fish. However, doctors rejected heredity causes of leprosy and held leprosy to be a contagious disease, but were unable to establish the reason of transmission. Therefore, Hansen argued that not known the way in which leprosy transferred from a leper to an individual. Lepers were more vulnerable to discrimination in the society. With stigmatized notion, the term 'leper' was often used as an abusive term and it became an identity, "once a leper means always a leper." The identity of the victims of leprosy was unintentional, as a 'leper' even after getting rid of it.

The temple (Puri and Loknath), being pilgrimage centre became a space for lepers as food and accommodation easily available for the lepers. The unacceptable notion of society forced leprosy victims to come out from the home. Hence, the Colonial rules targeted especially to the poor, for the preventive measures against leprosy, in colonial Orissa commenced at the end of the twentieth-century. The indigent were the more recipients of the British institutional care, various leprosy

cases identified and confined under several asylums, and they treated over there. The preventive measure interfered by both private and public spheres of the infected persons. Subsequently, the 'Mission to Leper' launched in Ireland in 1874, and it was initiated in India to cure lepers. Later, the "Indian Council of the British Empire Leprosy Relief Association" in 1925 provided a fresh impetus to organise an anti-leprosy programme in India. In consequence, the preventive measures of colonial administration, gave an identity to the victims of leprosy. Because the process of captured to lepers, and enclaves within the four walls, and the testing processes of lepers, were all the process by the colonial authority for lepers to prevent them, which created problems for the leprosy patients, all these things gave an identity to a leper in society which was formed irrespective of caste, creed, and religion. The diseases gave an identity to the victim of leprosy as 'Leper.'

The preventive measures were different at different times and under different colonial administrations. Initially, the lepers were not ready to stay at the asylum because once they were admitted into an asylum, social stigma that challenged them and not accepted by the society, even after disease cured. The colonial officials observed this at the leper conference held in Purulia (1914) that "once a leper means always a leper." The process of treatment of the lepers was also problematic for the patients, as it isolated them from the mainstream society, being captured and enclave within the four walls. The process of diagnosing and identifying infected lepers was also problematic and led to suspect and isolate by the society. The colonial government carried out the programme of identifying lepers and majority found around Puri Temple and *Mathas.* As part of preventive measures for leprosy, Bengal 'enacted Leper Act in 1898, which led to arrange institutional facilities such as leper asylums. The asylum established on an average of one acre of land and it provided

two-time food and accommodated on average ten lepers. One such asylum was built at Sakhigopal. This became popular among lepers and favourite resort for lepers.

Various preventive measures for the epidemic and non-epidemic were introduced by the colonial administration in Orissa. However, no proper health and sanitary policies, programmes, and acts were operated and executed. There were various reasons for failure of implementation as lack of proper-trained doctors, improper understanding of diseases, lack of hospitals and dispensaries in providing treatment of patients, and lack of funds.

As a preventive measure for epidemics, a publicity campaign also started to impart knowledge and educate Indian masses about causes of diseases, health, hygiene and sanitation. The propagation carried out on subject of sanitation, hygiene, and health through the means of lecture method and publishing articles in the newspaper. The local bodies- Municipality and District Board consulted with local Hakims and Kabiraj from 1921. Several suggestions came from the municipalities and District Board. One such recommendation was the introduction of a course on cleanliness in every school and taught the students about sanitation and hygiene. In the province of Orissa, Puri District Board suggested to train school teachers on the matter of public health measures to fulfill the duty at the time of epidemics. The local Indian Doctors would train the school teachers; the school teachers used to give a lecture at *Bhagabatghar* (Bhagabat talk), *Hats* (Week market), *Melas* (Fair and Festivals) about hygiene, sanitation, cleanliness. Subsequently, sanitation and hygiene were made compulsory subjects in every primary and secondary school, with the aim of creating consciousness among the children and, through them, in every home.

After 1864, a different dimension in public health took shape. In Orissa, the preventive measures for cholera were enacted as the Lodging House Acts of 1871,

and it re-enacted with some modifications in 1919 to improve the condition of cholera at Puri. The new act, was called "Bihar and Orissa Places of Pilgrimage Act," Disease Act in 1897 for cholera (for epidemics). After 1936, steps were taken to keep one lakh CCS (Ceramide Carbamoyl-Spermine) of cholera vaccines in stock and given to the people in the province. Women came into the limelight with this practice as the demand of society. To give vaccination to women, the man was not allowed to touch her. For this, training was given to females for the women's vaccination program in Orissa. Slowly, this demand led to brought women into the field of the medical profession.

In Colonial Orissa, a passive resistance was witnessed in 1923. The colonial administration tried to trap the indigenous practitioners through various ways to compel them to register, which each district authorities granted by issuing a stamped certificate on diploma. The indigenous practitioners- *Vaidyas, Kaviraj* later made to accept Western medicine practice through various policies.

Colonial sabotage the indigenous practitioners' practices in medical school, then there was resistance came from indigenous practitioners while not accepting to do classes on the subject of *Katakattti* (dissection) and *Dhatribidy* (midwives). One notable *vaidyan* Bachastpati Pandit Brajabandhu Tripathy, published "Drabyagun Kalpadrum" in 1926, adopted the Ayurvedic medicine practice for whole life. Brajabandhu was influenced by Mahatma Gandhi's propagation of swadeshi and tried to revive the Indian medical culture, and later, he joined the Indian Independence Movement during 1930-31. He made extensive propaganda on Ayurvedic medicine and took an active part to propagate Ayurvedic medicine to every home. Indigenous practitioners also organised the "Ghumusura Ayurveda Pracharaka Samiti" in 1937. This movement also led to open a ayurvedic school - "Biswanath Ayurvediya

Sanskruta Toll". After Orissa became a separate province, a "South Orissa Baidya Sammilany" was organised in 1938 and was organised by the Ganjam *Baidyas*, who tried to assemble all the *Baidyas* from Ganjam, Koraput, and all the Odia *Baidyas* from Vishakhapatnam. They planned for a conference and fixed the date on the last week of January (1939) at Berhampur. Subsequently, the Utkal Ayurvedic Committee in Orissa was set up in 1946.

Epidemic diseases began to reduce from 1936 onwards when Orissa became a separate province. This was possibly due to the introduction of immunisations and better attentiveness among the people regarding hygiene and sanitation. Under the colonial rule, various preventive measures were taken in Orissa, like multiple acts, policies, sanitary activities, welfare activities, private and public wells duly chlorinated at regular intervals during the festival time, etc., but the implementation was abysmal. After the separation of Orissa from Bengal, and finally, from Bihar, and Madras in 1936, it increased consciousness about public health that can be witnessed from the statistics of mortality rate during that period. Despite several handicaps under the medical institution viz., the inadequacy of staff, lack of transport facilities, unsatisfactory reporting of epidemics, paucity of funds, superstition and ignorance of the people, the public health staff, both under government and in the local bodies, exerted their best to keep the epidemics under control as the mortality rate swelled enormously. Though, in the beginning, western medical institutions were crippled by the deeply rooted beliefs of the people, later Western medication subjugated the indigenous medicine.

Under the colonial rule in Orissa, there were various policies and acts were implemented to prevent epidemics and non-epidemic diseases, but the administration was abysmal in its implementation. In Odia-speaking regions, power was not operated

through a single-window; rather, it operated through multiple channels. Because of this, the Orissa pushed to periphery from all three administrative governments- Bengal presidency, Madras presidency, and Central provinces. Therefore, Orissa was always snubbed and geographically fragmented, and in turn, it affected the implementation of various health and sanitary policies in the region.

GLOSSARY

Ayurveda	:	The Traditional Hindu Science of Medicine
Anna	:	A Denomination if Currency-1/16 of A Rupee
Balasore	:	Baleshwar
Bhagabat Ghara	:	A community hall for Bhagabat recitation
Bida Ceremony	:	Farewell Ceremony
Busti/Basti	:	A Poor Area of Badly Constructed Huts; Slums; Slim Dwelling
Brahmin	:	Priestly Class
Bhisti	:	A Domestic Who Carries Water in Got Skin Bags
Collector	:	The Chief Administrative Official of a District
Darul Shifa	:	The House of Healing; Hospital
Dawakhana	:	Dispensary; Pharmacy
Devi	:	Goddess
Diseases Bazaar	:	Disease Market
Duma	:	Ghost
Elakha	:	Area
Eurasian	:	Person of Mixed European and Asian Parentage
Gunia	:	Indigenous Medicine Man
Handis	:	Pots
Hakim	:	Physician; Doctor; Practitioner of Islamic Medicine/Unani Practitioner
Hakim Mutlaq	:	Great Physician
Hatas	:	Weekly Market
Jatra	:	Religious Procession

Kaviraj	:	Ayurvedic Practitioner in Bengal
Lakh	:	One Hundred Thousand
Maa Sitala	:	Goddess of Smallpox
Mata Marai	:	Goddess of Cholera
Mahaprasad	:	Holy Food of Jagannath Temple
Mathas	:	Abode of Saints
Mela	:	Fair/Festival
Mofussil	:	Country Side as Distinct From Town; Rest of District/Provinces as Distinct from its Headquarters/Capital
Mulla	:	Priestly class of Muslim
Munsif	:	Revenue Official
Odia	:	the people of Odisha
Orissa	:	Now Odisha
Panchayat	:	Village Council/Village Union
Pandit/ Pundit	:	A Scholar or a Learned Person
Pani-Vasanta	:	Smallpox Eruptions Containing Bubble of Water
Paisa/Paise/ Pice	:	Unit of Money: 100^{th} of a Rupee; Also $1/12^{th}$ of an Anna
Presidency	:	Administrative Division of the East India Company
Puja	:	Religious Ceremony
Raj	:	British Rule
Sadarat	:	Presidency; Chairmanship
Sanad	:	Certificate
Sirkar	:	Government

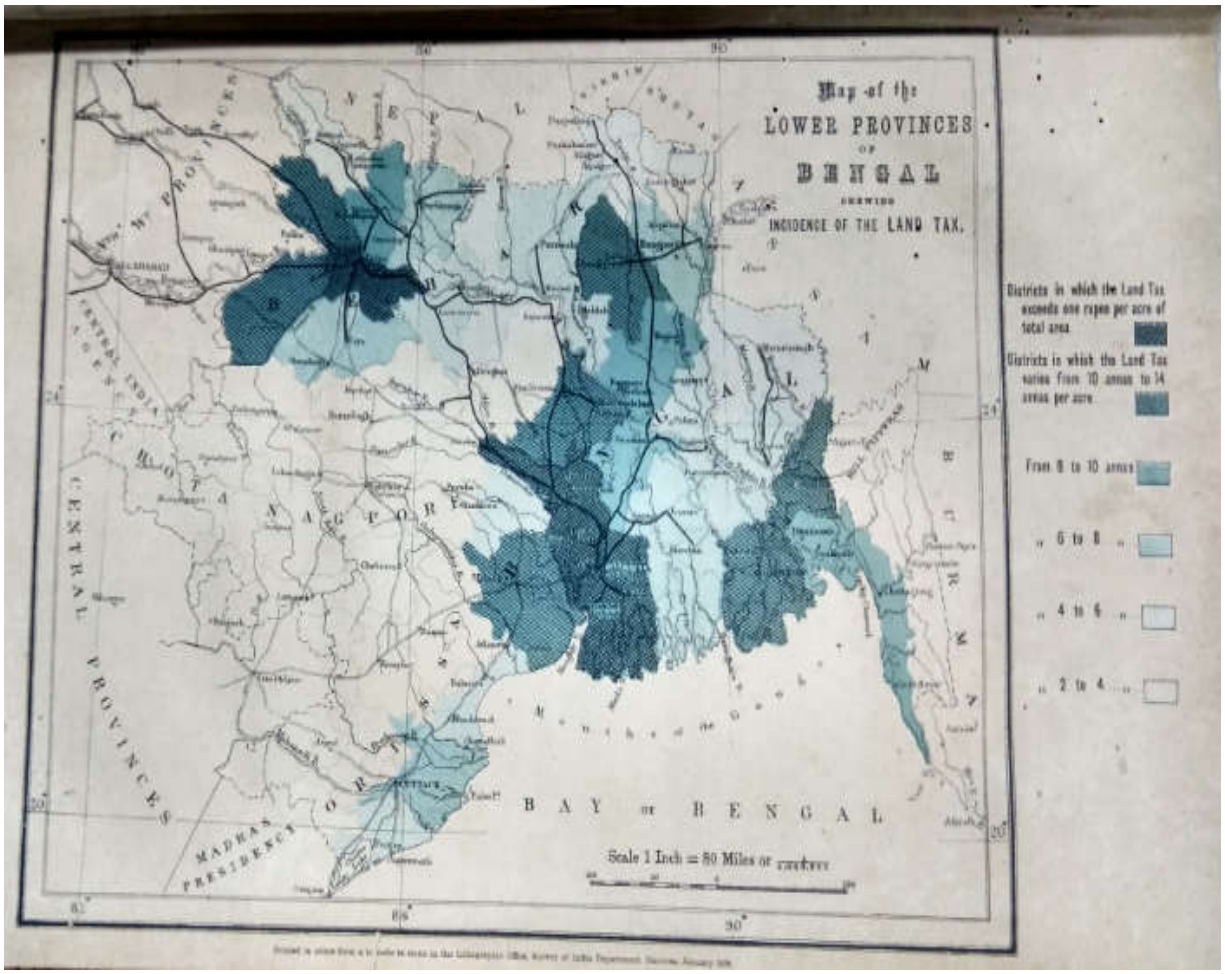
Thanewar System	:	In which one Vaccinator was attached to Every Police Station
Tabib	:	Physician; Healer
Taka	:	Money
Tikadar	:	Vaccinator
Unani	:	Islamic Medicine/Muslim System of Medicine
Vaid/Vaidya	:	Practitioner of Hindu Medicine/Ayurvedic Practitioner

1. Bihar and Orissa Map, 1925.

Scanned with CamScanner

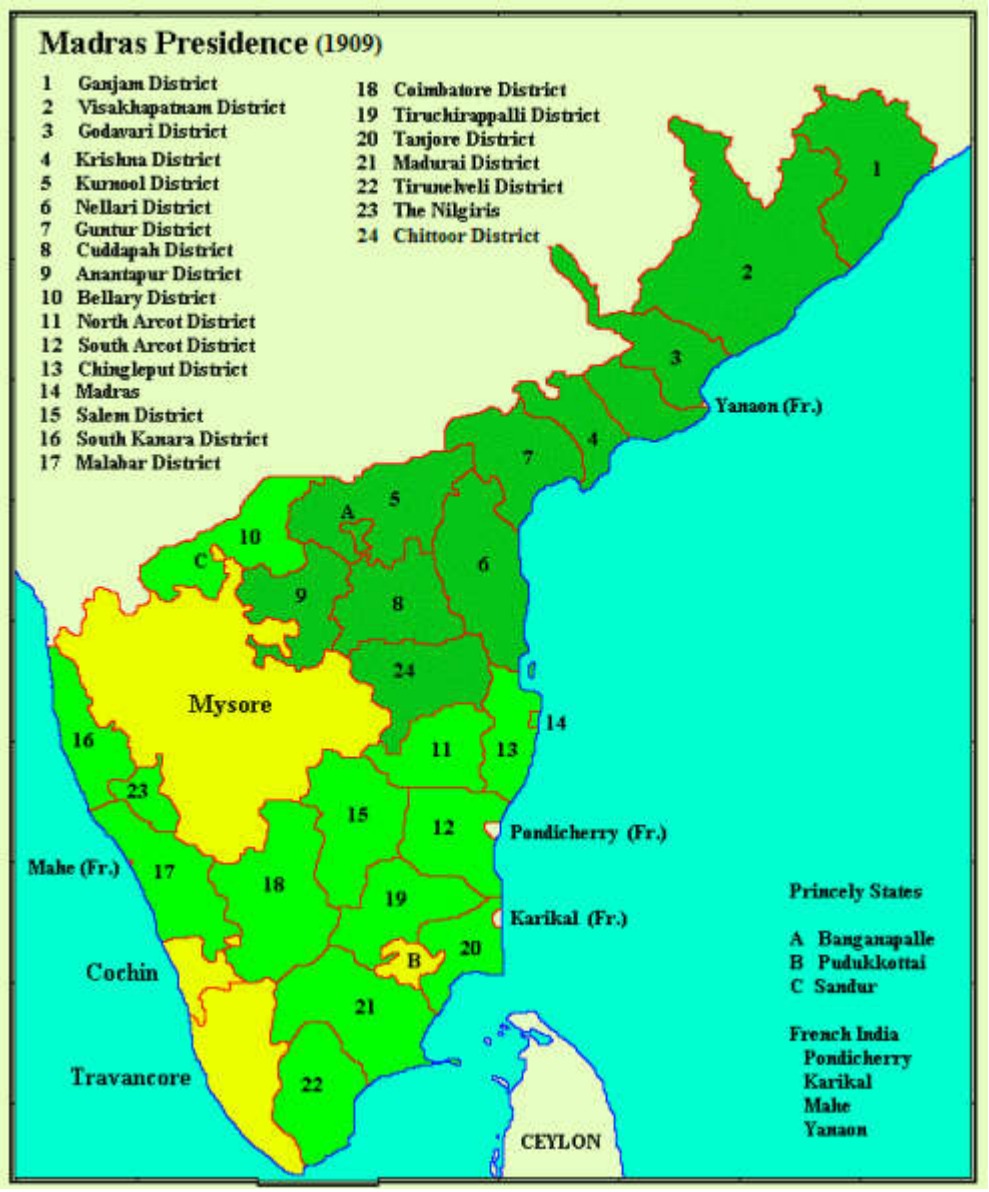
Source- Government of Bihar and Orissa, Local Self-Government, Sanitation Branch, Annual Public Health Report for the year 1925, December 1926, File. No-S-IR.-14 of 1926.

2. Map of the Lower Provinces of Bengal



Source: Reports on the Administration of Bengal, 1886-87 Calcutta: Printed at the Bengal Secretariat Press, 1888.

3. Madras Presidency Map- 1909.



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FROM THE EDITOR'S DESK

"If I have seen further than others, it is by standing upon the shoulders of giants."

-Isaac Newton

Hyderabad, the centre of technology, is a hub of culture and progress. Located on the lush banks of the Musi River, this metropolitan paradise is a favourite with tourists, educators, scientists and poets. The magnificent city of pearls comes alive with its ancient history and contemporary technology. This Hi-Tech city, as it is aptly and affectionately named, is the perfect spot for research in various disciplines and the crown jewel of education in Hyderabad is Osmania University.

Founded in 1918, Osmania University has opened its doors to over 3,700 international researchers from more than 80 countries. The alma mater of prominent icons like the 9th Prime Minister of India Shri P.V. Narashimha Rao and cosmonant Shri Rakesh Sharma, the University continues to cater to the research ambitions of the best in India. The Department of History has been contributing to teaching and research for over a century. Eminent scholars have added feathers to the hat of this department. The 39th Annual Session of South Indian History Congress was hosted during 8th - 10th February 2019. The administration had made the stay and the sessions beyond memorable.

As the Editor, I take pride in mentioning that the Proceedings of the South Indian History Congress has been recognized by UGC with CARE status. Hence, it is time to embrace originality and authenticity in research. Quality research with sound evidence goes a long way towards standing on the shoulders of giants in the field. I urge the scholars to concentrate on original research.

I express my gratitude to Prof. G. Sethuraman, Dr. P. Sivadasan, Dr. Sheik Masthan, Dr. M. Geetha, Dr. R. Jaganath and Dr. S.Nagaraj for their help in editing the volume. I also thank peer review committee members i.e. Dr. D. Daniel, Dr. K. Gopalankutty, Dr. B.S. Chandrababu, Dr. A. Pasilithil, Dr. R.C. Misro, Dr. P. Chenna Reddy and Dr. E. Sudha Rani for their help. I sincerely thank Mr. N. Jeyaraman for undertaking the task of page making. I also thank Mr. Titus of Sathiyam Printers, Madurai for neatly executing printing work on time.

S. GANESHRAM
Chief Editor
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with Islamic ideals and he became spiritual leader of Muslims. In 1518 CE/925 H, he found the Juma Masjid of Ponnani and to promote the religious education he developed the Ponnani dars. In Ponnani Juma Masjid, the students from different parts of the world acquired knowledge. They were sitting around the lamp called "thookkuvilakku" and recite the quran and hadith. The main subjects in dars were fiqh, thafseer, tasawuf, haiath (spherics), falsafa (philosophy), hanthasa (geometry) etc. This dars system renowned as "Vilakkathirukkal" [12], the students from different parts of the world like Indonesia, Ceylon, Lakshadweep, Maldives, and Java etc reached Ponnani in search of knowledge. Those who completed studies from here to get the degree called "Musaliyar". Makhdoom I also attracted with Sufi ideals and became the pupil of Sheikh Quthbudheen. Makhdooms were played an important role to popularize the Qadiriyya sisilah throughout Malabar region. Besides the work Tahreed, Makdoom Senior wrote many other works like Murshiduthullab, Sirajul quloob, Sirajul Muneer, Al Masa'b fi dikril mouth, Shamsul huda, Irshadul Khasideen, Hidayathul Adkiya, Tasheelul Kafiya, Hashiyath alal Irshad, Qitabussafa, sha'abul Iman, Manquz Moulid etc. His son Abdul Azeez wrote a commentary for his famous work Kithabul Adkiya called Maslakul Adkiya after his death in 1522[13]. Makhdoom Senior had written the commentary of the Poem Alfiyya written by Ibn Malik but after the death of Makhdoom Senior his son Abdul Azeez completed the commentary of poem. He also completed the incomplete poem of his father named as Dikrul Mouth. He followed the footsteps of his father throughout his life and struggled against Portuguese. His nephew Sheikh Zainuddin Junior also followed his path wrote the famous work Tuhfat ul Mujahideen. Precisely the Makhdooms of Ponnani have long history against the anti-colonial resistance in Malabar.

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HISTORIOGRAPHY ON COLONIAL MEDICINE IN INDIA

Dhruba Kumar Biswas

It is said that health is wealth. It means health is the most important thing in life and it is not possible to enjoy good things in life without good health. This paper attempts to find how the historiography has been changing over a period of time especially in public health and Medicine. A number of works have been done on the history of medicine hence the paper tries to look at the perception of the medical historians on colonial medicine. The paper is divided into two parts: the first part attempts to look at how the definition of the health varies among different scholars and their scholarly works.

As we try to understand the history of medicine, first of all, we need to know what health is all about. When we go on to study health, it generally entails public health and when we talk about public health, we come across with certain other terms like health, disease, and medicine, thus these terms are

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interrelated. The human body essentially needs medicine for sound health in various ways. In this context, Mahatma Gandhi said, "Anyone who observes the rules of health will not need to knock at the doors of doctors from day to day."[1]

Further, he said that there was no need to take medicine from Doctors, especially the western doctors. According to him, "European doctors were the worst of all". For the sake of mistaken care of the human body, they kill annually thousands of animals[2] Here we can say no one is free from diseases; to achieve a sound health and disease free body, we need to take care of our body. To get cured of a disease, we usually take medicine which is either indigenous or western in nature. In the present time, we are highly dependent upon western medicine as it offers instant relief, thus gradually getting deprived of our indigenous medicines. All the medicines whether indigenous or western, are always meant for health[3].

The first part of the paper deals with the definition of health, especially public health. The idea of public health in India was very much a part of its customary systems of medicine since antiquity. It was first brought up in the Ayurveda texts, such as the 'Charaka Samhita' and 'Susruta Samhita', wherein the significance of health meant for hygiene, proper diet, regulation of habits and physical exercise to keep away from diseases. According to Ayurveda, healthy is the person who always eats natural food, enjoys a regular lifestyle, remains unattached to the objects of the senses, gives and forgives, loves truth, and serves others? Next, according to the philosophy of the father of the nation Mahatma Gandhi, 'A man with extraordinary physical strength is not necessarily healthy'. When we understand the word health in terms of the Gandhian philosophy, a healthy man whose body is from all the diseases, could walk 10 to 12 KM per day without any fatigue and could do normal physical work without getting tired. He can digest ordinary simple food; mind and senses of a man are state of harmony and the poise.

Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.[4] This definition, which was ratified during the first World Health Assembly, in 1948, has not been modified since then. The definition was updated in 1986 by the W.H.O in its 'Charter for Health Promotion' which says, "Health is a resource for everyday life, not the objective of living", and "health is a positive concept emphasizing social and personal resources, as well as physical capacities".[5] It refers to the health of a population, the longevity of individual members, and their freedom from disease. But it can also be anticipatory, geared to the prevention of illness rather than simply the provision of care and treatment. It deals with healthy as well as sick people and is a separate concept from health services, which deals with the sick population.[6]

After close observation of various arguments on health, it shows that there is a lack of a clear definition for the public health. Hence, a question arises that 'what is it meant by Health' and 'what is it meant by public' or lastly, 'what is Public Health'; should we say that this is an endless debate and thus needs redefinition. It is very difficult to say that to consider those achievable technical solutions or we should make wider social change. In this recent debate, it was argued that it was not the role of government to lecture populations about habits which only affected individuals or which might not lead to ill health for many years. It is an individual choice about how he or she lived his or her life.[7]

The second part of this paper tries to understand the public health with the perception of medical historians. Firstly, we begin with the argument of Deepak Kumar, "India is the reservoir for the pathology."[8] In the same way, Biswamoy pati says that religious centre is the centre for the diseases.[9] To relate his argument to Deepak Kumar's argument, India is a religious country, and we have thousands of temples. So, obviously, diseases would be there if there had been no proper sanitation.[10] With this perception, the British took advantage of the medicine market in India highly. Having such a context, David Arnold also says religious places are the centre of contagious diseases most of the time; for instance, Kumbha Mela, the Car festival of Puri etc. where millions of people congregate thus contaminating the air and water which result in various types of contagious and infectious diseases. Anil Kumar argues that colonial medicine was further a medical culture,

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an authority, training and a recognition on the imperial metropolis. The medical attitudes, beliefs, and practices were therefore seen as dependent upon imperial sense and sensibilities. So, he says that colonial medicine served as a vehicle for the cultural invasion of the Indian society. Gradually, indigenous medicine declined mostly, now very rarely people are using traditional medicine. Subhash Chakravarty says that colonial medicine is a twin-edged weapon, which cut the colonized both physically and morally.[11] According to Mark Harrison, 'medicine' has also been viewed as an instrument of 'social control' in the colonies, providing means of 'knowing' the indigenous population, and rationalizing of social segregation. Medicine played an important role in the creation of colonial subject.[12] The study of the history of medicine helps us to describe and understand how people in different times experienced and dealt with the fundamentals of human existence. In India, G.Mukhopadhyay's book, History of Medicine in India deals with various methods of treatments in contemporary India. This is one of the early works on the history of medicine in the twentieth century India.[13] One of the greatest work of Sanjay Bhattacharya, Mark Harrison and Michael Worboys, Fractured States: Smallpox, Public Health and Vaccination Policy in British India 1800-1947 deals with the implementation of public health policies to control the small-pox in colonial India, under the British Raj. The book wisely described the small-pox and its preventive measures and react of indigenous people. In this paper, historiography sought to understand the Indian as well as Western perceptions, policies, and programs towards different systems of medicine in India. The history of medical systems is meant to throw light on the issue of the decline of "indigenous system" of medicine, particularly 'Unani' and Ayurveda, in the context of colonial rule in India. Indian society had a good attachment with the indigenous system of medicine since time immemorial. But, the introduction of western medicine changed the attitude and mindset of the people considerably.[14] Another important work on public health in British India is by Mark Harrison. His book, the Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914, explains European attitude towards India and its inhabitants. He argues that medicine is an instrument of 'social control' in the colonies, providing means of 'knowing' the indigenous population and also the rationale for social segregation.[15]

The core argument of this historiography on western medicine under colonial rule has been that the colonial medical and public health policies were introduced for the sole benefit of European civilians and the military needs, and not for the benefit of the Indians. Though it appears to be true in the eighteenth and the early nineteenth centuries, the colonial administrations gradually shifted in extending the medical facilities to the Indian public, for instance, the vaccination, the hospitals and dispensaries had brought about a change in their policies in the early twentieth century. The colonial intervention in public health, though not satisfactory, was successful to control or reduce the mortality rate of the Indians from various diseases but there was an administrative system trying to control the mortality of diseases. Another argument of the medical historians has been that all the institutions, including education, particularly the medical education, were introduced for the colonial commercial and administrative needs and did not give adequate attention to the public health. In the twentieth century, there appears to be a marked shift in the preparation of their responsibility or duty to provide medical and health facilities to the whole country. Finally, the indigenous practitioners lost their jobs gradually and sometimes they shifted their indigenous practitioners to the western practitioners.

Conclusion

The first part of the paper deals with the definition of health and how it has changed to cater to the needs of the society. In fact, there is no concrete definition of health possible as it was observed from the definitions offered by different people or organizations. Rather, the definition is very fluid and it keeps changing in accordance with the changes occurring in the society from time to time. On the other hand, the second part of the paper deals with the perceptions of medical historians (both Indian and western historians) on colonial medicine. It is seen both as a blessing and curse a blessing because it was only after the introduction of the western medicine, a lot many diseases were

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successfully tackled; and curse because the western medicine came as a replacement for indigenous medicine which was excessively popular as a culture ingrained in the nerves of the society. Apart from that, a host of people who were engaged in the preparation and delivery of indigenous medicine lost their livelihood due to this replacement. Gradually, the western medicine is taking over the indigenous medicine system as a preferred practice.

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AUTOBIOGRAPHY AS A SOURCE OF HISTORY: A CASE STUDY OF SHARANKUMAR LIMBALE'S AKKARMASHI

Divya Rai

Autobiography is an atypical genre which appears to be both literature and history but it is not entirely one or the other. As John Olney has observed, once upon a time autobiography was a "Kind of stepchild of History and literature, with neither of those disciplines granting it full recognition.[1] The marginalization of the genre began to subside with the coming of Georges Gusdorf's seminal essay, 'Conditions and Limits of Autobiography'[2] and the scholarly interest in the subject has rarely lessened since then. Most of the literary critics who can be held responsible for the impetus behind the studies of autobiographies have been keenly interested in finding out what autobiography as a genre can reveal about the knowable past. Conversely, although Historians have continuously utilised memoirs as historical source material, they have done so without the benefit of a coherent theoretical framework, treating autobiography as if it were just another primary source.[3]

Life writings have the capacity to enhance our historical understanding in ways that cannot be done by any other single source material but neither the writing of History nor Historical understanding is a simple, linear phenomenon. Traditionalist Historians have sometimes been suspicious about the element of subjectivity in the autobiography being used as a historical source. A.J.P. Taylor for instance once claimed that "written memoirs are a form of oral history set down to mislead historians," and are "useless except for atmosphere."[4]

However, it is wrong to believe that we can understand the past in complete objective terms. We must understand that History can only be completely understood with an element of subjectivity i.e. through the thoughts and experiences of individual historical agents. R.G. Collingwood describes historical reality in terms of individual historical actors, claiming that historical events have an inside and outside. The

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BLOOD AND BELIEFS IN THE KANDHA SOCIETY OF ORISSA: A HISTORICAL ANALYSIS

DHRUBA KUMAR BISWAS

Abstract: The Kandhas perform various rites and rituals to appease the supernatural forces in order to attain peace, prosperity and development for the individuals and the entire community as well. There is a belief of this tribe that all wishes will be fulfilled if they offer animal sacrifice, which ultimately led them to believe that blood is the best means to appease the gods, goddesses, and other forms of spiritual power. This paper chiefly deals with how the Kandhas appease the supernatural power offering blood as a means. To study this objective, the present paper examines certain rites, ritualistic beliefs of the Kandhas society of the state of Orissa.

Keywords: Belief, Blood, Kandhas, Kedu.

Introduction: The Kandhas were once infamous for their practice of human sacrifice.[1] They are also known as the Khond or the Khandha or the Kond, according to the usage of the term in vogue in different place where they belong to. But whatever be the terminology, it refers to the same tribe. The community is well known as Kandha which is a result of their contact with the Oriyas. So, the author prefers to use Kandhas here.[2] There are several types of Kandhas in Orissa, i.e., Kutia, Dongaria, Desia, Kuvi etc.[3] The Kandhas are numerically the largest among the tribal communities of Orissa.[4] They are extremely conservative, ignorant and superstitious. Their socio-religious susceptibilities are deep and peculiar. They prefer polytheism over monotheism which has turned them into animists and polytheists, and as a result they have conceived a large pantheon of supernatural beings that control their whole life. Their religion has two inter-related constituents, beliefs and practices. They pay gratitude to some deities who are reportedly held responsible for illness, misfortunes and unusual happenings in the village. They followed a number of cruel practices like human sacrifice and infanticide during the 1st half of the 19th century. Mr. Russell was the first person to prepare a report about these gruesome practices of the Kandha tribe in August, 1836 and presented it to the Madras Government. Lt. Col. Compbell and Captain Macpherson popularly known as Kyamal Makmel Sahib are accounted for the abolition of human sacrifice after which they started sacrificing buffaloes.[5] According to W.W. Hunter (1872)[6] the religion of the Kandhas was essentially one of blood. They believed that sacrifice was essential for every ceremony, to appease every God and Goddess. The main concern of this paper is to present the rites, rituals and beliefs of the Kandha society[7] and their conviction that sacrifice and blood are highly essential for various occasions. The whole paper is divided into three parts: while the first part deals with how the Kandhas appease the supernatural elements as a community, as well as individually. The second part sheds light on religious ceremonies of the Kandhas, especially of Kedu Parab and finally, the paper provides some details about the persons who preside over every ceremony and the processes of the celebration.

A few studies are available on the rituals and lifestyle of the Kandhas. The Kandhas of Nayagarh have peculiar ways to showcase their rites and rituals. D.K. Samantaray,(1970)[8] has found different types of negotiations during the marriage ceremonies in the Kandha society. *Duna* is very special wealth for each family, the family head used to keep *Duna* with the roof of the house it is used only in the critical situation of Family. P.S. Daspatnaik,(1970)[9] in his study found that *duna* is specially kept for the daughter, and it is handed over to her only after her marriage so that she can use it to lead a new life. Oath and Ordeal constituted a redeeming feature in the Kandha society; those are mostly used for settling the disputes. In his study on the Nayagarh Kandhas, Patnaik (1990)[10] observed how and in which situations the people take Oath and Ordeals in order to save the family as well as society. The Kandhas perform several religious ceremonies. According to Swain (1968)[11] the Kandhas worship 84 types of deities during sowing and other ceremonial occasions. On the top of all the Gods, deities and spirits, stands the *Darani Penu* (the Earth Goddess). She is highly respected as the creator of the world because generally she does not cause any harm to men, enlivens as well as protects them from pestilence, depravity and evil. She is installed in a hut at the entry point of every village, called *Kuddi*, represented by three elevated stones placed horizontally. The Kandhas used to sacrifice humans to *Dharani Penu* with the belief that the victim's blood would make the earth fertile and reward them with a bumper crops and prosperity of the society. In the following section, some light has been thrown on the deity-worship by the Kandhas and the practices associated with them. The Kandhas used to worship the village god and house hold spirit as well. The

Kandhas perform 84 types of god and goddess among them here we can see few of them in the following section how they are appeasing to the god and goddess through the blood of animals.

Worship of the Village Gods and the house hold spirits is very important of Kandhas society, in very first *the important god is* ***Jatrakudi Penu***, next to Kotebali Penu he is a male god installed on the outskirts of the village, and resides under a bamboo shade at the western end of the village. He is considered to be very arrogant and even for a trifling error or negligence; he brings natural calamities to the village. To cool down him, the Shamanin worships him in every month with adequate sacrifices. Apart from these gods and goddesses some other deities are also worshipped within and outside the village. They are placed hierarchically by the Dongrias kondhas. ***Lahi Penu*** is an another male god, otherwise known as *Dongar Penu* who neither have any shrine nor is represented by any object, but is worshipped appropriately by the Shamanins during April-May (*Baisakh Lenju*) after which trees are felled in the swidden. Prior to it, neither the trees can be cut nor can logs be brought home for firewood purposes. For the supply of natural manure and increase of the fertility of the soil, he is worshipped with adequate sacrifices after which "felling of trees" ceremony takes place. ***Takrani Penu*** She is an important female god supposed to reside at one end of the village, and is responsible for the occurrence of accidents, infectious diseases, contagious diseases like small-pox, cholera etc. as well as animal diseases. She, therefore, is communally worshipped in the month of November (*Pandu-Lenju*) with elaborate rituals and sacrifices. Votive offerings are made to her by an individual who suffers from such diseases.[12] Here lastly the ***Lada Penu*** is believed to save the villagers from wild animals; this forest god resides under a banyan tree at the entrance of the forest, and is worshipped along with *Lahi Penu* in the month of May before the commencement of communal hunting.[13] Customarily, the villagers go to the forest on this occasion, offer a leaf to her as a token of reverence to be saved from any possible mishap in the forest.[14] While going for and returning from hunting expedition, she is properly worshipped with adequate sacrifices by the *Jani*. Next in the ***Household Spirits*** it has been mentioned earlier that a wooden post (*Tuli Munda*) inside the sleeping chamber of every house is representative of the "Ancestor Spirits". Household spirits are mostly named after their ancestors who are also known as *penu*, (god) who can be dreadful if not appeased properly. These ancestor-spirits are generally worshipped by the *Bejuni (Priest)*. But, all these spirits are also invoked ceremoniously by the *Jani* during the *Meria* festival. For each of the spirits, a separate icon is prepared with sundried rice powder and a lump of sundried rice is placed over which blood of a chick is sprinkled. With this offering, they are supposed to remain satisfied and save the household members from all odds and evils. They are periodically invoked by the *Bejunis* and appeased with different types of sacrifice. Each *Bejuni* invokes her own spirits to be helpful in curing various diseases while attending to patients. Besides the benevolent spirits, there are dreadful spirits like *Mieli-Penu, Buru Penu* and *Suku Penu* who intentionally harass people with different diseases and cannot be controlled by the Junior *Bejunis* thus the Pat-Bejunis (Head of the *Bejunis*) are called in, who with their profound knowledge of the art, are capable to control these spirits.

From the above section what is very obvious is that the presence of multitude of gods and goddesses is indicative of their strong belief and fear of not getting cursed by them. Every deity has his own essence in the harmonious and prosperous life of the community. This is what makes them propitiate the deities by means of sacrifices, be it bloody or bloodless. Apart from that, some people being ignorant about the cause of the sacrifice, they are made a part of the tradition thereby compelled to practice it. In addition to this, a belief prevails that a woman during her menstrual period if glances at her, suffers from spirit-possession. Therefore, all the deities are either installed in a one-sided enclosure or on the outskirts of the village. The general idea is to keep the common people away from the deities so as to save them from their curse. This is nothing but their superstitious belief and fear of being cursed. The same could be the reason for worshipping household spirits. The following section provides details about various religious practices followed by the Kandhas. Hence, the religion of the Kandhas was essentially one of blood, while the Lord Harding abolished the human sacrificed for the Kandhas. Afterward they started again inhuman thing like the buffalo sacrifice and still vogue as a **Religious Practices** The Kandhas perform certain rites and rituals to appease the supernatural forces in so as to attain peace and prosperity for the individual and the community as well. The religious functionaries worship the gods and goddesses on behalf of the community on several occasions. These rituals indicate their social solidarity and thereby maintain the existing sentiments necessary for the social cohesion. The divine powers are invoked through rituals, offerings and sacrifices and thereby to solicit their blessings for the people. Invocations are sung in chorus by the *Bejunis.* Animals, such as-buffaloes, cows, lambs, pigs, and birds like cocks, fowl and pigeons are mainly sacrificed.

Buffalo sacrifice is a major ritual which is a part of the *Kedu* festival of the Kandhas of Orissa. While performing the sacrifice, the Kandhas apologize to the deity for not being able to offer a human in view of the prohibition. The Kandhas still regard human sacrifice as the proper method of propitiating their gods, and the buffalo sacrifice as a less effective substitute.[15] This buffalo sacrifice is in vogue now. This festival is usually held on the last Sunday or Tuesday of 'Pausha' or 'Chaitra' month. The day varies from place to place. The Kandhas of Kalahandi celebrate it on the last Sunday of *pausha* whereas the Kandhas of Koraput and Baudha-Kandhamal perform it one of Tuesdays of *Chaitra* decided by Jani. And varies name also i.e., In Kalahandi it is Taki Parab, Chaiti Parab in the Kandha tracts of Koraput whereas Kedu Parab in Boudh-Kandhmal.[16]

A male buffalo is arranged for sacrifice. Since its birth, it is set free as a wandering beast. Especially, for this purpose, buffaloes are reared, set free, grazing on crops and food offered by people. But only one buffalo is sacrificed in a year for one *mutha* (a group village comprising 4 and 5).[17] Sacrifices are initiated and arranged every year by the *Jani,* he fixes the day of the worship. As it is decided once, invitations are sent to all the members of the community of the neighboring villages of this region to take part in this *Paraba*.[18] Every village has specified places of worship. The place of sacrifice is about five furlongs to the east of the village at the foot of a hill and is marked by a heap of small boulders. After constant search in the forest, they choose a healthy tree, without any hallow or deformity wherein no birds should have built their nests.[19] All houses are cleaned and clothes washed prior to the ceremony. On the morning of the ceremonial day, the buffalo arranged for the sacrifice is put to intoxication and taken from door to door by the *Jani* accompanied by some Kandhas. During this journey, the housewives felicitating the buffalo with lighted earthen lamps and incense sticks, offer food on a plate. The animal is finally brought to the *gudi* (alter) accompanied by a band of musicians beating drums and Mukhabina.[20]

The housewives bath the buffalo with turmeric water on the gudi, garland it and put kumkum and sandal on its forehead. Soon after, the *Jani* starts chanting kui slokas with the beating of drums. The buffalo tries to run and gets scared; meanwhile the *Jani* cuts off a small piece of flesh from the back and head of the animal to bury it at the shrine of the goddess.[21] As soon as he signals, the people rush to the animal with knives and cut the flesh from its body leaving the head intact. Every piece of flesh is quickly removed leaving behind the skeleton for worship. The intact head, the bones and the stomach are burnt in a ceremony at the foot of the stake or buried in the bloody pit.[22] They take away the flesh in great haste and bury with utmost care on the periphery of the villages and the plots of the respective tenants.[23] The invocations are the same as those used to be chanted at the human sacrifice.[24] In religion proper, the attitude of the Kandhas towards the Supernatural Powers is one of the reverential fears in the presence of certain mysterious Supernatural Powers. Dependence, conciliation, propitiation and playful submission are various means to appease such Supernatural powers regularly to get good, remain healthy, and live a normal life for themselves, their progenies and their livestock. From this section, it can be deduced that for the Kandhas, sacrifice is highly essential for saving the society from the curses of deities, and sprits as well as to bring prosperity. It means both fear and hope factors are there which lead them to perform sacrifices. Every religious ceremony performed by the various priests.

The religious functionaries- *Jani, Lamba, Bejuni and Pujari,* are the specialists and intermediaries between gods, goddess, spirits and such other entities on the one hand and the people on the other. The materials and objects required in connection with all rituals are almost standardized. These consists of such simple materials, as-turmeric power, husked rice, vermilion, incense power, wicks, molasses, liquor, leaf-cups, flowers, birds and animals for sacrifices depending on the nature of the ritual.[25] The next section deals on the priests associated with the ceremonies like ***Jani*** is the ritual head of the village. Each village has its own *jani*, but at times one *jani* may attend to functions in 2-3 villages. This post is hereditary, passes from the father to the eldest son. In case the *jani* having no son, his younger brother gets the chance. He performs all village rituals and is given a special share of sacrificial animals. ***Lamba*** is also another nomenclature of *Jani* who specially officiates at the rituals of *Meria* festival. For performing the *Meria* rituals, the *Lamba* does not charge exorbitantly but takes only one-fourth of the total quantity of grains collected for the festival, four heads of the sacrificial animals, like-goat and lamb and a good share of the sacrificial meat. *Next the* ***Pujari*** the post is hereditary. In every village, there is a *Pujari* who presides over *Meria* festival along with *Jani.* But he has multiple roles. He prepares an umbrella out of a bamboo collected from the forest in the dead of night, unnoticed by anybody. In the *Meria* procession, he dangles that umbrella to ward off the evil-eyes of the pernicious spirits. He too chants spells with *Lamba* and other *Janis* of the *Mutha* in the *Meria* festival. He is the man who first strikes on the head of sacrificial animal followed by others. In other religious functions, the *Pujari* also presides along with *Jani* and *IchanJani*[26] *Last one is* ***Bejuni*** they are shamanins or specialists in divination. In each village there are two or three shamanins especially Dongria

society shamanins are more. Each shaman or shamanin has their own spirit to whom they regularly worship and appease to get help during their occult practices. Through divination, prayer and rites, the shamans/shamanins get into trance, during which they are believed to visualize and talk to the spirits who are responsible for causing harm to the people. Jani, Lamba, Pujari and Bejuni all are intermediaries between the people and gods. It appears as if these people are given some special authority and power to invoke the gods which is a result of the sheer ignorance of the people. And here we can see the all the priest getting flesh of animals that's clearly saying that the Kandhas need blood for every ceremony.

Conclusion: From the above discussion it can be concluded that the Kandhas are very much ignorant, superstitious and fearful. They worship numerous gods, goddesses, stones, mountain and trees. No ceremony is complete without offering blood of animals or sacrifices. Therefore, their religious belief is typically associated with that of blood. Even though the human sacrifice was abolished in 19th century, they still continue with the buffalo sacrifice which is the one best example. Jani, Pujari, Lamba, hero of the ceremony they are getting especial share of the sacrificial meat on every ceremony, that ultimately showing that no ceremony complete without blood. Blood is the essential part of the ceremony of Kandhas. The main cause of this is their illiteracy, ignorance and not being mainstreamed of the society. Proper education can prove a panacea for them to help them give up such superstitious beliefs.

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Western Policy to Prevent Disease and Its Passive Resistance in Colonial Orissa

Dhruba Kumar Biswas

Western medical practice came into existence in India with British imperialism.[1] Under the Western medical practice, the concept of sanitation was more important, which was officially introduced in India during the British rule, which is the most important channel to make a healthy society the then and till now. The paper here deals with "Vaccination" used against smallpox in Orissa by the British Raj, with a particular focus on the vaccination administration by the colonial government, which plays a crucial role in health and medical care in modern India. But the indigenous people were not ready at all to accept the western healing method. Orissa is situated in the eastern part of India, which is also infamous as one of the highly epidemic prone and in particular small-pox endemic countries. Orissa used to be profoundly affected by smallpox during the early colonial rule as well. Hence, Vaccination by the British in India, especially against small-pox, was one of the first measures for the indigenous people. Small-pox prevailed in India as well as worldwide since ancient times, claiming a huge toll every year. Here this paper tries to disclose how the British intervened through vaccination policies which were compulsory as well as voluntary under the Raj. Secondly, the paper tries to address how the indigenous people were not ready to accept the practice of western medicine, even though many used to die of the dreaded disease. Before delving into the discussion about vaccination, it is essential to understand how small-pox used to be a dreaded disease since immemorial in human civilization. It was a convention that all children must get affected by small-pox in order to be a permanent member of the family irrespective of wealthy or weak. Those children, who were not affected, were never regarded as permanent members of the family until small-pox had attacked them and they recovered from it. The indigenous people had also believed that children would suffer from smallpox at least once in their childhood.[2] The vaccinator used to vaccine every six months of the year, and people chiefly used to get scared during the vaccination season, in particular in March because usually, people fell prey to smallpox in this season. At

the end of the month people would feel a bit relaxed for at least until next season. While a man got over from this disease or recovery from smallpox, which was called 'second life.'[3] In a state like Orissa the indigenous people did not understand about the disease, whether it was epidemic or contagious Indigenous people, always related their problems to Gods and goddesses and worshiped their demigods to recover from the diseases.

Western medicine is considered as the marker of a higher civilization.[4] The method of modern medicine is characterized as "Scientific Western Medicine" and was introduced in India as early as in the 17th century.[5] When western medicine came to India, it was gradually deprived of the indigenous method of medication, automatically. In rivalry with western medicine, indigenous medicine was unable to survive. Because western medicine was used by institutions and intervention of policy by compulsory or voluntarily, the indigenous medicine met with failure. For instance, smallpox was an indigenous disease; even the method of treatment was also indigenous. There were many indigenous customs to cure smallpox. When the British came to India, they started vaccination to cure smallpox**.** The smallpox vaccination was introduced by the British in India in Bombay in 1802.[6] The introduction of the smallpox vaccine brought about significant changes in the field of health and sanitation in India.[7] Gradually variolation disappeared with the introduction of vaccination. Though initially, vaccination was voluntary, resolute actions were taken under the Vaccination Act of the 1880s to outlaw variolation. And finally, vaccination was made compulsory in such designated areas of Orissa as municipalities and cantonments. Especially in 1880, in the north Orissa, vaccination was made mandatory by the Bengal Presidency and south Orissa, by the Madras presidency, established on 1920, in specific areas, that Union Board(UB), Viz. Koraput U.B., Rayagada U.B., Nawarangpur U.B., Jeypore U.B., Gunupur U.B., Kotpad U.B., and Gudari U.B.[8] enforcing compulsory vaccination in the agency tract. After some time, vaccination was made voluntary for certain reasons. The British were capable of suppressing the once widespread practice of variolation in nineteenth Century effectively.[9]

On the whole, the implementation of the vaccine in British Orissa varied from place to place because the dismemberment of the extensive Orissa Empire began only after 1568. Orissa was under the British provinces partly in the South, North, and the West. The Afghans, the

Mughals, and the Marathas, who came one after another, failed to restore the political unity. Under such circumstances, the British East India Company occupied Orissa part by part. They started with the occupation of parts of the south Orissa, and it was annexed with Madras presidency with the invasion of Ganjam region in 1766, and in 1803, parts of the north Orissa were tagged to Bengal Presidency, and eventually the Sambalpur tract in 1849, which was put under Nagpur Presidency in 1862.[10] In this way, Oriya-speaking people were placed under three different administrations. Thus the people of Orissa were characterized as neglected, insignificant, and minority groups. The Orissa Division was added to Bihar, and Bihar-Orissa Province was created in 1912, from the Bengal presidency, while Ganjam and Vizianagaram Agency remained under the Madras Presidency. Koraput was made a separate district in 1936 from the Madras presidency.[11] The Indian society was loaded with epidemics such as cholera, plague, diarrhoea, dysentery, smallpox, and other diseases. The reports of the nineteenth and twentieth century indicate that epidemics and famines had claimed thousands of lives.

In the district of north Orissa, viz. Puri, Cuttack, and Baleswar, vaccination was neither free nor compulsory except in the municipal areas. In the municipality of north Orissa, under the Bengal Vaccination Act, 1880, as amended by the Bengal Act, primary vaccination was compulsory, and it was free at the vaccination depots established in different parts of the municipal area. In every *elakha*, (area) there was a single vaccination depot, on the other hand, it was situated so far. So the people of municipal areas were reluctant to visit the depot for vaccination. Ultimately, while the vaccinator used to come home for vaccination, they used to charge a nominal fee of 4 Anna per head subject to a maximum of 8 Anna for the whole family following the municipal law.[12] The amount was realized as the fee appropriated by the licensed vaccinator employed by the district Board who was also called the licensed vaccinator and sometimes called traveler vaccinator because he used to travel from one place to another.[13] In the rural areas of the north Orissa districts, except in Puri, vaccination was neither compulsory nor free. Because of colonial contact with Puri, most of the times, as trade and administration cantonment as well, wherever they used to stay with the army, they needed to sanitize the surroundings. The profession of the vaccinator was one of the noble practices in the society

but everybody could not be a vaccinator. To become a vaccinator, it required one to undergo training in Cuttack Medical; there was also a vernacular language facilitated by the Government, followed by the issuance of a license.[14] The license used to be valid for six months in a year, for a vaccine that is, October to March,[15] which was called the vaccination season. During the off-season, the vaccinator used to go for the verification of vital statistics and preparation of the list of unprotected people. The vaccinator used to be placed under the vaccination inspector in every district. Women were given priority to become a vaccinator most of the times. The vaccination station or depot was run only by the government, and private agencies were not entitled to do so. Re-vaccination was necessary for a healthy society because vaccine worked only for seven years and after the expiration of it, re-vaccination was needed, but the government of India in 1880 India Act used to practice only with vaccination, not with re-vaccination. Primary vaccination used to give relief only for seven years, and that is why the government again made re-vaccination compulsory later.

Most of the people of Orissa were tribals belonging to the villages. This was one of the most important reasons to keep away from western medicine. Apart from that, their belief system played a significant role in deterring them from western medicine. The tribals depended on their beliefs, customs, and conventions.They thought if they would go against customary tradition, nature would harm not only their families but also the whole community. If smallpox occured to anybody in the family, it was believed that Goddess Sitala had visited and treatment should be done as per customary tradition .[16] If it did not go away by using traditional methods, the goddess would harm not only the family but also the society. So the rural people were resistant to the use of vaccination. The tribal people were entirely reluctant to the vaccine, though vaccinators used to administer the vaccine to indigenous people; they immediately washed the immunization place of the body with some kind of juice and cow dung to spoil the reaction of the vaccine.[17] On the other hand, the weak economy of Orissa some times stood as an obstacle to getting the vaccine. When the vaccinator used to come to the village for vaccination, many children used to hide inside the caves and some time under a big pot which was kept at home to store paddy for a long time. A nominal vaccination fee of 4 Annas per head, extended to a maximum of 8 Annas was charged for the whole family. Afterwards, the British

made vaccination compulsory and sometimes voluntary to ensure that everyone took the vaccine. Because they were not aware of epidemic diseases like smallpox, which was also a contagious disease and since they did not have any idea of the disease, how dangerous it could be, neither did they have the idea of the benefits of western medicine. The compulsory vaccination implemented by the British, to some extent, was good enough.

While we look at it through the lenses of nationalism during the first half of the twentieth century Orissa, there was a wave of Swadeshi movement. Though the Paika Revolt of Orissa in 1817 is the first Indian war of Independence in India, it has not received any prominence place in Indian history.[18] This revolt shows how far people were aware of independence and the affection of being swadeshi is ultimately reflective of the fact that they were knowingly not using Western medicine and various other things as well. The Swadeshi and nationalist movements were made very strong when Mahatma Gandhi came to Orissa on 23 March 1921, 19 August 1925, and 22 December 1928, and propagated the Khadi in Orissa (symbol of Swadeshi movement of Orissa).[19] After a few years of compulsory vaccination, the British resumed a new kind of relationship with the people. It was just before the second world war. In the second half of the nineteenth century, vaccination acquired influential support from Indian practitioners of Western medicine. For example, there were 350,000 vaccinations in British India in 1850, the number rose to 4.5 million in 1877 by 1890s, the annual number of vaccinations nearly 8 million and in the early twentieth century it was 9 million.[20] But the indigenous people of Orissa were not utterly ready to accept western medicine.

As far as the remuneration of the vaccinator was concerned the District Board paid the vaccinators one Anna for every vaccination done at a vaccination depot where no charges or fee was levied for the vaccination done. On the contrary, if the vaccinator visited any house, it charged 4 Anna per head and 8 Anna a family**.** This income was considered to be sufficient to enable the vaccinator for livelihood, and of course, it depended upon the number of operations he performed at the depot concerned. The allotment of *elakhas* (area) to each vaccinator might be made both on the population and area basis. The people of Puri were reluctant to visit free vaccination depots due to longer distances.

On the other hand, the economy also resisted the vaccine. Vaccination centers were so far away, if the number of the centers were increased in that particular area, it would reduce the number in every depot of visitors and then very few cases would come to the center. It would be a difficult situation to pay the remuneration of the vaccinator. Each vaccinator was given a restricted area, and he would have to visit each village in the concerned field with a fixed schedule beforehand. The vaccine was necessary for many facets, so independent India did introduce compulsory vaccination in 1957-58.

Conclusion

The British administration indirectly introduced sanitation in India by force or sometimes voluntarily. Western medicine is considered as the marker of a higher civilization. The role of health and sanitation was significant in nineteenth and twentieth century India. At the beginning of the twentieth century, despite the progress of western medicine, a large number of people had immense faith in indigenous medicines and medical practices because the native practitioners were trained and experienced in specific ways that entirely cured the diseases. The Muslim communities like *Bhoras, Khojas*, and *Konkanis* did not like and support inoculations. As a result, they were never interested to visit the hospital for treatment. But, in the twentieth century, most of the communities took to inoculations and vaccination due to enforcement of health policies and sanitary laws, which included the improvement of the surrounding inhabitants, masses, and dissemination of useful information on hygiene.

To some extent, the administration of the vaccine was good enough for the indigenous people against smallpox. But the people of Orissa were reluctant to use vaccine of the British, because of their belief was on indigenous medication. The charge for the vaccine was also another cause of being apathetic to the vaccine by indigenous people. However, those people who were in favor of the vaccine, due to the long distance to the depot, were reluctant to go. Later the district Boards in north Orissa were in favor of introducing free and compulsory vaccination and revaccination. The people knew the value and benefits of a vaccine against smallpox. Gradually great attention can be paid overtime. They made themselves conscious and educated as well as later extended to all over India in 1957-58.

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Annexure-2: Presentations

Annexure-2.1

SOUTH INDIAN HISTORY CONGRESS

THIRTY NINTH ANNUAL SESSION

8th, 9th & 10th February, 2019

DEPARTMENT OF HISTORY

Osmania University, Hyderabad, Telangana State

(On the Occasion of the Department of History Centenary Celebrations 1919-2019)

CERTIFICATE

This is to certify that Prof./Dr./Mr./Mrs./Ms DHRUBA KUMAR BISWAS

~~has Participated~~ / Presented a research paper entitled Historiography on Colonial Medicine in India. in ~~Political~~ / ~~Social~~ / ~~Economic~~ / ~~Cultural~~ / Historiography & Maritime History at the 39th Annual Session of the South Indian History Congress, held on 8th, 9th & 10th February, 2019.

(Prof. A.R. Kuthadi)

Prof. Arjun Rao Kuthadi
Local Secretary, SIHC &
Head, Department of History, O.U.

Dr. Sivadasan .P
General Secretary
South Indian History Congress

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Annexure-2: Presentations

Annexure-2.2

UNIVERSITY OF CALICUT

38TH SOUTH INDIAN HISTORY CONGRESS

THIRTY EIGHTH ANNUAL SESSION

28, 29, 30 January 2018

Department of History, University of Calicut, Kerala

Certificate

This is to certify that **Mr. DHRUBA KUMAR BISWAS, RESEARCH SCHOLAR , SCHOOL OF SOCIAL SCIENCE, DEPARTMENT OF HISTORY , UNIVERSITY OF HYDERABAD** has attended the **38th South Indian History Congress** organised by the Department of History, University of Calicut, Kerala on 28,29,30 January 2018. It is also certified that he has presented the paper titled **PREVENTIVE MEASURE AGAINST SMALLPOX AND RESISTANCE IN COLONIAL ORISSA** in the conference.

Dr. K.Mohammed Basheer
Vice Chancellor

Prof. (Dr.) Sivadasan. P
General Secretary, S.I.H.C.

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Annexure-2: Presentations

Annexure-2.3

INDIAN HISTORY CONGRESS

78th Session
Jadavpur University, Kolkata,
28-30 December, 2017

Certificate of Presentation of Paper

This is to certify that **Dhruba Kumar Biswas, AM-26764,** attended the Seventy Eight Session of the Indian History Congress at Jadavpur University, Kolkata, 28-30 December, and presented a paper entitled **History of Vaccine in Orissa under the British Raj** in Section III: Modern India.

Ishrat Alam

Professor Ishrat Alam
Secretary
Indian History Congress

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by Dhruba Kumar Biswas

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