

**FAMINE, DISEASE, MEDICINE AND THE STATE IN
MADRAS PRESIDENCY (1876-78).**

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DOCTOR OF PHILOSOPHY**



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Thesis Abstract

The thesis is a critical examination of the relationship between different levels of the colonial state and its medical services in the relief of famine in Madras Presidency during 1876-78. The state was irrevocably divided in moral, administrative and financial terms in its responses to famine and the provision of famine relief during this episode. These divisions made for inconsistencies in the relief of distress, and resulted in widespread suffering and starvation. However, they also allowed for considerable latitude by the Provincial Government in the implementation of Imperial famine policy, and for the medical profession to gain administrative authority by claiming expertise in the scientific determination of standards of state support for the famine stricken.

This famine heralded the beginning of organized all-India state intervention in famine processes through the institution of famine codes and organized bureaucratic machinery for the early prevention of agrarian distress through prompt state intervention. To this extent, this particular episode was a 'prime mover' in the history of the medical profession and the history of state intervention in famine relief in India.

The thesis seeks to address critically several problems in the historiography of famine, colonial medicine, disease and the state in modern South Asia through this case study. It attempts to do so through a critical re-examination of material used by previous authors and the use of some hitherto unused sources from the Provincial archives.

Table of Contents

	Pages
Title Page	1
Declaration of Originality	2
Declaration of Number of Words	3
Thesis Abstract	4
Table of Contents	5
List of Tables, Figures and Appendices	6
Acknowledgements	7
List of Abbreviations	8
Transliterations	P. 9-11
Introduction: Famine, Disease, Medicine and the State in Madras Presidency	P. 12-81
Chapter 1: State Intervention and Famine Relief Policy 1876-78	82-147
Chapter 2: William Robert Cornish and State Intervention during the Madras Famine	148-196
Chapter 3: Vital Statistics, Famine Policy, Colonial Medicine and the State	197-243
Chapter 4: Starvation, Disease and Death in Madras 1876-78	244-314
Chapter 5: Administrative, Medical and Social Responses to Famine	315-346
Conclusions	347-353
Select Bibliography	354-374
Map	375

List of Tables, Figures and Appendices

	P. Nos.
Introduction	
Table 0.1 Famines in the Madras Presidency 1729-1866	74-77
Table 0.2 Governmental Agencies Involved in Health, Medical Relief and Sanitation in Madras 1786-1880	78-81
Chapter 1	
Table 1.1 Districts affected by Famine, January 1877	107
Chapter 2	
Table 2.1 Richard Temple on Famine Relief in 1874 and 1877	171
Chapter 3	
Table 3.1 Loss of Population 1871-1878	225
Table 3.2 Michael Kennedy's Calculations of Population Loss	229
Appendix 3.1 Causes of Death 1877	237-243
Appendix 3.2 Cornish's graph showing the link between mortality and food prices	243A
Chapter 4	
Table 4.1 Deaths by Cause 1871-78	258
Table 4.2 Monthly Distribution of Deaths 1876-78	260
Graph G4. Monthly Movement of Deaths 1876-78	265
Fig.4.1 Average distribution of deaths by cause 1871-75	266
Fig. 4.2 Distribution of Deaths by cause 1876	267
Fig. 4.3 Distribution of Deaths by cause 1877	268
Fig. 4.4 Distribution of Deaths by Cause 1878	269
Table 4.3 Table 4.3 Mortality in Famine Districts Dec'76-Jan'77	271
Table 4.4 Fever Mortality in 1877	287
Table 4.5 Increase or Decrease of Numbers by Caste 1871-1881	313
Table 4.6 Proportionate Increases and Decreases by Caste 1871-1881	314
Chapter 5	
Table 5.1 Cholera Mortality in Thanjavur (Tanjore) and Kurnool 1871-1881	323
Table 5.2 Length of Imprisonment and Mortality in the Gaols of Madras 1877	334
Map of Affected Districts	375

Acknowledgements

The writing of this thesis has owed an immeasurable amount to several individuals and institutions.

Professor Anne Hardy has been a source of moral, intellectual and emotional strength. I owe to her the very chance to carry on and complete my doctoral degree. Had it not been for her forthright support and deep sensitivity at a very difficult personal and academic juncture in my life and thereafter, this thesis might never have seen the light of day. Dr. Alex McKay encouraged me through several clumsy drafts of my chapters. I am grateful for his detailed and incisive comments on my work, for his insightful yet gentle criticism, and for his professional advice. Professors Janet Browne and Hal Cook have provided generous academic support, and Dr. Michael Neve was extremely helpful at a critical moment.

A doctoral grant from the Wellcome Trust Centre for the History of Medicine at UCL provided me with the financial, logistic and administrative assistance to carry out my research in London and India. The administrative staff at the Wellcome Trust Centre have been wonderful. I particularly thank Alan Shiel, who has been a brick in helping me to sustain myself financially through four long, hard years.

I am deeply grateful for the cheerful generosity of the staff at the various archives and libraries I have accessed. These include the staff of the Oriental and India Office Collections and the British Library, the Wellcome Library, the Tamil Nadu State Archives (particularly Sivakumar and Neelavannan), the Roja Muthaiah Library, the Connemara Library, and the Maharashtra State Archives in Mumbai. Drs. Sanjay Sharma and Biswamoy Pati offered me valuable suggestions and advice when I visited New Delhi in 2004, and I have benefited from conversations with David Hall-Matthews, Sarah Hodges, Raj Chandavarkar, Chris Hamlin, Sujata Patel and Mohan Rao. I also thank numerous unnamed attendees at conferences where I presented my work, for their comments and suggestions.

Family, well-wishers and friends across the world, contributed to make my research possible, tolerable and enjoyable in a variety of ways. Sumi, Rochelle, Bhavana, Pradeep, Geetha Aunty, Samiksha, Nahida, Nandini and Pratik kept me sane in London during my first year. Papuma, Chander Mama, Ambi Mama and Thuthi looked after me while I was in Chennai in 2004, and Aparna and Bhavani were amiable company in the Tamil Nadu State Archives and at Chennai's many eating places and cinemas. Rahul has always been there for me in his quiet way. Veronica, Anitha, Asha, Shanti, Deepa, Pragnya, Shambhavi and Dhivya have all been incredibly generous with their time and affection at various stages. Helga, Stephen, Candice, Laurence, Theresia and Lois were bright spots in the Wellcome. Barry Keane and Matthew Hughes made an important difference to my life.

Ruby and Amma, thank you for everything. I would not have been here if it had not been for you.

List of Abbreviations used in the Thesis

BMJ	British Medical Journal
CEHI	Cambridge Economic History of India
DRAC	Department of Revenue, Agriculture and Commerce
GoI	Government of India
GoM	Government of Madras
G.O.	Government Order
IESHR	Indian Economic and Social History Review
IFRF	Indian Famine Relief Fund
IMS	Indian Medical Service
IOR	India Office Records
JAS	Journal of Asian Studies
MAS	Modern Asian Studies
Rs.	Rupees
SoS	Secretary of State for India
SCR	Annual Report of the Sanitary Commissioner for Madras
TNSA	Tamil Nadu State Archives

Transliterations and Explanation of Terms

Note: Several of these transliterations have been taken from N. Mukerji, *The Ryotwari System in Madras*, Calcutta, 1962. The remainder are adapted from Vol. III of the *Manual of Administration of the Madras Presidency*, Madras 1893.

Akbari: A form of revenue derived from taxation on the production of liquors.

Cholum : *Sorghum Vulgare*, or Indian millet.

Choultry: A hall or public building used by travellers as a resting place, and also intended for the transaction of public business, Anglo-Indian form of *Chavady*.

Chhuttrum: A house or building where pilgrims and members of the higher castes were sheltered and fed gratuitously for a day or two, mostly while on pilgrimage.

They were usually run by charitable foundations, and sometimes benefited from state support.

Coolie, cooly, coolly: Labourer.

Conjee: Starch, slop or gruel consisting of water in which rice or other grain has been boiled, used as an article of invalid diets.

Crore: A numerical measure usually used to describe money; a crore represents a hundred lakhs or 10 millions.

Cumboo : Bajra, botanical name, *Panicum Grossarum*, a coarse staple grain.

Dal: a preparation of lentils and spices, usually poured as gravy on rice or other grains.

Inam: Grants of land for religious or charitable purposes, made by Government, sometimes free or rent, sometimes with light rent.

Inamdar: A person in possession of rent-free or favourably assessed lands.

Karnam/ Curnam/ Kanakapillai: Accountant or clerk of the village who registered everything connected with its cultivation and produce, the shares of the ryot , and the dues and rights of Government in soil.

Lakh: A numerical measure, a hundred thousand.

Mirasidars: Military chieftans.

Monegar: Supervisor or manager, also the name of a caste group.

Mofussil: separate, detailed. The subordinate divisions of a district, in contradistinction to the *sudder* or seat of the local or district level Government. So, the countryside in general, as distinct from the capital of a province.

Munsiff: Village watchman, minor native judge, sometimes also designated the village headman. Some given police functions.

Pariah: Outcaste, name of one of the lowest untouchable caste groups.

Patel: Village headman, sometimes designated *munsiff*.

Ragi/Ragee: *Eleusine coracana*, dry grain staple of the Mysore country and much of the dry Madras districts.

Ryot: Peasant, tenant of land, cultivator.

Ryotwari: A settlement made by the Government immediately with the ryots individually.

Sheristedar: Keeper of records, revenue accountant of a district who checked the records kept by village accountants.

Sircar: The state or government .

Sudra: In the 'varna' conception of the caste system, the lowest of the four groups in the hierarchy. However, in Madras, the *Sudras* composed a large and heterogeneous set of groups, of which several were prosperous and politically dominant.

Tahsil: Revenue sub-division of a district.

Tahsildar: A native collector of subdivision under a European Collector

Talook: Subdivision of a district.

Vettyan: Mortuary officer; grave digger or burner of bodies.

Takavi/ Tuccavy/ Tuckavi/ taccavi: Advance of money to tenants for purchase of seeds, implements or other means of cultivation in times of distress.

Tannah (Thana): Station, especially a police station.

Vaisya: In the 'varna' conception of the caste system, the third of the four groups in the hierarchy, said to represent the trading castes.

Varagu: *Panicum miliaceum*, dry cereal grain eaten extensively by the poor in the Tamil districts.

Zamindar/ Zemindar: Proprietor of land with whose rights and recognition it was not intended to interfere interposed between the Government and the people in the revenue system.

Zamindari(y)/Zemindari(y): The office or jurisdiction of a *Zemindar*.

Introduction: Famine, Disease, Medicine and the State in Madras Presidency (1876-78)

This study examines the relationship between different levels of the colonial state and its medical services in the provision of official famine relief during 1876-78 in Madras Presidency. My main aim in writing this thesis has been to show the great complexity of official responses to famine in colonial India, both medical and non-medical, and to look at the consequences of these responses for famine relief and famine mortality.

My thesis focuses on a specific historical event, through the study of which I hope to test some of the generalizations made by other historians of famine in nineteenth century India. The 'Great Famine' of 1876-78 is one of the best-documented famines of the late nineteenth century. Affecting an area of 20,000 square miles and a population of 36 million people in three provinces of British India, this famine led to the formation of the Famine Commission . . . The latter's Report of 1880 has widely been seen by modern historians as one of the first statements of an all-India famine policy which stressed the need for early detection and prevention of agrarian distress through the agency of local and Provincial officials.¹ The Commission's Report was a statement of the need for a preventive program of extensive state intervention in agriculture and in agrarian society in order to stall the process whereby

¹ See K. S. Singh, 'The Famine Code: Context and Continuity' in J. Floud and A. Rangasami, *Famine and Society*, New Delhi, 1993; P. Robb, 'The Colonial State and Constructions of Indian Identity: An Example on the Northeast Frontier in the 1880s', *MAS*, 31, 2 (1997): 245-83; L. Brennan, 'The Development of the Indian Famine Codes: Personalities, Policies and Politics' in B. Currey and G. Hugo, *Famine as a Geographical Phenomenon*, Dordrecht, 1984 and D. Hall-Matthews, 'The Historical Roots of Famine Relief Paradigms' in H. O'Neill and J. Toye (eds.), *A World Without Famine? New Approaches to Aid and Development*, 1998.

distress led to starvation and mortality on a wide scale. However, as a document, the Report also stressed the *limits* to state intervention.² Both the Report as well as the Famine Codes of the 1880s reflected the debates that had marked the official provision of relief during 1876-78. This episode, therefore, had direct consequences for the codification of state intervention in a particular form.

Further, the Famine Codes issued by each Province at various points in the 1880's differed widely in their adaptation of the main recommendations of the Famine Commission's Report itself. Thus, famine policy as it developed after 1880 was predicated essentially upon two sets of tensions which had occurred during the course of the famine of 1876-78. These were firstly, the tension between different layers of the state over the moral and ideological basis of intervention in famine relief; and secondly, the tension between different agencies of the state over the financial and administrative arrangements for this intervention. These tensions marked official responses during the Great Famine and were then carried forward into the Famine Codes.

The Great Famine generated enormous amounts of official data, which have been used extensively in general histories of famines in colonial India, in order to argue a number of points in connection with famine policy, famine demography, causes of famine and popular responses to state intervention in famine relief.³ Judging by this, it

² Thus, although the Commission's Report stated the responsibility of the state to prevent mortality, a major concern was also to prevent the 'demoralization' of the peasantry through the institution of strict tests of need for applicants for relief. (*Report of the Indian Famine Commission, Part 1 Famine Relief*, p. 35, IOR/V/4/Session 1880/Vol. 71). See also A. Rangasami, 'Systems of Limited Intervention: An Evaluation of the Principles and Practice of Relief Administration in India', in Floud and Rangasami, *Famine and Society*, op. cit.; Brennan, 'The Development of the Indian Famine Codes' op. cit, and Hall-Matthews, 'The Historical Roots of Famine Relief Paradigms', op. cit.

³ B. M. Bhatia, *Famines in India: A Study in Some Aspects of the Economic History of India*, Delhi, 1968, see especially pp. 93-96; S. Ambirajan, *Classical Political Economy and British Policy in India*,

would appear that this famine has been adequately dealt with by modern Indian historians. The need for yet another account of this famine, therefore, might be questioned. However my study explicitly focuses on the following issues which have hitherto been relatively under-researched in histories of colonial famine policy in nineteenth century India.⁴

The 'Heterogeneous' State

The first relates to the idea of the colonial state as a layered and heterogeneous collection of individuals and administrative institutions, whose interactions were not always harmonious and where official political authority was largely determined by proximity to local elites and influential indigenous people, rather than residing in the military force or political dominance of the European official and his allegiance to the Government of India. While it would require a separate monograph to discuss these issues in depth, it is enough to state that earlier historiography tended to assume that state responses to famine were unitary or homogenous, and that political authority flowed from 'the colonial state' (as embodied by the Government of India, backed up by the political force of the India Office in London). The 'colonial state' pushed forth

Cambridge, 1976, pp. 93-97; Idem, 'Malthusian Population Theory and Indian Famine Policy in the Nineteenth Century', *Population Studies* 30, 1(1976): 5-14, especially pp. 6-8; I Klein 'When the Rains Failed: Famine, Relief and Mortality in British India', *IESHR*, 21, 2 (1984):185-214 (see especially pp. 195-200); R. Lardinois, 'Famine, Epidemics and Mortality in South India: A Reappraisal of the Demographic Crisis of 1876-78', *Economic and Political Weekly*, XX, 11 (1985): 454-465 ; M. Davis, *Late Victorian Holocausts: El Nino Famines and the Making of the Third World*, New York , 2001, Ch. 1, 'Victoria's Ghosts'; T. Dyson, 'On the Demography of South Asian Famines Part 1', *Population Studies* 45 (1991):5-25; D. Rajashekhar , 'Famines and Peasant Mobility: Changing Agrarian Structure in Kurnool District', *IESHR* 28, 2 (1991): 121-150.

⁴ For the purposes of this thesis, it seems appropriate to define famines as crises of subsistence and mortality, although an appropriate definition of famine has been the subject of academic as well as policy debates between scholars of a variety of disciplines. For a review of definitions of famine, see M.K. Bennett, 'Famine', in D.L. Sills (ed.), *International Encyclopaedia of the Social Sciences*, Vol. 5, New York, 1968. See also A.K. Sen, *Poverty and Famines*, Oxford, 1984, Ch. 4; A. Maharatna, *The Demography of Famines*, Delhi, 1996, p. 1; and S. Devereaux, *Theories of Famine*, Hertfordshire, 1993, Ch. 2.

programmes of famine relief which did little to prevent the mass mortality caused by subsistence crises.⁵

In a sense, this historiography took off from nationalist accounts, which saw famines as the direct result of adverse economic and social changes wrought by British colonialism, particularly its land revenue and trade policies.⁶ While not primarily concerned with debates around *causation*, our account suggests that official *responses* to famine were more subtle and variegated than this historiography suggests, and often in conflict with each other. In addition, 'state' policy was not always determined by officials in the India office or the Government of India. Provincial and district level officials played a more significant role than has been hitherto recognized in the formation of policy.

In a sense, the bias in analyzing famine policy towards an emphasis on 'Imperial' decision making might be said to have derived from a focus on Northern and Eastern India. Historians of south India have long been aware that there were significant gaps between Imperial and Provincial injunctions and local and regional political and administrative practices. The Government of India had much less to do with goings-on in the south than it did in the north. Further, within the Province, decision making processes relied far more on local and indirect influence, rather than on the direct force of Fort St. George.

⁵ A classic account of this view of famine policy is to be found in Bhatia, *Famines in India*, op. cit.; Ambirajan, *Classical Political Economy*, op. cit., and Klein, 'When the Rains Failed', op. cit.

⁶ Classics in nationalist economic historiography include R. Dutt, *India in the Victorian Age: An Economic History of the People*, 1904; idem, *Open Letters to Lord Curzon on Famines and Land Assessments in India*, 1900; and W. Digby, 'Prosperous' British India. A Revelation from Official Records, 1901.

The concept of a 'segmentary' state was coined by Burton Stein to describe the character of political influence in medieval South India.⁷ Although concerned with pre-colonial political forms, Stein's concept is worth elucidating because of its resonance for a later period and for understanding how a layered political structure influenced the formation of policy and its administration in South India.⁸ Authors who have studied nineteenth century south India have made similar points regarding the fragmented structure of political authority and its influence on policy and administrative practice.⁹ For example, both David Washbrook and R.E. Frykenberg describe the enormous bureaucratic maze that Fort St. George's governance rested on, and its implications for control and authority in the *mofussil*. While Fort St. George exercised a strict watch over the interior through its European civil servants, these servants, particularly district collectors, were heavily dependent on locally influential Indians for information, which was crucial for working the state machinery.¹⁰ These works thus enable us to critically question assumptions about a homogenous and unitary colonial 'state', and its relationship with politics and policy formation. Yet, very few works have examined the divisions and interrelationships within the state in responding to crisis. We seek herein to re-examine some of the generalizations about 'the colonial state' in existing accounts of official responses to famine in India, and particularly the provisions made during this famine.

⁷ B. Stein, *Peasant State and Society in Medieval South India*, Delhi, 1980.

⁸ Here, it must be mentioned that Eugene Irshick argues that the state ceased to be 'segmentary' after 1795 in that the government tried to introduce a bureaucratic society and institutions based on an idea of a fixed hierarchy. (E. Irshick, *Dialogue and History: Constructing South India 1795-1895*, Berkeley, 1994, pp. 69-70).

⁹ D. Washbrook, *The Emergence of Provincial Politics: The Madras Presidency 1870-1920*, Cambridge, 1976. Chris Bayly's work is a good reference point for the North Indian context, albeit for an earlier period than ours; see for example *Rulers, Townsmen and Bazaars: North Indian Society in the Age of Expansion 1770-1870*, Delhi, 1983. On south India, see also R. E. Frykenberg, *Guntur District 1788-1848: A History of Local Influence and Central Authority in South India*, Oxford, 1965.

¹⁰ Washbrook, *The Emergence of Provincial Politics*, op. cit.

Influences on Famine Policy

Further, we also seek to critically examine the range of historical influences on famine policy. Existing accounts of the formation of famine policy have tended to emphasize the role of ideological factors- particularly commitment to non-interventionism as based on the principles of classical political economy as elucidated by Adam Smith, and espoused by other influential political thinkers in late eighteenth and nineteenth century England- shared by European officials as a dominant influence on Indian famine policy. According to the accounts put forth by scholars like S. Ambirajan, Ira Klein and David Arnold, *laissez faire* ideas- derived from classical political economic theories enunciated by Adam Smith, Thomas Malthus and J.S. Mill and taught to ICS officers- shaped the intellectual world of British civil servants. These ideas were directly put into action in the form of non-interventionist policies.¹¹

However, there are other factors- financial expediency, political strategy, and what Lance Brennan has termed 'personalities and politics'- which have also been held to account for the way in which famine policy evolved.¹² We seek to explore the interaction between these various factors. In the first chapter, therefore, we trace out the way in which the different levels and agencies of the state responded to this famine, and attempt to assess how ideological, administrative, moral and logistic factors shaped these responses.

The nature of political governance in Madras was a crucial factor determining systems of official famine relief. The administration of the *ryotwari* system and the nature of

¹¹ Ambirajan, *Classical Political Economy*, op. cit; idem, 'Malthusian Population Theory and Indian Famine Policy in the Nineteenth Century', op. cit; Klein, 'When the Rains Failed: Famine, Relief and Mortality in British India', op. cit, D. Arnold, *Famine: Social Crisis and Historical Change*, Oxford, 1988, p. pp. 105-112.

¹² Brennan, 'The Development of the Indian Famine Codes', op. cit.

land tenures made the district officials and the Madras Board of Revenue important players in the debates between the Provincial Government and the Imperial Government. (The *ryotwari* system referred to the system of land revenue administration that predominated in the Madras and Bombay Presidencies, whereby land revenue was paid directly by the cultivator to the agents of the Provincial Government).¹³ Further, Madras itself was remote from the seat of Imperial rule, and this often made it easier for the Provincial Government to flout rules- seemingly based on knowledge of administrative systems in Bengal and Bombay- laid down by the Government of India. The Provincial Government, however, dependent upon the Board of Revenue and a variety of district and local officials for information regarding the state of the crops and the condition of people and cattle, often was hopelessly misguided in its knowledge about processes in the interior. This proved a crucial factor in allowing certain *kinds* of information to gain administrative privilege. We argue that this episode was the first where famine came to be seen as a specifically *medical* phenomenon, to be measured in terms of death statistics, a measure that continues to be used in the definition of famine till date.

Medicine and the Making of Famine Relief Policy

The third theme that this thesis addresses is at the role played by one individual, W.R. Cornish, the Sanitary Commissioner of Madras in 1877, in the shaping of famine policy in Madras. As will be shown in chapter 2, Cornish was prominent in the debates on famine policy in 1876-78, and was also directly involved in the creation of the first Provincial famine code in the 1880s. A study of his professional and personal attributes enables us to address the interaction between the 'state' and its medical

¹³ On the *ryotwari* system, see N. Mukherjee, *The Ryotwari System in Madras 1792- 1827*, Calcutta, 1962; and K.G. Sivaswamy, *The Madras Ryotwari Tenant, Part I: An Economic Survey*, Madras, 1948.

services in a nuanced and detailed manner, addressing a set of debates in the literature on 'colonial medicine'.

A prominent theme in the literature on colonial medicine is the extent to which European colonial medicine was a 'tool of empire'.¹⁴ Earlier studies saw colonial sanitary and medical services as working primarily to make the tropics a more habitable place for European civilians and troops through sanitary and medical improvements and control of epidemic diseases, and thereby serving the interests of the Imperial state.¹⁵ Some sites, which were strategic to the maintenance of colonial economic and military power- notably the army, the prisons and the plantations- were provided for in medical and sanitary terms by the state, while the health and medical needs of the general population was neglected completely. However, the outbreak of epidemic diseases and sanitary theories of disease causation from the 1860s focused the attention of the colonial state on the health needs of the general population. From this period onwards, therefore, attempts by state medicine to intervene in the health of the general population through preventive sanitary science was spurred by attempts to control the outbreak of epidemic disease in the cantonments and prisons. While sanitary science served the needs of an expansionist state, the medical profession had a profound influence on the way in which colonial power investigated, understood and ultimately attempted to manage indigenous society'.¹⁶ Thus the medical

¹⁴ The term 'tool of empire' derives from D. Headrick, *The Tools of Empire, and Technology Transfer in the Age of Imperialism*, Oxford, 1981. See also D. Arnold, *Colonizing the Body: Epidemic Disease and State Medicine in Nineteenth Century India*, Princeton, 1993; Idem, *Imperial Medicine and Indigenous Societies*, Manchester, 1988 and M. Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914*, Cambridge, 1994; B. Pati and M. Harrison (eds.), *Health, Medicine and Empire: Perspectives on Colonial India*, New Delhi, 2001.

¹⁵ Arnold, *Colonizing the Body*, op. cit; Idem, *Imperial Medicine*, op. cit; Harrison, *Public Health in British India*, op. cit; Idem., *Climates and Constitutions: Health, Race, Environment and British Imperialism in India*, New Delhi, 1999. See also R. Headrick, *Colonialism, Health and Illness in French Equatorial Africa 1885-1935*, Atlanta, 1994.

¹⁶ Arnold, *Colonizing the Body*, p. 291.

profession was a 'handmaiden to the Imperial state'¹⁷, and 'doctors and surgeons helped to form and give a seemingly scientific precision to abiding impressions of India as a land of dirt and disease, of lethargy and superstition, of backwardness and barbarity- and to contrast this Orientalized India with the cool-headed rationality and science, the purposeful dynamism, and the paternalistic humanitarianism of the West'.¹⁸ David Arnold sees medicine's colonizing power as emerging from its association with the military and political force of the colonial state. In the end, however, medicine helped consolidate that power through its cultural dominance and claims to 'scientific status', although this status was contested both from within the profession and by non-medical administrators.¹⁹ While mentioning the low professional and administrative status of European medical men, Arnold's account seems to overemphasize the symbiotic nature of the relationship between colonialism, state power and the European medical profession, a problem also inherent in Mridula Ramanna's recent monograph on public health in colonial medicine.²⁰

Other studies have suggested a different view of the medical profession's relationship with the colonial state and Indian society. For example, Mark Harrison argues that colonial medicine was more limited than Arnold and Ramasubban assume in its ability to intervene and shape Indian society. In fact, medicine itself was moulded by its social and political context, and its links with imperial power far more tenuous than Arnold and Ramasubban assumed. The depth of medical intervention was limited by contests within the Imperial order itself; between different conceptions of Empire, and between different political, economic and cultural imperatives of local

¹⁷ R. Jeffery, *The Politics of Health in India*, Berkeley, 1988, p. 64.

¹⁸ Arnold, *Colonizing the Body*, p. 292.

¹⁹ Roger Jeffery on the other hand states that medicine's limitations came from its bureaucratic structure and its status as handmaiden to empire. *The Politics of Health in India*, p. 64.

²⁰ M. Ramanna, *Western Medicine and Public Health in Colonial Bombay 1845-1895*, 2002.

administrations.²¹ Harrison's study argues that the medical profession in India suffered from low professional status as well as indifference from the colonial administration.²² The profession was deeply divided on questions of disease causation and medical theory. To this extent, the ability of 'colonial medicine' to be or become a tool of empire through the extension of preventive medicine to the general public was limited.

Moreover, the reluctance of non-medical officials to interfere in the social and cultural practices of the indigenous population limited the ability of colonial medical officials to push forth programmes of sanitary reform; while their limited curative ability did little for the administrative or professional status of European medical officials in India. Harrison sees Indian support or opposition as actively involved in the process whereby public health schemes were implemented. Our study resonates several of these themes. It investigates Cornish's role in the 'medicalization' of famine and famine policy from the point of view of personal, professional and administrative factors. We argue that medicine was not so much a tool of Imperialism as a competitive player in debates between different levels of Government and strands of Imperial thought and administrative practice, in a crisis situation.

Vital Statistics, Public Health and Interventionism

An important aspect of Cornish's prominence and his success in supporting an interventionist famine policy was his use of vital statistics as indices of the efficacy of

²¹ Harrison, *Public Health in British India*, op. cit. See also S. Bhattacharya, 'Re-devising Jennerian Vaccines? European Technologies, Indian Innovation and the Control of Smallpox in South Asia, 1850-1950', in Pati and Harrison, *Health, Medicine and Empire*, op. cit.

²² Ibid, pp. 9-10.

state famine relief. Vital statistics were intended as Imperialist tools in the sense that registration was initially the basis of efforts to improve European military health in India. However, not only were vital statistics a fiction of officialdom in many cases, but they were also used to bring ignominy on Imperial famine policy by Cornish.²³ Chapters 3, 4 and 5 look at historiographical debates around colonial statistics and famine mortality, and thus follow upon each other. Chapter 3 examines debates between different levels and agencies of the state over the accuracy of vital statistics during the famine; Chapter 4 uses mortality statistics to suggest a hypothesis regarding famine mortality, with an awareness of their imperfections; and Chapter 5 addresses the influence of administrative, social and medical responses to subsistence crises on famine mortality.

Chapter 3 of the thesis attempts to address historiographical debates around the links between knowledge, power and Imperialism in colonial India. While vital statistics were flawed tools of sanitary medicine, they nevertheless were important political weapons in contests between different visions of empire and public health.

Starvation, Disease and Medicine

Chapter 4 investigates the relationship between famine and disease, using the vital statistics for the famine years. In doing so, it examines critically the ways in which previous scholars have dealt with the mortality statistics for this famine. We argue that the evidence tends to support a ‘starvation’ model of famine mortality as against a ‘health crisis’ model.

²³ Debates around colonial statistics have tended to divide scholars who saw them as forms of knowledge which were intrinsic to the knowledge/ power Imperialist project, against those who viewed them as weak and ineffectual tools of governance, and those who saw them as positive outcomes of colonial rule. See Chapter 3 for further details.

Finally, in Chapter 5, I examine social, administrative and medical responses to subsistence crises in exacerbating famine mortality. My study indicates that the effects of population movements on famine mortality, and the role played by colonial institutions in exacerbating disease through encouragement to migration and confinement of famine stricken people in insanitary conditions, need to be more carefully investigated than has hitherto been done. Further, medical responses to this famine reflected medicine's competitive 'playing' of administrative divisions as well as its therapeutic impotence in the face of mass starvation.

What follows therefore is a thematic study of selected questions in the historiography of famine and of colonial medicine, using this episode of famine as a case study.

Ultimately the aim is to investigate the interactions between the colonial medical profession and colonial administrations in a time of crisis; as well as discuss the relevance of this particular crisis in a longer-term history of colonial medicine and the state in Madras. This interaction, it is argued, had important consequences for famine policy; while medicine's involvement in famine gave it a new professional and administrative status in the post-famine interventionist state.

A Long term Economic Crisis?

A brief review of literature on the economic trends in Madras sets the stage for our analysis. The period between 1855 and 1875 has been seen as a period of agricultural prosperity by historians of southern India.²⁴ Yet, this prosperity does not seem to have been generalized and there were large divides of wealth, income and status in most

²⁴ See D. Kumar and T. Raychaudhuri (eds.) *The Cambridge Economic History of India Vol. 2, c.1757-c.1970*, Cambridge, 1983 (henceforth *CEHI*), p. 230 and Washbrook, *The Emergence of Provincial Politics*, op. cit.

areas. The distribution of water supplies was a particularly important factor in understanding the agrarian economy. While the great irrigation works built in the 1850's transformed the northern districts of Kistna and Godavari into richly watered and prosperous areas, and Tanjore benefited from the perennial water supply of the Kaveri river, the 'dry' districts remained poor and marked by great inequalities. The worst off were the Ceded districts of Bellary, Cuddapah and Kurnool, as also Nellore and North Arcot.²⁵ These were the districts which suffered the most in the famines of the late nineteenth century.

In terms of landownership, Dharma Kumar has indicated that between 1862 and 1880, the rate of evictions of tenants by landlords increased by 45%, pointing to a process of increasing vulnerability among sharecroppers and tenants, and possibly an increasing concentration of wealth amongst large landholders.²⁶ In addition, the social composition of Madras was marked by a very large proportion of landless agricultural labour castes, in positions of hereditary slavery. In 1900, they formed almost a quarter of the population of the Presidency.²⁷ Although wage series are available only from 1873 onwards, Kumar also finds that the real wages received by these labourers declined in the last quarter of the nineteenth century. (Kumar attributes this decline to population growth through increased fertility amongst the untouchable labouring castes. Her arguments are convincing, but lack direct evidence regarding trends in fertility).

²⁵ Bellary became a cotton exporting district in the latter half of the nineteenth century, but the concentration of economic resources in the hands of commercial farmers meant that cropping decisions were dictated by commercial rather than subsistence agriculture. This thesis, propounded by Washbrook, has been questioned by Dharma Kumar who argues that there is little evidence for the view that land was increasingly passing into the hands of rich farmers and moneylenders and that in fact land was increasingly becoming fragmented rather than consolidated, through population growth.

²⁶ *CEHI*, p. 237.

²⁷ D. Kumar, *Land and Caste in South India: Agricultural labour in the Madras Presidency during the Nineteenth Century*, Cambridge, 1965, p. 173.

Kumar's arguments regarding a decline in wages are corroborated by David Washbrook, who also finds that if wages were moving at all, they were moving downwards. Washbrook argues that commercialization of agriculture deepened existing divides in Indian society.²⁸ Finally, there was a steady rise in food prices from 1862-63 onwards.²⁹ This would indicate that the 1860s and 1870s were periods of considerably precarious existence for large numbers of people, although economic data tends to indicate that there was upward mobility amongst some groups.³⁰ David Washbrook's thesis- that the severe impact of the famine on the population of Madras was largely due to the structure of agrarian political-economic relations which was marked by sharp inequalities of wealth, landownership and status- appears to hold considerable weight. Cornish's study of the links between the food supply system, rural social relations and vulnerability to famine also indicates a sharply unequal social structure, in which the entitlements to food amongst the poorest sections were always precarious.³¹

²⁸ CEHI p. 238; also Washbrook, *The Emergence of Provincial Politics*, p. 81.

²⁹ Between 1862-63 and 1865-66, the percentage rise in prices was as follows: Rice: 24.5%; Paddy 26.1%; Cholum 29.3%; Cumboo 37%; Ragi 32%; Varagu 18%; Wheat 56%; Salt 3%. In the next year (i.e. between 1865-66 and 1866-67) the prices rose as follows: Rice 21%; paddy 23%; Cholum 29%; Cumboo 21%; Ragi 35%; Varagu 27%; Salt 21%. Note that the largest increase was in the price of *ragi*, *cholum* and *cumboo*, the staples eaten by the poor. (Calculated from figures given in *Administration Report of the Madras Presidency 1866-67*, Madras, 1867, p. 33. See also 'Memorandum on Scarcity and Drought 1866-67' in *Administration Report 1866-67*, pp. lxxiv-lxxxiv).

³⁰ CEHI, p. 230-1; See also Washbrook, *The Emergence of Provincial Politics*, Ch. 2. Washbrook notes that inequalities between different groups increased over the course of the nineteenth century and that the wealth of large landholders increased over this period. This process was particularly marked in the 'dry' regions, although it occurred in Tanjore and other parts of the Kaveri delta as well. It was only in the Kistna and Godavari deltas, transformed by Arthur Cotton's engineering genius in the mid-nineteenth century from dry, disease and famine ridden districts to rich, irrigated, commercial centres, that sharp inequalities of landownership, cultivation and status were replaced by the emergence of a substantial middle peasantry. Washbrook's later work on Bellary district, a classic 'dry' district, shows that the commercialization of agriculture in the region in the late nineteenth century in fact deepened the economic divides that existed. See D. Washbrook, 'Economic Change and Agrarian Organization in 'Dry' South India: A Reinterpretation', *MAS*, 17, 1 (1983): 59-78.

³¹ Washbrook, *The Emergence of Provincial Politics*, pp. 76-7; W. R. Cornish, 'The Sanitary and Medical Aspects of Famine', *Fourteenth Annual Report of the Sanitary Commissioner for 1877* (henceforth *SCR 1877*), Madras, 1878, Ch. II, 'Food, labour and wages in non-famine times'.

In these circumstances, a strong welfare state or a comprehensive system of private charity which intervened to protect the rights of the dispossessed or to preserve the labour force in times of scarcity might have prevented subsistence crises. But neither existed in colonial Madras, and famine 'policy' throughout the nineteenth century was in reality a compromise between a set of stated (but variously interpreted) principles and the exigencies of a particular historical situation.

Famines and State Intervention: The South Indian Context

As for most other Provinces, the colonial archive contains few references to pre- nineteenth century famines or famine policy in South India. As Sanjay Sharma remarks in the North Indian context, the paucity of information was often construed by European administrators as a lack of a historical sense among pre-colonial rulers and the state.³² For example, the Godavari district gazetteer remarks that 'There are no references to early famines except vague ones by native historians.'³³ However, Jesuit missionary records contain some references to famines which occurred in 1633, 1648, 1659-62, 1677 and 1709.³⁴ The Tanjore district gazetteer also mentions the existence of a scarcity during the Chola period at Alangudi, south of Kumbakonam in 1054.³⁵

At Koviladi, also in Tanjore district, in the eleventh century, 'times became bad, the village was ruined and the *ryots* fled', but there was no mention of loss of life.

³² S. Sharma, *Famine, Philanthropy and the Colonial State: North India in the Early Nineteenth Century*, New Delhi, 2001, p. 3.

³³ F. R. Hemingway, *Godavari District Gazetteer*, Madras, 1907, p. 137

³⁴ W. Francis, *Imperial Gazetteer of India Provincial Series Madras I*, Calcutta, 1908, p. 79.

³⁵ F.R Hemingway, ICS, *Tanjore District Gazetteer* Vol. 1, Madras, 1906, p. 147.

Another famine was mentioned in the *Periya Puranam* in the seventh century, whereupon the saints Sambadnar and Appar were helped by Lord Siva to relieve distress.³⁶ Ferishtha, a Persian traveller, mentioned two famines which occurred in Bellary and the Deccan in the 15th century.³⁷ Thomas Munro, one of the pioneers of the *ryotwari* settlement in the late eighteenth century

also mentions a scarcity in Bellary in 1756.³⁸

A detailed record of famines and state famine policy in Madras from the late eighteenth century onwards was compiled from Revenue Board records by R.A. Dalyell, a Madras civil servant, in 1867.³⁹ Dalyell observed that pre-colonial famine policy was based on a notion of the moral duty of kings and rulers to provide for their subjects in times of distress. Further, the eighteenth century was demarcated from the nineteenth century in that prior to 1804, there were no moral or administrative strictures preventing state intervention, either in terms of regulating the grain trade or in terms of the provision of work and food for starving people upon the failure of monsoons. Thus, non-interventionist ideals as guides to state policy can be dated to the late eighteenth century. In addition, even in the nineteenth century, administrators like Dalyell interpreted the occurrence of famines as the failure of a previous native ruler to protect the country against drought or their extractions from the *ryots* in terms of plunder and land revenue. Thus a famine in 1733 was described by Dalyell as the result of the neglect of irrigation works since the agents of the Moghul emperor had taken possession of

³⁶ Ibid, p. 147.

³⁷ W. Francis, Bellary District Gazetteer, 1916, p. 128.

³⁸ Ibid.

³⁹ Robert A. Dalyell was a member of the Indian Civil Service who was one of the steering members of a private charitable fund for famine relief during 1866. He went on to become the Secretary to the Government of Madras, which post he held during the 1876-78 famine.

the country.⁴⁰ Further famines took place in the course of the eighteenth century, but there is little information regarding them.

The following account is based largely on Dalyell's account in order to discuss the relationship between ideas regarding non-interventionism and state intervention in economic processes during the famines of the nineteenth century.

A History of State Intervention in Famine Process in Colonial Madras

Non-interventionist ideas based on the classical political economic ideal were espoused by European administrators as guides to the limits of state action in economic processes from the end of the eighteenth century.⁴¹ However, as will be evident from the following account, financial expediency, strategic concerns, threats to property and life of administrators by starving multitudes, and humanitarian impulses on the part of local administrators and private charity all limited the extent to which the state could afford not to intervene in famine relief and in the grain market in times of crisis. (See Table 0.1) In addition, it is worth remembering that in the eighteenth and early nineteenth century, the notion was fairly common among administrators that famines were caused not just by a collapse of the employment economy but primarily by a scarcity of food and the means to remedy local scarcities, i.e. that the scope of state action covered the need to provide adequate food supply and not just the facilitation of the grain trade. This notion changed towards the middle of the nineteenth century. The arrival of the railways meant that private trade came to be seen as capable of mitigating local crop failures by stimulating imports of grain into areas where there was scarcity.

⁴⁰ R. A. Dalyell, *Memorandum on the Madras Famine of 1866*, Madras, 1867, p. 10-11.

⁴¹ Ambirajan, *Political Economy and British Policy*, op. cit.

State intervention in famine process during the late eighteenth and early nineteenth centuries took a variety of forms. These included the remittance of duties on grain imports; government control of distribution of grain in select urban areas where the maintenance of a steady supply was essential to public order; and encouragements to import by private merchants. Occasionally, the purchase of grain on Government account for distribution as wages was also permitted. From the late eighteenth century, the Government of Madras began to provide work for a wage in order to enable people to buy food, and to distribute cooked food to the poor in towns as the main measures of relief. It appears from the accounts of early colonial famine relief measures that these measures were adopted largely according to official perceptions of threat to the social, political and public orders, particularly in towns. In many cases, reports of distress by local and district officials were disbelieved initially by either the Madras Government or the Madras Board of Revenue

and there were frequent clashes of opinion between these three bodies as well as between local officials and higher authorities. Thus, official strategies to intervene in situations of monsoon failures and consequent social distress were often delayed responses to local reports of distress, and within months, a particular strategy could shift dramatically in response to shifts in official perceptions of the seriousness of the threat.

The structure of governance in Madras was a crucial factor in shaping the way in which ideological considerations were played out. Three members- a Governor and two Indian Civil Service members, all of whom were appointed by the Crown-

constituted the Local or Provincial Government. The business of the Local Government, which was headed by these officers, was conducted through a secretariat which was subdivided into several departments, managed executively by bureaucrats from the ICS.

A key Governmental body concerned with the management of everyday matters connected with revenue administration under the *ryotwari* system was the Madras Board of Revenue. The Board of Revenue had considerable influence over daily administration at the district level. It consisted of four members, of whom two usually controlled matters connected with land revenue, a third had charge of revenue settlement and a fourth supervised revenue from salt, *akbari* (liquor licensing) and separate revenue. Most letters regarding revenue administration were addressed to the Board and not to the Government. The Board was the key Provincial body concerned with the extremely complex matter of revenue settlement and assessment, particularly the land revenue which constituted the largest source of Governmental income and varied from year to year under the *ryotwari* system. It was also the first point of contact with Provincial Government for district Collectors and their subordinates.⁴²

Throughout the course of the nineteenth century, the relationship of the Madras Board of Revenue with the Madras Government (and prior to 1858, the Court of Directors) shaped state intervention in famine relief. In addition, it is worth noting that until 1865, the Madras Government was the sole financial and administrative authority to whom local requests to assist in interventionist measures were addressed. It appears

⁴² W. Francis, *Imperial Gazetteer of India*, Simla, 1908, p. 82.

that governance and management of famine relief in Madras was in practice separate from the Government of India, and from the other Local Governments.

According to Dalyell, the first serious famine of which detailed accounts exist took place in 1781 and 1782, consequent to Hyder Ali's invasion of Madras. In 1781, the Madras Government remitted import duties on grain; appointed a Grain Committee to superintend the daily distribution of grain in Madras city and fix the prices at which grain should be sold. In early 1781-2, the Government deemed it necessary to undertake purchase of grain on Government account, a directly interventionist measure. This action, notes Ravi Ahuja was not prompted by a neglect of the principles of non-interventionism, as much as by the dependence of the Government on a steady supply of food in order to remain in control of labour markets.⁴³

In 1791-2, a famine occurred in the Northern districts of the Presidency, particularly in Ellore, Rajahmundry, Masulipatam (the naval base of the Madras Government) and Condapilly.⁴⁴ The famine also affected Bellary district and was known as the first famine during which an Indian Government provided relief in the form of employment on public works for the famine stricken.⁴⁵ During this famine, Thomas Munro, then Collector of Bellary, apparently decried the tendency of native revenue officials to extract land revenue from the *ryots* despite their suffering.⁴⁶ From the evidence, it is impossible to state whether state intervention was forced by popular action and the threat of a disruption of social and political order. There was some degree of intervention in the form of suspension of import and transit duties on grain,

⁴³ R. Ahuja, 'State Formation and "Famine Policy" in Early Colonial South India', in S. Subrahmanyam (ed.) *Land, Politics and Trade in South Asia*, New Delhi, 2004, pp. 147-185.

⁴⁴ Dalyell, *Memorandum*, p. 17.

⁴⁵ W. Francis, *Gazetteer of the Bellary District*, Madras, 1916, p. 128.

⁴⁶ Ibid.

and later, prohibitions of export of rice from Tanjore except to the distressed districts. During this famine, the Collector of the Ganjam district was authorized to feed the poor with cooked food paid for from Government funds and to open relief works where they would be paid wages in grain.⁴⁷

In early 1799, there was 'considerable distress' in Dindigul in Madura district (in the southern part of Madras) and the Collector was permitted by the Government of Madras to purchase grain on Government account for the purpose of retail sale. If the famine were to grow more severe, he was to dispose of the grain he had in store at a loss in order to lower the general price of grain.⁴⁸ The lack of evidence makes it impossible to state whether ideological, strategic or financially expedient factors were the main causal factor behind state intervention during this famine.

Five years later, towards the end of 1804, there was severe distress in Tanjore and South Arcot districts. Prior to Government sanction, the Collectors of both districts took it upon themselves to sell grain at low prices to people on Government account, to prohibit grain export, and to import grain. As will be seen below, this was the first instance in which ideological objections to state intervention shaped official famine policy. However, the actual shape of events belied any strict adherence to these ideological considerations, a phenomenon which was increasingly common in state responses to famine in the later years of the nineteenth century. During this famine, it was also reported that the Collector of South Arcot district in consonance with

⁴⁷ Dalrymple, *Memorandum*, pp. 18-19.

⁴⁸ Ibid. See also W. Francis, *Madura District Gazetteer*, pp. 161-2, Madras, 1914.

Brahmin priests performed an *abhishekham* ceremony 'for the propitiation of the rain god'.⁴⁹

In 1804, the Government of Madras expressed 'objections' to any interference with the grain market, unless absolutely necessary, but left the question of prohibiting exports to the district Collectors. In 1805, as the famine dragged on, the Madras Board of Revenue laid down a set of principles upon which Government policy should be conducted. Briefly, these were to prohibit any interference with the grain market either in terms of fixing prices, importing grain or selling it on Government account; and to prohibit any embargo on exports. The Board of Revenue advocated the employment of people on public works, with payment in cash, as the only suitable means of intervention. (This appears to contradict Sanjay Sharma's assertion that the 1837-38 famine was the first occasion when relief 'on modern principles' was begun by the state through provision of 'works of public utility').⁵⁰ The Government, concurring in the proposals submitted by the Board of Revenue, however, authorized grain payments instead of cash due to the existence of the Government reserve. Two years later, the Government of Madras under Lord Bentinck ordered that a fixed price to be paid to merchants on the import of grain. Bentinck, a disciple of Jeremy Bentham, had in fact recommended that a bounty (or bonus) be paid instead of a fixed price as it was less dangerous to Government, but later conceded to his Council on the

⁴⁹ W. Francis, *Gazetteer of the South Arcot District*, Madras, 1906, p. 179. Governmental involvement in such religious ceremonies does not seem to have occurred in the nineteenth century, indicating perhaps a growing reliance on the notion of 'scientific' administration which was increasingly juxtaposed by Europeans against a 'superstitious' and 'unscientific' native mind. See also Arnold, *Famine in Peasant Consciousness*, p. 73.

⁵⁰ Sharma, *Famine, Philanthropy and the Colonial State: North India in the Early Nineteenth Century*, Delhi 2001, p. ix.

issue of a fixed price as ensuring a greater security of supply.⁵¹ Later that year, a Committee appointed to inquire into grain riots in Madras city, recommended that grain merchants be protected in selling by measure. They also authorized the employment of the able-bodied poor in the neighbourhood of Madras. Thomas Munro, as Collector of the Ceded districts (Bellary and Cuddapah) strongly deprecated any Government intervention in the grain trade, either in importing on Government account or by prohibiting exports. The Government also made considerable outlays on public works and considered establishing grain depots in the districts of North Arcot, Chingleput and Nellore.⁵²

In 1809, the Government of Madras decreed that interference in the grain trade was justified 'under some circumstances'. Yet, on a further occasion of distress in 1811-14 in the southern districts, the Board of Revenue deprecated any state interference in the grain or labour markets in times of drought.⁵³ Proposals by the Collector of Canara to store grain on Government account during this period were not approved by the Government of Madras.⁵⁴

In 1824, the failure of the monsoons caused the Commercial Resident at Masulipatam to compel merchants to sell rice at fixed prices in the naval town. The Resident also wrote to the Bengal Government requesting that a cargo of rice be sent to him on Government account. The Madras Government however censured the Resident for his actions, and repealed the request for assistance sent to Bengal. Two months later, however, in December 1824, the Government realised that its estimation of distress

⁵¹ Dalyell, *Memorandum*, p. 21.

⁵² *Ibid*, p. 23.

⁵³ *Ibid*, p. 26.

⁵⁴ *Ibid*.

had been woefully wrong, suspended duties on grain imports, and instructed Collectors of the Ceded districts, Gunttoor, Salem, Vizagapatam, North and South Arcot, Madras, and Nellore to open public works. Later in 1824, the Government also opened feeding houses for the relief of starving migrants to the large towns. During this famine, the Government of Madras, and particularly Thomas Munro, recorded written statements affirming their faith in non-interventionism as a famine policy. In response to a query on whether merchants were to be allowed to sell at their own rates, or whether Government would intervene and fix prices, the Collector of the North Arcot district was told that he was to be 'guided by the true principles of political economy'.⁵⁵ Munro wrote:

The interference of Government on such occasions as the present is often very prejudicial, and I know of no way in which it can be safe or useful, unless in suspending all duties on grain- giving perfect freedom to its transit by sea and land, and securing the grain dealers from the violence of the people.⁵⁶

The next instance of famine was what Dalyell called 'the most serious famine' with which the Madras Presidency has been afflicted since the British accession.⁵⁷ This was what was known as the Gunttoor famine of 1832-34. The Gunttoor famine affected, besides Gunttoor, the districts of Nellore, Masulipatam (later Kistna), Rajahmundry, Nellore, Bellary and Cuddapah. There were reports of monsoon failure late in 1832, and the Board of Revenue addressed the Government of Madras to recommend that import duties on grain be remitted, a request which was acceded to. The Government of Madras directed that district Collectors should 'exercise their influence' on local merchants to reduce prices, but not use any means of force.⁵⁸ As the famine wore on in Bellary and Gunttoor, the Board of Revenue recommended that

⁵⁵ Ibid, p. 29.

⁵⁶ Ibid, p. 26.

⁵⁷ Later writers state that the 1876-78 famine was worse. See *Bellary District Gazetteer*, p. 135, *Madura District Gazetteer*, p. 163.

⁵⁸ Daiyell, *Memorandum*, p. 26.

‘special inducement should be held out to traders to import grain’.⁵⁹ Clearly threats to the property and life of traders and Government officials were significant issues during this famine: the Government in 1833 authorised an increase to the police force, and also authorized district officials to authorize the distribution of cooked food and the employment of able-bodied people on useful public works. Yet, the Government refused requests by the Collectors of Masulipatam and North Arcot to import rice on Government account from Bengal. Early in 1833, the Government also issued strict injunctions against any interference with grain transport or force within the markets. However, a large expenditure was sanctioned on public works in Salem, Trichinopoly, Coimbatore, Cuddapah, South Arcot, Bellary, Nellore, Masulipatam and Guntoor to provide employment, and on the distribution of cooked food in Guntoor, Masulipatam, Nellore and North Arcot. However through 1833, large numbers of starvation deaths were reported from Guntoor, Masulipatam, Tanjore and Madras city.

Captain Best, an Officer of the Madras Engineers (the pre-1852 Public Works Department) estimated that in Guntoor, 150,000 persons out of a population of 500,000 people died during the famine. His account also described the pathos of famine deaths:

We are apt not sufficiently to consider, in reading of 150,000 people killed by famine, how much individual wretchedness is indicated by those six digits. We shrink from the six hundred tales of broken up village communities, the uncultivated lands, the uncelebrated feast, the fierce contest at the well, the thronged burning ground, the unburied dead. We like not to contemplate the spectacle presented in thousands and tens of thousands of families, the herdsman with his uncomplaining cattle dying around him, stripping the coarse thatch from his roof which for years have been the grateful object of his care, the sheep burnt to death with the withered grass, the hungry children and their starving parents, the famished mother unable to moisten the parched throat of her dying infant, or

⁵⁹ Ibid.

the hard struggle between the strong ties of kindred and the stronger instinct of self-preservation.⁶⁰

In 1854, the next famine of which there is record occurred in the Bellary district. At the beginning of 1854, prices of food were 'double the usual rates'. State intervention consisted in the first instance of employment on the construction of a road from Bellary to Hyderabad. State intervention appeared to have been prompted by the influx of starving migrants into Bellary town, and by famine crime.⁶¹ However during this famine, the Government did not take any other steps to intervene in the distress except to provide employment on public works for a cash wage. The relief works consisted almost entirely of earth work on new roads and were chiefly controlled by military officers working under the civil engineer.

In 1866, there was a famine in the districts of Ganjam and Bellary, which was the first instance of famine after the reorganization of the state in 1858. In part the famine was a domino effect of the Lancashire cotton famine and the outbreak of the American Civil War in 1861. The demand for Indian cotton had risen to such an extent that speculating *ryots* grew cotton wherever they could. In 1865, the American War ended and the price of cotton fell equally suddenly, leaving the farmers vulnerable to economic depression. There was a failure of both monsoons (north east and south west) during 1865, and district officials reported late that year that the price of food had increased greatly.⁶² The Collectors of these districts set out some measures to alleviate distress, including buying up local stocks of grain in order to ration the European and Indian troops and prevent a mutiny. In addition, the occurrence of grain

⁶⁰ Captain Best, *Extract from an article on the effects of the Famine of 1833*, in the Madras Journal of Literature for 1844-45, quoted in Dalyell, *Memorandum on the Madras Famine*, p. 40-41.

⁶¹ Dalyell, *Memorandum*, pp. 45-6.

⁶² Ibid.

riots also appears to have been a spur to district level efforts to begin small relief efforts in Berhampore town, where people were employed in sinking wells. However, these early district level efforts met with displeasure from the Government of Madras, who stated that they were 'open to grave objections on general principles'.⁶³ By the end of March 1866, the Collector of Ganjam was making desperate attempts to tackle the crisis, largely through the employment of the poor on relief works set up from local and private funds, and through the provision of cooked food in kitchens.⁶⁴

It was only in June 1866 that the Government of Madras began to recognize the seriousness of the impending disaster and what had been till then been a purely local crisis now received Provincial attention. On the 1st of June, Rs. 10,000 was placed at the disposal of the Collector of Ganjam to supplement the subscriptions locally raised.⁶⁵ On the 11th of June, the Government directed the Marine Superintendent to despatch 1500 bags of rice to Ganjam by steamer.⁶⁶

The organization of famine relief reflected notions of state charity that combined ideas about the 'deserving poor' that emanated from debates within English Poor Law, Protestant philosophy and an ideology of improvement, as well as colonial incorporation of what it termed 'caste prejudice'.⁶⁷ The amount sanctioned by the

⁶³Proceedings of the Madras Government, Revenue Department, Fort St. George, No. 382, dated 20th February 1866, *Copies of Papers Relating to the Famine in Madras Presidency in 1865-66* IOR/V/4/Session 1867/Vol.52.

⁶⁴ Proceedings of the Government of Madras, No. 192, dated 12th April 1866, No. 1120, *Copies of Papers Relating to the Famine in Madras Presidency*, IOR/V/4/Session 1867/Volume 52

⁶⁵ Letter from Government of Madras to Secretary of State for India, dated 7th July 1866, *Copies of Papers Relating to the Famine in Madras Presidency*, IOR/V/4/Session 1867/Vol. 52.

⁶⁶ Ibid.

⁶⁷ Official famine relief in nineteenth century India was based on the principle that people should work for a living even in times of crisis, and that the state should not provide food but work, except in the cases of those too weak to work. In cases where people were too weak to work but whose caste status prevented them from accepting gratuitous relief in the form of cooked food, raw rice was offered.

GoM was used for three main objects: firstly, the feeding of the 'really poor' classes- beggars and labourers - at relief kitchens. There were nine such establishments in June, and the monthly expenditure on these was Rs. 3,000. Secondly, the poorest families in ryotwari villages were given raw rice weekly at their residences. These were small landowners who considered it demeaning to join the beggars and labourers at the relief houses and would 'starve in their houses sooner than join the crowd of paupers who are fed at the relief houses.' Thirdly, the 1500 bags of rice and financial outlay of 1500 rupees (about a hundred and fifty pounds) were to be utilized for employment of the poorer ryots for three months. These three forms of relief- feeding of the destitute and untouchable poor in kitchens, distribution of uncooked grain to what were seen as more respectable classes of the starving poor in order to accommodate caste objections to commensality, and employment of the able bodied poor on famine relief works- continued to be followed during the famine of 1876-78.

In addition, a sum of 20,000 rupees (2000 pounds) was sanctioned by the Government of India in July 1866 from the surplus of the North Western Famine Relief Fund which had been collected during the famine of 1861.⁶⁸ However, the relief provided seems to have been a classic case of "too little, too late". There were already reports that 'famine and disease, cholera and smallpox, are ravaging the north of the district, and not only can no sensible relief be afforded until the harvest, some five months hence, but until that time, the distress must increase and extend to wider limits.'⁶⁹ The

⁶⁸ Proceedings of the Madras Government, Revenue Department, July 6th, 1866, read letter from the Revenue Department, Fort St. George, to the Secretary, Government of India, Home Department, *Copies of Papers Relating to the Famine in Madras Presidency*, IOR/V/4/Session 1867/Volume 52.

⁶⁹ Ibid. The Madras Government forwarded this letter to the Secretary of State for India in London as well, and this indicates that the Government of Madras had begun to panic.

distress had also started extending to the lower paid officials of the Government itself, and brought home the reality of the famine to the Madras Government.⁷⁰

During this famine, private charity was extremely active in Madras, and indigenous businessman and large *ryots* played a significant role on husbanding funds for famine relief. Buddha Ranga Reddy, a landholder of Uyyalavada, and Sakri Kardappa, a substantial cotton merchant, were both active in Bellary district in feeding the starving poor. In Ganjam district, the *Zamindars* of Callicote, Chickati and Mundasa opened relief houses within their estates in order to feed the poor.⁷¹ Similarly in Salem town, private subscriptions were raised and a '*kanji-house*' opened where between two and three hundred people were fed daily.⁷² The Monegar Choultry, a poor relief house set up during the famine of 1791-2 in order to feed the starving, continued to provide gratuitous relief to famine migrants into Madras city though this, and all other famines.⁷³ In addition, temples across the Presidency provided charitable relief during the famines.

The migration of the famine stricken poor to Madras city raised public awareness of the existence of famine among the wealthy of the town. On the 21st of July 1866, a public meeting was held at Madras where twenty thousand rupees was collected for the relief of the starving poor in the districts, and also for the relief of the poor in Madras. This meeting marked the beginning of systematic and joint efforts by local officials and private charity towards providing relief through a centralized system.

The Government of Madras resolved to contribute an equal sum to the relief fund and

⁷⁰ Thus, the GoM sanctioned an addition of two rupees to the monthly pay of all Government servants in the principal division of Ganjam district, from July 1st 1866 for a period of 3 months. An increase in the salaries of Government servants in Bellary was also sanctioned.

⁷¹ H.E. Grigg, 'A Short Account of the Ganjam Famine of 1866, with a Brief Note of Previous Years of Scarcity, and Appendices, by an Officer of the District', drawn up by Mr. Grigg, Assistant to the Collector of Ganjam, Mr. Forbes, *Copies of Papers Relating to the Famine in Madras Presidency*, IOR/V/4/Session 1867/Vol. 52.

⁷² F. J. Richards, *Gazetteer of the Salem District*, Madras, 1918, p. 364.

⁷³ Dalyell, *Memorandum*.

in future, similar sums to those raised in Madras would be thus contributed from the public treasury. These grants were to go towards 'the relief of the old, the infirm and the young'. Simultaneously, employment for the able-bodied was to be provided on 'useful public works', although it is not clear what works these were. They were to be selected so as to allow people to be employed in gangs of moderate strength, either at or in the vicinity of their own villages.⁷⁴ These works were to be supervised by revenue officers of various grades, aimed at improving the communications or sources of irrigation, and at the same time suitable for unskilled labour.⁷⁵ Both financial and sanitary considerations influenced the type of works chosen. The Madras Government held that 'in the present state of the public health, it is desirable to avoid as much as possible the collection of large bodies of labourers, and as the rate of wages should not exceed that required for their maintenance, it is not desirable that they be required to leave their homes'. Besides these measures of relief in the districts, works were undertaken in Madras town for improving the water supply of Madras, and for

⁷⁴ Ibid. The choice of 'large' or 'small' works was intimately tied up both with notions of disease causation as well as with the desire of the Government of India to save money. This debate occurred throughout the famines of the nineteenth century and took place at all levels of Government. Constructing large works at a distance from the homes of labourers, would satisfy concerns that people were willing to travel long distances to work, but were seen as running the risk of being conducive to outbreaks of epidemic disease. On the other hand, the Provincial and district administration favoured small works which were easier to manage and could also include hospital facilities.

⁷⁵ The supervision of relief work was a bone of contention not only between the Provincial Governments and the Government of India, but also between the Public Works Department (PWD) and the Revenue Department within the Provincial Governments during the late nineteenth century. IN Madras, the Public Works Department had, from the 1850s, been the main Governmental department in the Presidency responsible for constructing large irrigation works and railways in non-famine periods, and labour was recruited according to ability to perform tasks. During famine periods, public works were divided into 'PWD works' and 'civil works' intended to provide employment to the famine stricken poor. Essentially Revenue or 'civil works' were to be run on the principle that none who applied for employment could be refused; wages were also supposed to ensure that people were paid enough for subsistence but no more; and works were organized and supervised by district Collectors and other revenue officials who were supposed to ensure that starvation and disease was prevented. Employment on PWD works during famine periods was offered at rates that assumed that the worker was maintained in complete health and strength to put in a full day's work; but at a lower rate than in non-famine periods. PWD works were generally supervised by the District Engineer of the PWD. In times of famine, the able bodied poor were sent to PWD works, where all who could perform the task were employed. For those too weak to perform the full PWD task, employment on 'civil works' was intended to provide a subsistence wage without running the danger of 'demoralizing' the famine stricken poor through the provision of gratuitous relief. Classifying a work as a civil famine relief work was intended to ensure that even those who were weakened by hunger and disease would be assured employment.

forming a tank in the town.⁷⁶ The sources for this famine also indicate that special medical measures were undertaken to tackle epidemic disease in the wake of this famine. Hospitals were set up to treat cases of starvation where possible and cholera and fever medicines were distributed to the well-off. In addition, the Madras Government pursued a policy of setting up small relief works under the management of district Collectors. These works were to be close to the homes of people in order to prevent the outbreak of epidemic disease, which, it was feared, would result from the massing of labourers on large relief works.

This account of state intervention in famines in Madras prior to 1876 makes clear a number of things. First, as Robert Dalzell remarked, the Madras Government intervened in the grain trade only in the first two cases of famine (in 1782 and in 1791). From the beginning of the nineteenth century, therefore, state intervention was provided only in the form of employment on 'useful works' and the distribution of gratuitous relief. Of these forms of relief, the latter was increasingly seen as undesirable and as encouraging dependency and demoralization, reflecting ideologies of political economy which had previously shaped the Poor Law in England in the early nineteenth century.⁷⁷

However, the extent to which these principles were applied in Madras varied greatly. It appears from this account that there was great uncertainty between different levels of Government over the rigid application of non-interventionist policy at two levels.

⁷⁶ Proceedings of the Madras Government, Revenue Department, 25th July 1866, enclosed in GoM to SoS, dated 11th August 1866, No. 35, *Copies of Papers Relating to the Famine in Madras Presidency*, IOR/V/4/Session 1867/Volume 52.

⁷⁷ On the principles of reform of the English Poor Law in 1832 and the administrative bodies concerned with its implementation, see G.E. Royer, *An Economic History of the English Poor Law, 1750-1850*, Cambridge, 1990.

First, the Government of Madras^{and} the Madras Board of Revenue

varied in their opinion on the extent to which non-interventionist policy was to be applied. While imports of grain on Government account were almost universally frowned upon, other forms of intervention- such as encouragement to importation, the provision of employment on public works and of cooked food- were less likely to be rejected. Second, there seems to have been no form of relief that was agreed upon by any means. What was viewed as expedient and suitable depended, as far as is discernible from existing sources, on a variety of factors. These included the initiatives of local officials, the influx of starving and diseased migrants into the main towns and urban centres, interactions between local officials and traders, and the actions of Indian and European people in husbanding private resources.

It also is clear that non-interventionism was interpreted differently between different levels of Government, with district officials often mounting stringent critiques against non-interventionist policy and delayed Governmental responses to requests for financial assistance and sanctions to begin relief measures. Remarkably, during the famine of 1866, two officials in the Ganjam district published at their own cost reports of official relief which were severely critical of the Government of Madras' response to famines.⁷⁸ These criticisms of Government policy were voiced on three

⁷⁸ These two were R.A. Dalyell and Mr H.E. Grigg, Assistant to the Collector of Ganjam. Grigg published a pamphlet entitled *A Short Account of the Ganjam Famine of 1866 with a Brief Mention of Previous Years of Scarcity*, which was apparently circulated amongst Government officials and sent to the Government of India. The pamphlet was enclosed in the official correspondence between the district officials and the Government of India on the subject of the famine, which correspondence was later sent as a volume of Parliamentary Papers to the Secretary of State for India. Grigg was severely critical of the fact that the Provincial Government responded to district appeals only in June 1866, when the pressure of famine had been gauged and communicated to the Provincial Government as early as January 1866. He published this pamphlet with assistance from the Collector of the Ganjam district, Mr. Forbes, and copies were printed and circulated to the Government of Madras, the Secretary of State for India as well as the press. The Government of Madras, understandably, responded with

counts: first, notions of state responsibility for life based on 'Christian charity'; second, that Indian social conditions were not suitable for the pure application of the laws of political economy; and finally, that the application of the 'laws' of political economy were themselves open to differing interpretations and applications by statesmen themselves. Such criticism reveals firstly the deep fissures over the principles to be followed in famine relief; and secondly, the fact that lower government officials were not so rigidly controlled as to be unable to publicly voice an opinion critical of Provincial Government policy.

Finally, it is also important to note two aspects of official famine relief which are significant for the way in which the events of 1876-78 panned out. The first, the Government of Madras was the final authority for all decisions regarding famine relief right until 1866. This authority was questioned and criticized at the district level and slow to respond in times of crisis. Yet, the links between Madras and the Government of India in managing famine relief were hazy, and despite the tenuous control of the Provincial Government over district matters, Madras remained the nominal authority for all matters relating to famine relief. Second, famine relief measures were overwhelmingly managed by district collectors and other revenue officials, on small works close to the homes of the people of affected districts. The conduct of famine relief was thus intimately linked with the official agency for the administration of land revenue settlement under the ryotwari system. This agency was

much displeasure at the 'irregularity' of Mr. Forbes to allow 'the use of official records for the compilation of a narrative to be printed at his office, and circulated by him without the permission of Government as an authoritative statement of facts'. (*Copies of Papers Relating to the Famine in Madras Presidency*, IOR/V/4/Session 1867/ Vol. 52.) Dalyell also criticised the non-interventionist policy of the Government of India as being inconsistent with the expectations of a 'Christian Government'.

to play a strategic role in the evolution of the structure of preventive medicine within the state in the 1860s.

Medicine and the State in Colonial Madras

This section will attempt to describe the evolution of European medicine in Madras between the 1760's and 1880. It attempts to discuss the changing structure of the medical services, from a focus almost entirely dictated by the demands of commerce and military expansion to one which was the Province of a peace- time Government and involved a web of relationships with a bureaucratic and complex government machinery, a military force which maintained a modicum of Imperial control, and a stratified Indian population.

The Early Period: the Seventeenth and Eighteenth Centuries

Although the Madras Medical Department came into existence only at the end of the eighteenth century, there is evidence of dispensaries and hospitals organized on 'European style' by the Portuguese rulers in Goa and San Thome in Madras in the middle of the sixteenth century.⁷⁹ The Portuguese were the first European nation to visit and settle in India, although they were soon followed by the Dutch, the French, the Danish and the English.⁸⁰

The first British medical men who set foot in India were the barber and two surgeons who constituted the medical staff of every ship sent out by the East India Company from December 1600.⁸¹ The first reference to an English surgeon landing on the

⁷⁹ D.V.S. Reddy, *The Beginnings of Modern Medicine in Madras: The Dawn of Modern Medicine in Madras*, Calcutta, 1947, p. iv.

⁸⁰ D.G. Crawford, *A History of the Indian Medical Service 1600-1913*, London, 1914, p. 4.

⁸¹ Ibid, p. 1.

Coramandel Coast was in 1621.⁸² At this stage, there were three grades of medical men available according to the importance of the ship or factory. The highest grade of official was the trained surgeon; in some there was a physician or apothecary who had trained at an English or Scottish university, and finally, on smaller ships there were 'Surgeons mates' in whose hands were left the life and health of sailors and factories. These men carried with them chests of drugs and remedies, of which strong liquors, 'China root' (sasparilla) and Bezoar stones were important components.⁸³ Humoural theories of disease causation and internal medicine based on a notion of constitutional disorders shaped the therapeutic focus of European medicine at this stage, as it did the focus of Indian therapeutics.⁸⁴

European Medicine and Native Rulers

It appears that the Mughal aristocracy knew and appreciated the remedies of the English medical men. During the seventeenth century, a number of European medical men found employment as Surgeons or physicians at the Courts of Indian and eastern rulers.⁸⁵ Shah Jahan is reported to have written to the English Governor at Surat in 1640 asking for grape wine. In 1636, Governor Methwold sent Asaf Khan and Afzal Khan two jars of China roots each.⁸⁶ This indicates a certain degree of elite indigenous appreciation of European therapeutics in the seventeenth century.

European Medicine and Indian Bodies

During the seventeenth century, European medical skill- consisting largely of remedies for maladies and rudimentary surgical operations- was not reserved for the

⁸² Ibid, p. 4.

⁸³ Ibid, p. 10.

⁸⁴ The account contained in this chapter contains relatively little on the evolution of medical ideas during the period under study, and focuses more on structures. However, this is by no means to deny the epistemological value of ideas regarding health and disease, or their links with changing professional and administrative structures.

⁸⁵ Crawford, *A History*, p. 7.

⁸⁶ Reddy, *The Beginnings*, p. 9.

factories and ships alone, but was also extended to Indians. In October 1636, a 'historic operation' (an arm amputation) was performed by an English surgeon on a Brahmin boy as a 'purely humanitarian service.' Apparently, the child survived.⁸⁷

Territorial Expansion during the Seventeenth and Eighteenth Centuries

During the seventeenth and eighteenth centuries, the European settlement on the Coramandel Coast grew gradually. The earliest settlement was built at Masulipatam in what was the kingdom of Golconda in 1611.⁸⁸ Later, the English obtained a piece of ground at Armegon in Nellore district where they built a fort and factory in 1626. However, here too they had difficulties and Messrs Francis and Day finally obtained a site adjoining Madraspatam. In 1641, the Garrison of Fort St. George consisted of 35 Englishmen and 35 Native surgeons. By 1644, this English settlement was equipped with an English Surgeon. In 1653, Fort St. George or Madras was made an independent Presidency and remained so until placed under Bengal when Warren Hastings was made Governor General of India and Calcutta became the headquarters and capital of the entire subcontinent.⁸⁹ A decade later, in 1664, what is now the Madras General Hospital was established at Fort St. George in order to care for sick European traders and sailors.⁹⁰ However, the hospital, funded from Company Revenues and charitable donations, was not restricted to the employees of the East India Company, but was opened to 'all truly necessitous patients, whether belonging to the Garrison or the town'.⁹¹

⁸⁷ Ibid, p. 10.

⁸⁸ Ibid, p. 13.

⁸⁹ Crawford, *A History*, p. 80.

⁹⁰ Ibid, p. 23.

⁹¹ Ibid, p. 32.

During the first half of the eighteenth century, the Company remained a trading corporation, with factories in the three settlements of Bengal, Bombay and Madras. Although the work of the medical staff was largely confined to the care of soldiers and company servants, Indians also received some medical care particularly in the hospitals of the company. There is mention of epidemics and famines during the eighteenth century during which 'both Europeans and Indians suffered greatly'. In 1711, it was noted that the Madras General Hospital was overcrowded due to an 'unhealthy season'.⁹² The following year, in 1712, the hospital was said to be under construction and it was planned by the Englishmen in charge to 'have a fund for the hospital to relieve the poor at as little expense to the Company as Egmore building'.⁹³

The Structure of the Medical Services 1763- 1857

The Bengal Medical Service was founded in 1763, by which individual medical officers then serving in the Bengal Presidency were combined into a regular medical establishment as employees of the East India Company, with fixed grades and definite rules for promotion from grade to grade.⁹⁴ The Madras and Bombay Medical services also appear to have been constituted around the same time. In 1786, the Indian Medical Department came into existence at an all-India level as a medical department attached to the East India Company and its surgeons constituting a salaried medical establishment. The administrative body co-ordinating the medical services in each Presidency was a Medical Board. It is a little difficult to gauge the exact nature of the activities of the Boards, but it appears that recruitment and indents for drugs and supplies were routed through them to England.

⁹² Ibid, p. 35.

⁹³ Ibid, p. 38

⁹⁴ Crawford, *A History*, p. 198.

The administrative body from 1764 in the Madras Presidency was the Madras Medical Board. The military orientation of the Medical Boards noted by other historians for Bengal and North India was also true of the Madras Medical Board in the eighty years of its existence.⁹⁵ By this time, the English East India Company itself had metamorphosed into a territorial and military power rather than merely a trading company, and for several years in the late eighteenth century IMS surgeons held joint commissions as army officers in combat and professional medical men.⁹⁶ The early professional activities of IMS surgeons consisted of vaccination, the maintenance of military hospitals for the medical and surgical care of European military men, the collection of a limited amount of medical statistics and inquiries into the causes of epidemics.

Preventive Medicine and Medical Aid to Indians 1830- 1860

From the 1830's and 1840's there was a greater degree of medical intervention for Indians as a regular part of European state medical activities. From the 1830s, there was an expansion of civil hospitals and dispensaries funded by the Provincial Government. These institutions were open to all civil employees of Government, as well as the general population.⁹⁷ Funded partly from Governmental revenues and partly from charitable donations, endowments and subscriptions given by European and Indian people, these institutions grew slowly and unevenly in number through the first and second quarters of the nineteenth century. From the 1840's, preventive

⁹⁵ See R. Ramasubban, *Public Health and Medical Research in India: Their Origins Under the Impact of British Colonial Policy*, 1978; Arnold, *Colonizing the Body*, Ch. 2, Harrison, *Public Health in British India*, Ch. 1.

⁹⁶ Crawford, *A History*, p. 223.

⁹⁷ It is worth noting that famines and epidemics often spurred the growth of charitable medical institutions in Madras Presidency. This was in part largely due to private charitable movements in the wake of collective disasters.

military medicine took the form of medical topographical studies intended to find salubrious sites for army stations in consonance with miasmatic theories of disease.⁹⁸

The Reorganization of the Medical Services in 1858

In 1857, medical services were reorganized. The Medical Boards were abolished and Provincial Medical Departments instituted in Bengal, Bombay and Madras. (See table 0.2). While nominally a part of the Indian Medical Department, the medical department of each province retained its distinctive character. Assistant Surgeons were recruited from English, Scottish and Irish universities through the Indian Medical Service to a Provincial Medical Department to which they remained attached through their career. Further, it also seems that while nominally a part of the state, the professional autonomy of medical men was retained: they were not mere puppets of state Governments and frequently expressed public opinions against Governmental policy. At the same time, professional rivalries and disputes could mar a young Assistant Surgeon's career, if he came too much into conflict with older and more senior medical men in the Department.⁹⁹ The health of armies and prisoners formed an important part of the duties of the young assistant surgeon in general. However, after the first two years of serving as doctor to an army division, medical men were free to pursue their own researches and professional interests among the civil population.

⁹⁸ On medical topography and its significance as reflecting ideas about and shaping colonial expansion, see Harrison, *Climates and Constitutions* Ch. 3. See also idem, 'Differences of Degree: Representations of India in British Medical Topography, 1820-c. 1870', in N.A. Rupke (ed.), *Medical Geography in Historical Perspective (Medical History Supplement No. 20)*, 2000. Harrison argues that the topographical studies reflected the insecurity of Europeans regarding their ability to withstand the Indian climate, which they saw as the main obstacle to imperialism. Richard Smith, argues directly in contradiction to Harrison, that the Madras topographical studies were 'not just products of (a single) imperial system but also logically a corollary to the role of knowledge in the exercise of imperial power.' (R. Smith, 'Rule- by- records and rule- by- reports: complementary aspects of the British Imperial rule of law', op. cit.)

⁹⁹ For an example of this, see J.C. Hume on A.C. De Renzy's career in Punjab: 'Colonialism and sanitary medicine: the development of preventive health policy in Punjab, 1860-1900', *MAS*, Vol. 20, 1986, pp. 703-724.

The Structure of State Medicine 1860-1880

State medicine in the 1860s and 1870s consisted of a conglomeration of bodies, at different levels of Government, involved in the knowledge, control, prevention and cure of disease. As will be seen from the table below, the divisions were of three kinds. The most important of these was the division between military and civil medicine, with Assistant surgeons being required to be in readiness to abandon their civil duties for military ones in case of emergencies. Between 1858 and 1880, the division between military and civil medicine continued in the separation of the departments for European troops from that for native troops and the general population.¹⁰⁰ The department for European troops was called the Army Medical Department and that for the Native troops and the civil population was called the Indian Medical Department. The former was headed by a medical officer designated as the Surgeon-General, Army Medical Department; and the latter by the Surgeon-General, Indian Medical Department (also called the Surgeon General with the Government of Madras). Civil medical services before 1880 were looked after by the Indian Medical Department, which was entrusted with the control and superintendence of medical establishments attached to the Judicial, Revenue, and Police Departments; Medical Store Depots, and Civil Hospitals and Dispensaries. This Department was most often called the Madras Medical Department in referring to the functions of the Provincial arm. As mentioned earlier, the Provincial Medical Departments all maintained their separate existence and professional autonomy, despite the Surgeon General with the Government of Madras nominally being subordinate to the Surgeon General with the Government of India.

¹⁰⁰ The amalgamation, however, was only administrative. The executive medical duties of European troops were still entrusted to the Army Medical Department officers; and those of Native Troops with the IMD.

The Madras Civil Medical Department had three tiers. At its head was the Surgeon General with the Government of Madras; who was subordinate to the Commander-in-Chief of the Native army, thereby still retaining what was an originally military character. Under him were four Deputy Surgeons General who were entrusted with the medical superintendence of a circle. (It is somewhat unclear how a circle was constituted or defined administratively). Within each of the four circles was an establishment of executive officers consisting of 11 Brigade Surgeons; 64 Surgeons-Major and 100 Surgeons. At the district level, a civil or Zillah surgeon was entrusted with the responsibility of affording medical aid to all Government servants in the Revenue, Public Works, Judicial, Police, Forest and other departments. This official was designated the district medical and sanitary official and was entrusted with the responsibility of inspecting and supervising the vaccination and conservancy establishments; dispensaries, jails and lunatic asylums at the district headquarters; the frequent inspection of minor dispensaries; the checking of all indents for drugs and for submitting these to the Surgeon general. There also existed a Subordinate Medical Department, which employed 3 classes of medical subordinates for service in provincial and district hospitals and dispensaries. The Indian Medical Department also recruited a select number of native practitioners from 1847 onwards, apparently with a view to 'extending the benefits of European medical science generally among the native population in the several collectorates'.¹⁰¹

¹⁰¹ Proceedings of the Government of Madras in the Public Department dated 14th February 1878, Nos. 66-67, TNSA.

Preventive and Curative Medicine

The other type of division was between preventive and curative medicine, a division which came to be personified in the separation of the sanitary and medical departments after 1864. It also changed the way in which vaccination was administered. From 1875, vaccination, which had hitherto had a separate sub-department within the Medical Department, came under the Sanitary Commission, while the management of civil hospitals and dispensaries, indents for drugs, deployment of personnel, payment of salaries and provision of medical care and advice to other civil departments continued to be administered by the Medical Department. The transfer of the Vaccination Department as a Sub-Department of the Sanitary Commission in 1875 was also accompanied by what was effectively a demotion of status for its executive head, the Inspector General of Vaccination, to the post of Assistant Sanitary Commissioner. The Assistant Sanitary Commissioner's duties were widened to include general supervision of sanitation, conservancy and cleanliness in cantonments and municipalities, a shift which was resented by the incumbent, Dr. John Shortt, who had headed the Vaccination Department for several years prior to this, and saw it as a devaluation of his specialist and technical knowledge of vaccination. The Superintendent General's post was abolished, and he was made a direct subordinate of the Sanitary Commissioner of Madras. His title was changed to Deputy Sanitary Commissioner and the scope of his duties widened to include general sanitary inspection of the districts he visited. Further, from this year, the selection, appointment and payment of vaccinators and superintendents, the payment of *batta* to mothers, and the submission of returns became legally the responsibility of the Municipalities and Local Fund Boards that were set up under the Towns Improvement Act of 1865

and the Local Fund Boards Act of 1871. What this meant in actual terms was that the distinctive departmental character of vaccination activities within the medical department was submerged; and that Shortt's already tenuous control over the subordinate staff was diluted by the new bodies. Shortt tersely wrote in his last report as Superintendent General of Vaccination in 1875-76: 'While held responsible for the work of the Department, I am kept in ignorance of (changes in staff). It is urgently necessary that Government should decide finally as to the management and control of the Vaccine Department. The duties of the Inspector of Vaccination should be clearly defined and the extent of control (of the Inspector of Vaccination) over Superintendents and Vaccinators should be clearly stated to prevent misunderstandings.'¹⁰²

The Sanitary Commissions

Towards the 1860s and 1870s, we see therefore the growing dominance of the Sanitary Commissioner's position within the administration of state medicine. In 1863, the Report of the Royal Commission on the Sanitary State of the Army in India recommended that sanitary commissions be appointed in each Presidency, consonant with growing support for ideas that high mortality rates among British soldiers were due to unhealthy climatic and environmental surroundings, and that the proximity of army cantonments to native civilian settlements meant that measures to address the health of soldiers could not be undertaken without reference to the health of civilian populations, who lived in what were seen as grossly insanitary surroundings.

The establishment of the Sanitary Commissions at an all-India level in 1864 has been seen by colonial historians as a turning point for the beginning of serious involvement

¹⁰² *Annual Report on Vaccination in the Madras Presidency for 1875-76, Madras 1877*, p. 29.

with civil health on the part of the state.¹⁰³ This has also been seen roughly as the point at which notions of disease as caused by filth took precedence among medical men over those of climatic causation. It has however been noted by Mark Harrison that climatic theories never quite lost their appeal amongst European medical men, and that filth and climate co-existed in the minds of several European men in order to explain the occurrence of epidemic disease in Indian settings.¹⁰⁴

Medical officials were already gradually becoming involved with the health of Indians for several years prior to this, a point made by annoyed IMS officials who saw the Sanitary Commissions and their great responsibility and recognition within the Provincial Government as unduly under-representing the contributions of other medical men and state medical bodies.¹⁰⁵ In July 1869, Dr. James Shaw, a former Principal Inspector General of the Madras Medical Department complained that

Measures for the amelioration of the sanitary condition of soldiers, prisoners and the population generally, are no novelties in India....many things in past years have been accomplished, the fruits of which we now trace in the improved health of our troops...¹⁰⁶

Shaw went on to state that the role played by measures of sanitation and conservancy in improving the health of the troops had been overestimated by the Royal Sanitary Commission of 1859, whose report had spurred the setting up of the Provincial

¹⁰³ Jeffery, *The Politics of Health in India*, p. 93; R. Ramasubban, 'Imperial Health in British India, 1857-1900' in R.M. Macleod and M. Lewis, *Disease, Medicine and Empire*, 1988, pp.39-42; Arnold, *Colonizing the Body*, pp. 96-97; Harrison, *Public Health in British India*, p. 8.

¹⁰⁴ Harrison, *Climates and Constitutions*, Ch. 3.

¹⁰⁵ See Harrison, *Public Health in British India*, on this point. Harrison dates the beginning of state involvement in public health to the Report of the Royal Commission in 1859 and the setting up of the Sanitary Commissions in 1864, but argues that such involvement was limited in its scope by a number of political and administrative imperatives.

¹⁰⁶ 'Memorandum by James Shaw, F.R.C.S., Late Principal Inspector General, Medical Department, Madras', *Measures Adopted for Sanitary Improvements in India up to the end of 1867, together with Abstracts of the Sanitary Reports Hitherto Forwarded from Bengal, Madras and Bombay*, IOR/V/24/3675.

Sanitary Commissions in India. While arguing that the Medical Department had for several years been involved in more general measures aimed at the improvement of dress, food, and lighting in barracks, as well as vaccination and the provision of medical aid through civil hospitals and dispensaries, Shaw also suggested that improved knowledge regarding the treatment of 'certain tropical diseases (especially the malarious fevers and dysenteries)' was the main reason for improvements in the health of the European army'.¹⁰⁷ Shaw further argued that vaccination, vital registration and the provisions of medical aid had long been functions of the Medical Department, functions which were now being seen as novel functions of the newly formed sanitary commissions.

What was seen by the Government as a new concern with the health of the general population was also viewed by the Medical Department as impractical, given the extremely small cadre of trained IMS men available in the Presidency. In 1866, upon a charge by the then ICS Sanitary Commissioner that there was inadequate medical aid available for the population of Madras during a cholera epidemic, the Principal Inspector General of the Madras Medical Department wrote to the Secretary of the Board of Revenue, stating that he did not see how there could be any

.... systematic 'organization for affording Medical advice and *relief* during cholera epidemics', considering the wide tracts of country involved, the almost constant presence of cholera in the country, and the very insignificant establishment of the Medical Department.¹⁰⁸

This official went further to question the aims of the Government, which, he believed, should ascertain

¹⁰⁷ Ibid.

¹⁰⁸ Proceedings of the Madras Board of Revenue, dated 29th October 1866, No. 8829, IOR/P/440/33. There were 67 such institutions in 1866, of which 15 were in the Presidency town. The remaining number included a specialist leper and smallpox hospital in Cochin, a hospital for seamen in Cocanada (Godavari district), a branch dispensary in Nellore, an asylum in Ootacamund (a hill station in Coimbatore district), and two lunatic asylums in Trichinopoly and Vizagapatam district respectively.

whether it is to be expected that Medical aid is to be afforded under direction of the Government Medical establishment to the entire population, or whether the efforts of the Medical establishment are to be mainly directed in the future, as in the past, to providing aid for the Military and Civil Establishments, and finding subordinates for duty in the Civil Dispensaries already or hereafter to be established.¹⁰⁹

The Inspector went on to review the difficulties in establishing a scheme of medical relief for the general population. He argued that the Medical Department was woefully inadequate in terms of staff and logistics; and that extending medical aid to the general population would take several years.

The population of Madras Presidency may be reckoned at about 24 million, and that of Great Britain 28 millions. In the former, we have a Medical Establishment of all ranks numbering 736; in the latter, it is calculated that 20,000 educated and legally qualified medical men find employment in ministering to the health of the population. The contrast just made is in point of fact not quite a fair one, for the Madras Medical Establishment furnishes officers and subordinates to the Provinces of Mysore, Coorg, Travancore, Hyderabad Assigned Districts, a portion of the Central Provinces, Burmah and the Straits Settlements; and if the population of these districts are taken into account, it will be found that the Government Establishment of 736 individuals are the only persons available for the Medical Relief of a population... (almost) as large as that of Great Britain. A considerable number of the 'Hospital Assistant' Class, moreover, are not fitted, by experience or by training, for anything more than carrying out of orders for the preparation and exhibition of medicines, so that practically the numbers given are not really available for giving medical Assistance to the civil population.¹¹⁰

The institution of the Sanitary Commissions in 1864 was thus not the novelty that some medical historians have made it out to be, and definitely was not so in the eyes of the Madras Medical Department. However, it did mark the beginning of non-medical recognition of the value of medical men in general administration of the subject population, a phenomenon that was spurred by military and civil European anxiety over cholera- the most politically prominent disease of the 1860s, if not the epidemiologically most significant. (See Chapter 4 for more details). The newly formed post of Sanitary Commissioner of Madras was initially occupied by an Indian

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

Civil Service officer in the first two years of its existence before, in 1866, being entrusted to an IMS man because the previous system (whereby an ICS officer headed the Sanitary Commission) had resulted in great friction between the Medical and Sanitary Departments.

The main functions of the Sanitary Commissioner were to inspect the general condition of cantonments and prisons, supervise the work of district sanitary and medical officials and to compile vital statistics obtained from town and district mortuary officials into a comprehensive annual report for the guidance of the Provincial Governments. The Sanitary Commissioners, although possessed of no legislative power, were nevertheless the first point of contact for the Provincial Government on legislative and other matters connected with the health of the European military and civil, and that of the general populations from 1864 onwards.

The Involvement of Local Bodies in Sanitary and Medical Administration

The third type of division was between different levels of administration, Provincial, District and Local. During the period under study, the proportion and number of local and district agencies concerned with the health of civilians gradually increased, while the health of the two armies remained the responsibility of the British and Indian Medical Departments. As medicine widened its professional horizons beyond the army and prison domains after 1865, the involvement of non-IMS personnel in matters of health, sanitation and medical aid and the necessity of co-ordinating with local revenue officials increased. This process gained momentum after 1865, when local bodies were formed under the Towns Improvements and Local Fund Boards Act. Sanitation and the management of civil hospitals and dispensaries were handed over to the local bodies from this date.

Essentially then, the Province and the district were the main levels at which civil medical institutions were administered. Centralization and amalgamation of the military and civil divisions at an all-India level came in only in the 1880's, and the district medical and sanitary officer was responsible for the supervision of medical institutions and co-ordination with local bodies such as the municipalities and Local Fund Boards for the provision of sanitation, conservancy, vaccination and medical aid services. Similarly, while there was some interaction and communication between the British and the Indian Medical Departments, the broad racial bifurcation of the services remained a significant feature throughout the nineteenth century.

Civil Hospitals and Dispensaries from 1858 onwards

The institutions through which state medicine reached the civil population consisted of civil hospitals and dispensaries. These institutions, started in the 1820's and 1830s, provided medical aid and advice to civil officials of the various Government departments, but were open to the general public as well. Prior to the passing of the Town Improvement and Local Fund Boards Act in 1865 and 1871, they were funded largely through Provincial revenues and charitable donations and subscriptions both from Indians and Europeans. Between 1865 and 1871, the institutions were on a more stable financial footing, because the local bodies funded them from a regular system of taxation based primarily on land cesses. Prior to this, they had been funded partly by the Government of Madras and partly by charitable donations and subscriptions, which fluctuated from year to year. Secondly, it meant that they began to be managed to a greater extent by medical subordinates and other non-official medical men, whose salaries were cheaper than IMS men and were often therefore preferred by the local

bodies. This phenomenon was frowned upon by the IMS, but there was little that could be done about it.¹¹¹

However, this did not automatically guarantee the survival of these institutions. Most of their income was derived from land cesses. Therefore in times of drought or epidemics, when land lay fallow and labourers migrated, starved or fell ill, the revenue could not be collected and these institutions sometimes suffered.¹¹² Over the long run, the number of civil medical institutions in a district was usually commensurate with agricultural prosperity. Tanjore, a district which was fortunate to have a perennial supply of water from the Kaveri river, had the largest number of dispensaries in 1871, while Kurnool, Cuddapah and Nellore, all dependent on natural rainfall, had only 3.¹¹³ The spread of a network of civil dispensaries was also dependent on two other things: firstly, the acceptance of European medical aid among a significant number of people, and secondly, the efforts of medical officers, native medical men and subordinates, and revenue officials in supporting these institutions both politically and financially.

This brings us to the question of the indigenous acceptance or rejection of western medicine. It must be stated at the outset that until the mid-1860's at least,

¹¹¹ Although we do not have figures for all the years under review, the following will give an idea of the grade of medical officer in charge of Government Hospitals and Dispensaries. In 1877, there were 24 First Class Hospital Assistants, 17 Second Class Hospital Assistants, 19 Passed Hospital Apprentices, 16 Surgeons- Major with 20-27 years service (the most experienced of the range), 14 Surgeons with 5 to 9 years of service, 12 Private Hospital Assistants, 11 Surgeons Major with 10-19 years of service, 10 First Class Apothecaries, 8 Pensioned Hospital Assistants, 6 Native Surgeons, 4 Medical Missionaries and Pensioned and Second Class Apothecaries, and 3 First and Second Class Apothecaries. The above list shows that by 1877, most of the institutions were run not by IMS officials but by members of the Subordinate Medical Service.

¹¹² In 1877, when the entire Presidency was engulfed by famine, the Provincial Government stepped in with extra funds, but these were mostly for institutions in the vicinity of temples and European settlements, such as Ootacamund, Coonoor, Conjevaram, Madura and Srirangam. In this year, although the amount of money raised by Government and Municipal and Local Funds increased, the amount realised from all other sources- including interest on capital, private donations and subscriptions and the sale of medicines decreased greatly. (*Annual Report on Civil Dispensaries in Madras Presidency for 1877*, Madras 1879).

¹¹³ In 1879, Tanjore, a rich district irrigated by the perennial waters of the Kaveri river and growing surplus rice, had 23 dispensaries, while Kurnool and Cuddapah, both in the 'dry' zone, had 3 and 6 each. (*Annual Report on Civil Dispensaries in Madras Presidency for 1879*, Madras 1880).

civil medicine did appear to struggle against a lack of legitimacy particularly amongst the elite, although both acceptance and 'resistance' to state initiatives varied widely between districts. Because of the nature of the evidence, it is difficult to come to any firm conclusion regarding indigenous 'resistance' or 'acceptance'. However, some tentative conclusions are possible on this count, with the usual qualifications.

In 1866, in response to criticism by an ICS official regarding the availability of European medical aid for the general population, a proposal was mooted by the Medical Department to train native doctors and nurses in European medicine. The Madras Government opined that such a scheme would be too expensive to fund from Provincial revenues but agreed to solicit popular responses on whether the scheme could be funded from local taxation.¹¹⁴ There had been attempts to start similar schemes in Punjab and parts of Bengal a little earlier.¹¹⁵ However, the scheme was not well-received by either the district administration or by local elites, for a variety of reasons. One of these was the inability of district officials to convince people of the therapeutic effects of European medicine, in which it was proposed to instruct the *hakeems* and *vaid*s. Another obstacle to this plan was that in some districts, attempts to get people to contribute to the building of a dispensary had incited violent reactions from the people, who resented the imposition of a further tax. Thirdly, all the district Revenue officials unanimously agreed that people in the Madras districts would not consent to pay a 'voluntary tax' and that if such a scheme were instituted; it would

¹¹⁴ Proceedings of the Madras Board of Revenue dated September 6th, 1867 No. 5976, Replies to the Board's Proceedings dated 15th July 1867 No. 4425, IOR/P/440/39.

¹¹⁵ However, even in these areas, the scheme met with varying degrees of success. It was adopted successfully in Syalkote district of Punjab and ran on public subscriptions till the 1880's. In Bengal, however, the scheme was stalled and continuously altered. This was due to disagreements between the Lt. Governor of Bengal, the Sanitary Commissioner, and the Civil Surgeon of Nuddea district regarding the type, nature and length of training to be provided, the source of funding and the involvement of non-medical personnel. See Bala, *Imperialism and Medicine in Bengal*, pp.57-59 and A. Kumar, 'The Indian Drug Industry Under the Raj 1860-1920', in B. Pati and M. Harrison (eds.), *Health, Medicine and Empire: Perspectives on Colonial India*, Hyderabad, 2001.

have to be imposed on them through legislation. A major obstacle appeared to be the great poverty of the cultivators, both in *ryotwari* and in *Zamindari* tracts.¹¹⁶

The Collectors of Tinnevely and North Arcot districts, both predominantly *ryotwari* districts, believed that the mass of people would not pay a special tax for the education of Native doctors in Western medicine. The Collector and Sub Collector of North Arcot had just quelled a riot in Vellore, which was sparked off by their attempts to obtain supplementary private contributions from people for building a Dispensary at Vellore. They reported '...there is a general feeling of irritation and discontent on the subject of taxation which would render an appeal of this nature absolutely unsuccessful'.¹¹⁷ The Sub Collector of North Arcot wrote that 'although the public peace has been restored, there still remains a deep rooted aversion in the minds of the people to Municipal taxation...I would therefore suggest...postponing all efforts in this direction until the public mind... regain(s) its wonted contentment and serenity'.¹¹⁸

The Collector of Tinnevely rued the fact that

The mass of people care nothing for public charity in our sense of the term...the hospitals and dispensaries established by the British Government, though intended as such, are not really public charities, for the public will not accept them; and only certain classes who have no prejudices, or are driven by necessity to conceal them, consent to be benefited by what we consider to be the noblest form of charity.¹¹⁹

¹¹⁶ The *ryotwari* system had its supporters and detractors, but a common view in the nineteenth century was that because it was based on a fluctuating and high assessment and taxed the individual cultivator, it reduced the cultivator to great poverty. Certainly there was a variety of systems of cultivation across the Presidency which included a large amount of indentured labour and sharecropping, and the bulk of the peasantry was poor. The *zamindari* areas in the Presidency however do not appear to have experienced any greater levels of prosperity.

¹¹⁷ Proceedings of the Madras Board of Revenue dated September 6th, 1867 No. 5976, Replies to the Board's Proceedings dated 15th July 1867 No. 4425, IOR/P/440/39.

¹¹⁸ Ibid.

¹¹⁹ Ibid.

Further, he added that

Special taxes are specially disliked; an increase in the price of salt or stamps would be accepted without a murmur, but.... direct taxation.....however small, is felt by all to be a burden, and I doubt the possibility of persuading the people to tax themselves for anything further.¹²⁰

In the Kistna district, which was largely settled under *ryotwari* principles, the Acting Collector claimed that though people were willing to contribute to the education of Native doctors and nurses, the tax would have to be made compulsory. However, it was in Vizagapatam, a district covered by large portions of *Zamindari* tracts, that the widest range of responses was received. The Acting Collector of the Vizagapatam district, Mr. J.H. Master, concurred in the widespread view among district officials that a voluntary tax would be as good as none, as 'the people would not pay a single fraction voluntarily; and that if anything is required, it would have to be realized by a Legislative enactment'.¹²¹

Master enclosed copies of the replies to his inquiries from four *Zamindars* within the district, including one female *Zamindar*. These responses reveal awareness amongst local elites regarding caste as well as poverty as obstacles to the spread of European medicine. The Maharaja of Vizianagaram, a substantial *Zamindar* began his letter by stating that caste determined the practice of medicine, and that there was 'a Brahmin physician, a *Vaisya* physician, and a *Sudra* physician'.¹²² He argued that a scheme for training native doctors in European medicine, which worked well 'in the populous district of Syalkote in the Punjab, would not do so in Vizianagaram, which was small, poor and sparsely populated, unless augmented by wealthy individuals and by the Government itself'.¹²³ He also argued that the cess would be looked upon as a

¹²⁰ Ibid.

¹²¹ Ibid.

¹²² Letter from the Maharaja of Vizianagaram to the Agent to the Governor, dated Vizagapatam, dated 15th August 1867 No. 34, Proceedings, MBOR, 12th October 1867, IOR/P/440/40.

¹²³ Ibid.

new tax by the people and it would be difficult to realize the money without legislative sanction.

The *Zamindar* of Jeypore wrote that 'in this *talook*, there live *ryots* from Gunipur to Malakangirir who are poor and barbarous, some of whom cultivate land with advances from the *Zamindar*, and others already indebted to me for a great deal of money.' He was afraid that if the demand for one and a half annas were made, the *ryots* would abandon their land and run away, the money remaining uncollected. He however suggested that four or five hundred rupees be collected from 'respectable and common people' from Gunipur. He cautioned that the money should not be collected through a sub- magistrate, as this would cause 'great disturbance' in the *talook*, but that he personally would collect the tax and deposit it in the Collector's office.¹²⁴

The *Zamindar* of Bobilli flatly stated of the inhabitants of his *Zamindary* 'being uncivilized and having a taste for, and reliance on the treatment of Native doctors and midwives, which has been in vogue from the time of their ancestors, have not consented to pay...at one and a half annas for a house, or any other rate'.¹²⁵

Finally the Proprietrix of the Anakapalle Estate, Sri Gode Janakaiya Garu, wrote that she had organized a meeting of 'all the principal inhabitants of this place, as well as the Respectable portion of my tenants and *Inamdars*'.¹²⁶ She reported that her tenants were at first unwilling to 'the introduction of English medical science amongst them, as affecting their caste and prejudice'.¹²⁷ Some had opposed the scheme of training Native doctors in English medicines, because 'the use of water in making doses', they

¹²⁴ Ibid.

¹²⁵ Ibid.

¹²⁶ *Inamdars* were landlords who were given land free of revenue, or at very low rates in return for services rendered to the Government. Village servants were often remunerated through the provision of *inam* land.

¹²⁷ Ibid.

claimed, went against their caste principles'.¹²⁸ Others claimed that 'the Native constitution was more adapted to Native treatment and European constitutions to European medicine'.¹²⁹ Still others claimed that native treatment was milder and less dangerous'.¹³⁰ Garu reported that although she had succeeded to a great extent in quelling their fears, it would be advisable to bow to their wishes in the matter of the caste of their doctors:

They object a great deal to having *Pariahs* for their Doctors, or Hindus of no caste, and object to sending patients to a particular Depot for their treatment, as it interferes with their caste. They are for having doctors under the new system treat them at their own homes, as also for training up the sons of their present doctors. As to subscribing one or one and a half anna per family, they are quite willing to do it. I myself think that it is not a bad plan to give in a little to their prejudice at the commencement, and work the system upon their own scheme. I should be most happy to collect the fees, but cannot calculate upon them unless there be an Act passed by the Legislative Council making it compulsory.¹³¹

Under the circumstances, it seems likely that in large parts of the Presidency, government medical institutions were viewed with suspicion by significant numbers of the population, for a variety of reasons. It is of course quite difficult to separate a rejection of *European* medicine as a philosophical and cultural construct from the more mundane aspects of medical administration, such as the fact that Government was unwilling to subsidize a scheme for training native doctors, and expected people to contribute towards this objective. Yet, it appears likely that government hospitals and dispensaries were not looked upon very favourably by either medical men or by 'respectable natives'. A survey in 1879 indicated that the largest proportion of patients who visited Government hospitals and dispensaries were overwhelmingly the

¹²⁸ Ibid.

¹²⁹ Ibid.

¹³⁰ Ibid.

¹³¹ Letter from Sri Gode Janakaiya Garu, Proprietrix of Anakapalli, to the Acting Collector of Vizagapatam, dated 19th August 1867, enclosed in MBOR Proceedings dated 12th October 1867, No. 6623, IOR/P/440/40

very poor, who could afford neither medical advice nor aid.¹³² Senior medical officials were disapproving of the fact that these institutions took in what, to them, were a very large proportion of cases which were not strictly medical. These institutions were thus often seen in pejorative terms by medical officials themselves. For example, Samuel Johnstone, the Inspector General of Hospitals in 1872 wrote, 'The Municipal Dispensary system narrows the operations (of the Medical Department) and (municipal dispensaries) are little other than pauper houses'.¹³³

Yet, there were exceptions to this rule. By the end of the 1870s, certain districts such as Tanjore had experienced considerable growth of European medical institutions, largely, it seems due to popular acceptance. In 1879, a large hospital was set up in Tanjore district and called the Raja Mirasidar Hospital. The hospital was built upon private contributions of a large number of *mirasidars*, who were intermediary native landlords, aided by contributions from the charities of King Sarabhoji, a former ruler of Tanjore. The land for the hospital was contributed by the Princess of Tanjore and the foundation stone was laid by the Collector of the district. The hospital 'was intended as a thank-offering for the exemption of the district from the famine of 1876-77'.¹³⁴

¹³² In 1879, the Madras Medical Department instituted an inquiry into the class of patients who attended government hospitals and dispensaries in connection with a proposal to levy a fee for medical advice and medicines. The inquiry stated that the 'great bulk of the people who visited the hospitals and dispensaries were really poor and unable to pay for either medical advice or medicines.' (Proceedings of the Government of Madras in the Public Department No. 79 dated 21st January 1879, G.O. No. 41, TNSA).

¹³³ *Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1872*, Madras 1874, pp.55-56.

¹³⁴ W. Francis, *Tanjore District Gazetteer*, p. 158.

Missionaries and the Medical Department: Collaboration, Competition and Conflict

Another notable exception to the general disfavour with which Government medical institutions were viewed were institutions run by missionary organizations.

Missionary organizations had been functioning in Madras Presidency since the sixteenth century and included both Protestant and Catholic denominations from a variety of organizations. From the third decade of the nineteenth century, increased missionary activity was a direct result of the interventionist stance taken by the East India Company's Charter Act of 1833.¹³⁵ Within this broader framework, medicine as a means of evangelism was a strategy explicitly advocated by the Protestant American Board of Foreign Missions, which sent out trained medical men from 1836 onwards.¹³⁶ The coming in of the American mission can be seen as a historical moment when evangelical and civilizational goals of the missionaries and the government coalesced and led to the explicit linking of medical work with that of saving souls. By the middle decades of the nineteenth century, there was a small missionary involvement in state medicine, both among self-avowed missionary groups who ran some of the state dispensaries and hospitals, as well as amongst senior IMS officers who believed that the inclusion of missionaries in state medicine would prove to be beneficial both for the state and for the people.

Medical missions played a role in the expansion of civil hospitals and dispensaries after the reorganization of the Indian Medical Department in 1858. This was due to several reasons, relating both to the desire of missions to propagate Christianity; as well as the official view that civil hospitals and dispensaries were a

¹³⁵ G. A. Oddie, *Religious Conversion Movements in South Asia*, Surrey, 1997.

¹³⁶ G. Smith, *Medical Missions and Their Applicability to India: A Letter to the Rev. W. P. Powell*, Madras, 1852.

form of state charity. Civil hospitals and dispensaries had a precarious existence because of the limited Governmental investment in them.¹³⁷ After 1858, the Government of Madras expected that while medical personnel and drugs would be provided by grants from the Provincial Government, other costs such as food, clothing and nursing would be provided from yearly subscriptions and interest on donations from the native and civilian European population. In the early years after 1858, district officials complained about the lack of interest of the wealthier native population in contributing to the maintenance of hospitals and dispensaries.¹³⁸ Medical officers in charge of dispensaries complained that unless civil officers (district collectors in particular) took an interest in running these institutions, the people would not follow suit. These institutions suffered greatly from fluctuating fortunes. They were dependent on erratic donations and subscriptions from the small civilian European population and from wealthy Indians for their non-medical costs.

After 1871, these institutions ran on a more secure financial footing. Municipalities and Local Fund Boards began to pay the entire cost of medicines and medical salaries. Yet, to the displeasure of senior officers of the Indian Medical Department (IMD), local bodies preferred to hire members of the Subordinate Medical Service, such as hospital assistants and apothecaries, to run the institutions. Their salaries were cheaper than full-fledged Assistant Surgeons of the IMD. The Government of Madras, the IMS and the local bodies therefore welcomed medical missionaries, trained doctors who ran dispensaries and were paid by their parent

¹³⁷ This was particularly true for institutions outside of Madras city. While the Presidency town had 12 institutions in 1865, it received Rs. 1, 91,289 from the Government, while the 67 *mofussil* dispensaries received a collective Government allotment of Rs. 70, 466. After 1871, Government contributed overwhelmingly to the city institutions, while local boards, whose collection of taxes was heavily dependent on rural prosperity, funded the rural dispensaries (*Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1865*, Madras 1866).

¹³⁸ For example, in 1865, the Principal Inspector General complained that 'until the wealthier Natives interest themselves more in the local charities, many of them will continue to be on very unstable foundations'. (*Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1865*, Madras 1866, p. 4).

bodies.¹³⁹ Sometimes, in addition to trained medical personnel, missionary organizations offered the use of mission buildings at no charge. Therefore, the offer of missions to provide either medical personnel, or buildings, or both, in the running of dispensaries was gratefully accepted by the Government. While their number was small, their influence on the state medical structure was quite disproportionate.

Some IMS men admired or even advocated the combination of evangelism with corporal healing. For example, the Inspector General of Hospitals, Dr. William Johnstone, wrote in 1872:

(The principle on which) these dispensaries are governed is that, in association with efforts to diffuse Christianity in India...the practice of medicine and surgery occupies a prominent place ... medical missionaries work as skilled representatives of the science and art of modern medicine and surgery.... (and thus contrast it to) the foul product of ignorance and superstition which dominates the people of India.... To proclaim the truth that the art which they practise, equally with the civilization with which it has been associated...both have had their true source in that Christianity which it is the disinterested object of (the missions) to diffuse.¹⁴⁰

Other officials explicitly advocated medicine as a strategy to win over more converts to Christianity. Two decades prior to Johnstone's report, George Smith, then a young IMS officer, had written to Henry Powell, the Archbishop of Madras, to requisition greater attention to medical missions as a means to propagate Christianity amongst the Hindus in Madras presidency. Smith wrote:

Medicine carries in its hands a gift, the value of which the Hindu recognizes. It brings that gift to him at a time, not when the heart is hardened by health, but when it is softened by disease and pain and suffering; at a time when man, shrinking into himself, feels that he is but a child- a child in power at least....at a time...when (he) earnestly looks to external help and sympathy and when the natural attitude is dependence upon , and confidence in something external to itself....To the heart in this impressionable state, the aid of the medical man is peculiarly acceptable, and however bigoted the Hindu mind may be, yet at such a time these feelings do predominate, and then the Christian is forgiven- is pardoned for being a Christian, because he is a physician. The heart, acted upon by feelings of

¹³⁹ It has to be mentioned that their numerical presence was very small: out of a total of 76 dispensaries, the number run by missionaries was 4. (*Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1872*, Madras 1874.).

¹⁴⁰ *Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1872*, op. cit.

gratitude for health restored and life preserved is more likely to listen with patience to the terms of that more necessary healing which affects the soul. 'When I speak' said a Chinese Christian, 'to the natives in the bazaars and streets of Jesus Christ, they treat me with scorn and contempt; when I speak to them in the hospitals; they listen to me with serious attention'.¹⁴¹

George Smith later went on to become the Surgeon General of the Madras Medical Department in the mid-1870s, indicating that the practice of 'colonial medicine' was intimately linked to that of Christian evangelism in Madras. A cholera remedy patented by Dr. Paterson, a medical missionary who had established a dispensary in Madras town in the 1840's, was the prescribed medicine distributed by the Government of Madras, despite complaints of its inefficacy. This presents further evidence that medical missions seemed to have had a fairly close relationship with the Government of Madras and its Medical Department from the late 1830s onwards.

Yet, this relationship was also marked by competition. Medical officers were always aware that Indian elites in general did not respect European medicine for its therapeutic qualities; and that it was very poor people of the untouchable castes, who resorted to the Government institutions. Because poverty and disease were irrevocably intertwined in many of the persons who attended these institutions, dispensaries and hospitals that were run by local bodies were felt to include a great proportion of these 'non-medical' cases, in contrast to the large and increasing population of the better-off, who visited hospitals run by missions.

For the Madras Government as well as its Medical Department, there were two reasons to desire the admission of 'upper caste' people into government dispensaries. Firstly, diet costs formed the second largest item of expenditure on hospitals, after medical salaries, between 1858 and 1880.¹⁴² Throughout the period, the Provincial

¹⁴¹ Smith, *Medical Missions and Their Applicability to India*, op. cit.

¹⁴² *Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency*, various years.

Government paid for the salaries, except in the case of medical missionaries who were paid by their parent bodies. The diet costs were paid by the Government of Madras until 1863, when it put a ceiling of Rs. 50 on the amount it would contribute towards the diet of patients in each institution. However, this ceiling remained on paper as district surgeons and medical subordinates often debited Provincial accounts by putting these costs under other heads. From 1865 in towns and 1871 in Local Fund Board Circles, the entire cost of the dispensaries was borne by municipalities and Local Fund Boards.

Upper caste people usually refused to be fed at Municipal or local fund board hospitals, bringing their own food with them. Their presence then meant the limitation of Government expenditure under this head. A Native Surgeon in charge of the civil dispensary at Cochin wrote in 1870 of the encouragement of self-feeding patients in hospitals:

This method of combining economy with utility...reflects much credit on the management of the dispensary. While it enables the Dispensary to show the admission of a large number of in-patients, it also relieves the hospital funds from being saddled with heavy expenditure.¹⁴³

The second reason was that IMD officers saw upper caste use of government hospitals and dispensaries as “the truest test” of the prestige of European medicine in the estimation of Indian society.¹⁴⁴ Protestant missionaries, who had long grappled with the caste issue in their congregations, found a way out of the situation. From the 1860’s onwards, they began to build separate wards for high caste natives where they could cook their own food.

The adaptation of medical science to what the Government termed ‘prejudice’ was adopted in civil dispensaries and hospitals after senior medical officials wrote

¹⁴³ *Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1870*, Madras 1872, p. 26.

¹⁴⁴ *Annual Report of the Civil Hospitals and Dispensaries in the Madras Presidency for 1872*, p. 55.

approvingly of its results in missionary institutions. The President of the Governing Council of Madras wrote in 1871:

The time has now come for Government to initiate a change in the plan of our Provincial dispensaries which has long been deemed requisite by the most competent authorities and partially carried out by the Medical missionary agencies....I allude to the system of separate hutting facilities....a provision of this nature would have the excellent effect of inducing respectable natives to avail themselves of the benefit of European medical treatment.¹⁴⁵

This led to formal arrangements for separate hutting facilities for the use of high caste natives within the main hospital compounds.¹⁴⁶ These arrangements, it was felt, contributed to the prestige of the institutions, and enabled them to perform the dual functions of charity and medicine more successfully.¹⁴⁷ That the 'separate hutting' system was seriously taken up by Government is also evident in the fact that in 1880, a special caste ward in the Nellore civil dispensary was inaugurated by and named after the Governor of Madras, the Duke of Buckingham and Chandos.¹⁴⁸ Further evidence of the competitive element between missionaries and the medical department is provided by the fact that when the Scudder family took over a dispensary at Arcot, they promised to show 'in two months a larger number of in-patients and out-patients than any other institution in the Presidency'.¹⁴⁹

While the interaction between the Madras Medical Department and medical missionaries seems to have been generally smooth, the inability of the Provincial Government to impose rules on medical missions could -and did- make for rough weather. This was particularly so in the case of the American mission dispensary at

¹⁴⁵ Proceedings of the Government of Madras, Public Department dated, G(overnment) O(rder) Nos. 125-126, TNSA.

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

¹⁴⁸ *Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1880*, Madras 1881, p. 73.

¹⁴⁹ Proceedings of the Government of Madras in the Public Department dated July 20th 1866, Nos. 112-113, G.O. No. 729, TNSA.

Raneepet. At various points from its establishment in 1866 to its closure in 1880, district officials complained that the Scudders were more interested in evangelical activities than in running the dispensary. For example, in 1877, an Engineer of the Public Works Department was severely injured and was brought to the Raneepet dispensary for emergency treatment. On arriving there, his companions found that Dr. Scudder had gone away to a missionary conference, leaving his box of medical instruments locked away in a cupboard. The engineer's death caused the Collector and President of the Local Fund Board, Mr. Whiteside, to complain about Dr. Scudder's lack of accountability and ask the Government to clarify and articulate its financial relations with the American mission. He argued that if there was no scope for ensuring that a medical officer was available at a dispensary in emergencies, then it posed a grave threat to the public health.¹⁵⁰ The Scudder dispensary at North Arcot was finally handed over to the Local Fund Board in 1880.¹⁵¹ Thus, by the end of the period under review, civil medical institutions were largely run by local bodies and the Madras Medical Department and the IMS had generally relinquished their control over these institutions. By this time, there appear to have been wide differences in Indian responses to European medicine.

¹⁵⁰ Proceedings of the Government of Madras in the Public Department dated February 12th 1877, Nos. 51-54, G.O. No. 159, TNSA.

¹⁵¹ *Annual Report on Civil Hospitals and Dispensaries in the Madras Presidency for 1880*, Madras 1881.

Table 0.1 Famines in the Madras Presidency 1729- 1866

Year	Districts Affected	Purported Causes	Nature of State Response	Price of food grains	Mortality and crime
1729-1733	Madras city (? Information Not available)	Neglect of irrigation works since Moghul Emperor had obtained possession of Masulipatam	GoM fixed grain prices in 1729	Rice 175 Rupees per Madras garce	No information
1781-2	Madras City	Hyder Ali's incursions of 1780-81	Remission of all import duties on grain; restrictions on sale; Jan 1782: Monegar Choultry established; 30,000 rupees sent from European inhabitants of Bengal; paupers despatched to Northern districts; purchase of Bengal rice on Govt. account; fixing of price at 200 pagodas.	3-6 Madras Measures per rupee (2 2/3 – 1 1/3 d/lb.)	No information; Jan 1782: 'dying objects constantly met with in the streets'.

Year	Districts Affected	Purported Causes	Nature of State Response	Price of food grains	Mortality and crime
1791-2	Ganjam, Vizagapatam, Ellore, Rajahmundry, Condapilly, Masulipatam,	No information	Prohibition of exports of rice till June 1792 except to other distressed districts; distribution of 50 bags per month in charity from Government stores in Vizagapatam	7-8 Madras Measures per rupee (1 1/8- 1 d/ lb.)	Starvation deaths reported from April 1792.
1799	Dindigul	No information	Collector of Dindigul permitted to purchase grain on Government account for purposes of retain sale.	No information	No information
1804-1807	Tanjore, South Arcot, North Arcot, Nellore, Chingleput, Ceded Districts (Kurnool, Cudappah, Bellary), Trichinopoly	Failure of crops in 1804 and in 1805	Coll. Tanjore purchased rice at 85 pagodas per grace; Embargo on exportation in Tanjore; 1805: Board of Revenue forbade fixing of prices or imports on Government account; no exports; public works as only proper means of relief.	1807: 7-8 Madras measures the rupee ((1 1/8- 1 d. / lb.)	No exact information; mortality 'very serious' in Madras Town

Year	Districts Affected	Purported Causes	Nature of State Response	Price of food grains	Mortality and crime
1824	Masulipatam, Nellore, Vizagapatam, North Arcot	No information	Suspension of grain duties by Munro in North Arcot, on rice from Bengal and other places; rue 'principles of political economy' applied.	3-6 Madras Measures per rupee (2 ¼ d- 1 1/8 lb. Pr rupee)	Middle year: feeding of large numbers of those unable to labour in Madras and North Arcot; starvation deaths in Nellore and Vizagapatam.
1833	Guntoor, Masulipatam, Rajahmundry, Nellore, Bellary, Cudappah	Failure of rainfall in 1832 November	No interference in grain market; large expenditure on public works affected districts; relief on works close to homes.	3 ½ - 7 Madras Measures (2 ¼ d – 1 1/8 d/lb.)	No reliable figures for deaths, but estimated by an officer of Engineers at 150,000 people out of 500,000.
1854	Bellary, Ceded districts	Early cessure of rains in October/ November 1853	Extra police to guard talook treasuries; employment of 20,000 persons on the road work in Northen talooks; tuccavy to ryots willing to clear old wells and cultivation; Rs. 16 lakhs spent on employment on public works.	Price of cholum 4 times its normal rate.	No information

Year	Districts Affected	Purported Causes	Nature of State Response	Price of food grains	Mortality and crime
1865-66	Ganjam, Bellary, South Arcot, North Arcot, Trichinopoly, Salem, Madura, Coimbatore	Failure of rains in 1864-65	Despatch of 3000 bags of grain by Government and 2000 bags by local merchants; sanction of Rs. 10,000 for employment of poor in November 1865; relief by Ganjam zemindars in Berhampore from April to November; May 1866: : Formation of General Famine relief fund August: Relief depots (food and medicines) opened in Bellary, Salem, North Arcot, South Arcot and Coimbatore. Relief houses for aged / infirm in Bellary, Kurnool, North Arcot, South Arcot, Salem, Coimbatore, Madura, Trichinopoly and Madras.	Average increase in the price of raggy: 46%, across 19 districts; increase in prices of rice: 34% over 19 districts. Note: In Bellary: raggy increased by 247 % between September 1865 and September 1866; and rice increased by 131% .	4,50,000 or double normal rate. Few starvation deaths in 12 out of 19 districts; 11,000 starvation deaths in Ganjam. In Bellary: 50,357 deaths in 1866 (4% per mille.). Non agricultural classes suffered most, especially persons on fixed salaries. Mussalman population suffered severely in many districts. Zemindary estates suffered more severely than Govt. villages due to impoverishment. Apparently no increase in violent crime, but in nearly every district, number of grain thefts and robberies increased. (Sanitary Commissioner's report for 1866 reports overflowing of Behrampore and Tellicherry jails; great mortality in jails.)

Table 0.2 Governmental Agencies Involved in Health, Medical Relief and Sanitation in Madras (1786- 1880).

Agency	Year/s	Level	Responsible for	Institutions	Headed by/ Accountable to	Executive Personnel
Madras Medical Board (Indian Medical Department)*	1786-1857	Provincial (All-India)*	Health of European and Native armies.	Military Hospitals, Madras General Hospital	Physician General, Surgeon General, Inspector of Hospitals. Accountable to Military Department in Government of Madras	Surgeons
Madras (Indian) Medical Department	1858-1880	Provincial, but linked to IMD at all-India level.	Health of native army, civil health, inspection of prisons, lunatic asylums, and dispensaries.	Native military hospitals, civil hospitals and dispensaries. lunatic asylums, prisons.	Surgeon General, Government of Madras (recruited through the IMS). Inspector-General of Hospitals. Accountable to Government of Madras, Commander of Native army.	Assistant Surgeons, Surgeons, Surgeons-Major, designated civil or Zillah surgeons (IMS, recruited to civil duty after minimum 2 years in charge of army station/ unit).
Army or British Medical Department	1858-1880	All-India, but divisional commanders look after units stationed in Presidency.	Health of British army personnel in Madras	Military Hospitals	Surgeon General, British Medical Department (Recruited through the IMS). Accountable to Commander of British army in India.	Assistant surgeons, Surgeons. Surgeons-Major.

Agency	Year/s	Level	Responsible for	Institutions	Headed by/ Accountable to	Executive Personnel
Sanitary Commission	1864	Provincial	Conservancy, preventive health, vital statistics, co-ordination with local bodies, sanitation, forwarding returns of vital statistics to Government	SC's office in Government of Madras; assisted by statistical assistant.	Sanitary Commissioner with the Government of Madras (IMS) from 1865. (prior to this, ICS). Accountable to Surgeon-General with the Government of Madras. In 1875: amalgamated with Vaccination Dept. and Superintendent (also IMS) becomes subordinate to sanitary commissioner.	Civil surgeons/ district sanitary and medical officers.
Municipalities	1865	Town	Health of civil pop in municipalities, vaccination, PW, Rev, jud, police personnel in towns	Civil dispensaries and hospitals.	President of Municipality (elected) in consort with Zillah or civil surgeon. Accountable to Government of Madras but funded by local taxes.	Municipal sanitary or medical officers, vaccinators, private practitioners, subordinates
Local Fund Boards	1871	District/ group of districts	Health of civil pop in local fund board circles, vaccination, PW, Rev, Jud, police personnel in circles	Civil dispensaries and hospitals etc.	President, LFB (elected, but often collector of district, who is ICS) in consort w/ Z. surgeon/ SC. Accountable to Government of Madras, but funded by local taxes.	District sanitary/MO's, vacc's,

Agency	Year/s	Level	Responsible for	Institutions	Headed by/ Accountable to	Executive Personnel
Revenue Department.	1855	Presidency	Collection of vital stats, compilation and forwarding of these to sanitary Commissioner.	Revenue department	Secretary, Revenue Department. (Recruited through the ICS.) Accountable to Government of Madras, Board of Revenue, Government of India.	Village accountant (Karnam or Kanakapillai) in consort with dhobi (washerman) and Taliary; supervised by revenue inspectors; taluk returns compiled by mortuary clerk in Collector's office and forwarded by district Collector to sanitary Commissioner.
Subordinate Medical Department	1858-1865/1871	Military/ civil	Subordinate medical duties. Medical subordinates often manage dispensaries and hospitals due to shortage of IMS officers	Hospitals and dispensaries- both civil and military. After 1865/ 1871, civil salaries paid by LFB's/ Municipalities, military Medical subordinates paid by military department.	Hospital assistants, sub-assistant surgeons, apothecaries.	Hospitals assistants, sub-assistant surgeons, vaccinators, etc.
Other agents: native doctors	1847 onwards: 18 sanctioned for Presidency	Medical Department	Charge of civil dispensaries, medical charge of districts	Hospitals and dispensaries, lunatic asylums, district duties.	Native doctors	Native doctors, subordinates, etc.
Other agents: missionary doctors	1858 onwards	Local Fund Boards/ Municipalities, missionary bodies.	Charge and maintenance of civil hospitals and dispensaries, drugs. Note: They also maintained private dispensaries.	Hospitals and dispensaries, lunatic asylums.	Accountable to their own bodies and nominally to Government where buildings/salaries are provided	Missionary doctors

Agency	Year/s	Level	Responsible for	Institutions	Headed by/ Accountable to	Executive Personnel
Other agents: private practitioners	1858 onwards	Called in times of emergency: epidemics, famines, etc.	Medical, vaccination and conservancy services in famine relief camps, outdoors.	Temporary/ Permanent Hospitals, dispensaries, famine relief camps, outdoors.	Private practitioners recruited through universities, licentiates.	Private practitioners.
Vaccination Department	1802	Provincial (in 1865- prior to this- district level vaccination depots headed by district civil surgeons).	Vaccination in Provinces; maintenance of vaccination and sanitary returns (after 1865), checking of returns, penalization of erring deputy inspectors and vaccinators.	None. Work of inspector involves inspection of minor dispensaries, working of sanitary and conservation departments, collection of vaccination returns from vaccinators and medical subordinates, deputy inspectors of vaccination. Submit returns to collectors of districts, Surgeon-General or Sanitary Commissioner, advise collectors with regard to tabulation of district vital statistics.	From 1851: under Medical Department with distt. civil surgeons as heads of district vaccination. Superintendent General of Vaccination (IMS) heads it from 1865 till 1875. From 1875: he becomes Inspector of Vaccination and Deputy Sanitary Commissioner. Inspector of Vaccination made subordinate to Sanitary Commissioner from 1875. (IMS). Accountable to Revenue Department (till 1851) Medical Board (till 1855) Surgeon General, Government of Madras (1857-1875). Sanitary Commissioner with the Government of Madras (from 1875).	Zillah surgeons Deputy Superintendent of Vaccination supervising vaccinators. circles Vaccinators (working in bodies from 1865)

Chapter 1 State Intervention and Famine Relief Policy in Madras 1876-78

Introduction

A prominent theme in the literature on famine relief in colonial India pertains to the influences on colonial famine policy. The debate on influences on famine policy has tended to divide those who emphasize long-term ideological and moral influences against those who suggest that ideas about interventionism amongst colonial officials were mere excuses for decisions that involved financial expediency, the advancement of personal aims and political careers and the control of threats to a public, political and social order.

Examples of the former include Srinivasa Ambirajan who argues that the famine policy of the Government of India during the last quarter of the nineteenth century was based heavily on Malthusian doctrines which were imbibed by colonial civil servants as part of their training.¹ Ira Klein also touches upon the issue of non-interventionism as justifying inadequate provision of relief, which then became the precipitating cause between a failure of the monsoons and excess mortality.² David Arnold also writes that 'during the famines and shortages of the early and mid-nineteenth century, the provincial governments adhered firmly to the principles of Free Trade, reproving officials who tried to fix market prices or who sided with hungry and frightened consumers against the grain traders'.³

¹ Ambirajan, *Classical Political Economy*, p. 13. However, Ambirajan's view of policy formation is slightly different in his 1984 book on monetary management in India. In the former, Ambirajan argues that belief in classical political economy was a dominant influence on policy processes. In the latter, Ambirajan asserts that political and administrative processes involving the actions of pressure groups within and outside the government could modify the way in which ideas were carried forward into policy'. S. Ambirajan, *Political Economy and Monetary Management: India 1766-1914*, Madras, 1984.

² Klein, 'When the Rains Failed', op. cit.

³ Arnold, *Famine*, pp. 113-4.

More recent studies have, however, critically questioned the extent to which state intervention derived from shared ideological beliefs- particularly in non-intervention or *laissez faire*- that were constant over a long historical period. Some studies, noting that ‘theoretical considerations’ played some role in official debates, argue however that these were mere facades for a reluctance to spend money on famine relief.⁴ B.M. Bhatia, for example, argues that the concern not to undermine the British hold on the landowning and mercantile classes lay behind the British desire to keep famine relief as cheap as possible, for fear that fresh taxes would estrange these classes.⁵ Lance Brennan, while giving some room to both theoretical concerns and financial expediency argues that ‘personalities and politics’ were the decisive factors in shaping what went into the Famine Codes.⁶ David Hall-Matthews also favours financially expedient concerns over theoretical ones, and argues that long-term policy was shaped by the individuals and circumstances in a particular historical moment.⁷ On a slightly different note, Sanjay Sharma suggests that ‘political economy’ was a theoretical smokescreen for bureaucratic uncertainties with regard to intervention, and that the state consolidated and standardized its bureaucratic and infrastructural basis through its non-interventionist famine relief measures in the 1830s.⁸ Similarly, Ravi Ahuja argues that political expediency- the strategic and critical importance of control of the labour market for the Government of Madras in the face of a labour scarcity and a strong ‘Native’ political enemy- prompted

⁴ G. Patnaik, *The Famine and Some Aspects of British Economic Policy in Orissa, 1866-1905*, Cuttack, 1980.

⁵ Bhatia, *Famines in India*, op. cit.

⁶ Brennan, ‘The Development of the Indian Famine Codes’, op. cit.

⁷ Hall- Matthews, ‘The Historical Roots of Famine Relief Paradigms’, op. cit.

⁸ Sharma, *Famine, Philanthropy and the Colonial State*, p. 58.

intervention by Fort St. George during a famine episode in late eighteenth century Madras, despite an awareness of Adam Smith's treatise on political economy.⁹

Our aim in the following chapter will be to evaluate the weight of ideological, administrative, political and personal factors in determining the way in which famine relief was provided in Madras during 1876-78. We suggest that while beliefs regarding non-interventionism were espoused as justifications for particular courses of action, there existed a deep tension between non-interventionism and interventionism in official responses to famine, which shaped Provincial famine policy in a very definite way. Moreover, there were substantial gaps between policy and implementation at any given point of time. These gaps were due to logistic and administrative factors involved in the implementation of famine relief policy. Considering all the evidence, it does appear that these emergent factors had more causal weight in the way in which famine policy developed.

We will, further, develop Hall-Matthews argument with regard to the structure of the state as it shaped famine policy. Hall Matthews argues that the colonial state, although not monolithic, was a basically hierarchical and therefore a relatively stable structure. We will instead argue that the hierarchy was essentially uneasy, and that there were deep divisions- ideological and administrative- between different levels and agencies of Government over the possibility, desirability, nature and extent of intervention in famine processes. There thus appear to have been two faces of Imperial famine policy- the first minimalist and non-interventionist; and the other humanitarian and interventionist.

⁹ Ahuja, 'State Formation and "Famine Policy"', op. cit.

Further, administrative systems in Madras appeared to be uncondusive to the implementation of the Government of India's system of famine relief. Thus, the colonial state was essentially divided in its responses to famine.

The First Phase: July 1875 to October 1876

The Signs of Distress

Reports of impending famine began, as in most south Asian famines, with a series of monsoon failures and requests by district officials for financial assistance for famine relief works. The southwest monsoon in 1875 was 'scanty and late' and unfavourable reports of the state of the season were received by the Government of Madras from the Collectors of 11 districts out of 19 in July 1875.¹⁰ However, the distress was particularly acute in two *talooks* of Bellary district (Ghooty and Raidurg).¹¹ In August 1875, the Collector of the Bellary district arranged with the District Engineer to execute road repairs as famine relief works at a cost of Rs. 3,000, which was financed from a grant from Provincial Revenues.¹² In October, the Collector reported to the Madras Board of Revenue that if the north east monsoon failed, distress in these two *talooks* would continue. The Board of Revenue reported this to the Government and directed the Collector to prepare a scheme of works in anticipation of a failure of the

¹⁰ *Madras Famine Review*, Madras, Government Press, 1879, p. 1.

¹¹ Letter from Secretary to the Government of Madras, Fort St. George, to the Secretary, Government of India, No. 900, dated 4th July 1876, enclosed in letter from Government of India to Secretary of State for India, No. 13 of 1876, Correspondence between the Secretary of State for India and the Government of India on the Subject of the Threatened Famine in Western and Southern India [Henceforth Famine Correspondence] 1, IOR/V/4/Session 1877/Vol. 65.

¹² Governmental revenue and expenditure was classified under three heads: Imperial, Provincial and Local according to the nature of the control exercised: whether the funds were administered exclusively by the Government of India, mixed control by the Imperial and Provincial Governments, exclusive control of the Provincial Government, and from 1871, for special or local objects, or under such circumstances that they were excluded from the accounts of the empire as a whole. (*Madras Manual of Administration*, Madras 1883).

north east monsoon.¹³ The rationale stated by the Board of Revenue was decidedly utilitarian: 'early and liberal expenditure on works may avert the necessity for distributing charity, which should be avoided by all possible means.'¹⁴ Accordingly, the Government of Madras authorized the Collector to extend and maintain relief works where necessary.

Debates raged between different levels of Government over the form and nature of famine relief to be provided. The Madras Board of Revenue and the Bellary Collector clashed over the size of relief works. The Collector selected two roads on which he proposed to mass labourers. He also asked to be allowed the discretion of starting small works near villages and asked for a grant of Rs. 12,000 for this purpose. The Board of Revenue refused this last request on the grounds that relief was to be provided in the form of large works of utility, and that small projects such as road repairs would be impractical and wasteful. (This view was also put forth by the Government of India later the following year, in refusing requests by the Governments of Bombay and Madras for starting railway projects as relief works). In the meantime, the Collector reported that rain had fallen and that people were beginning to cultivate their lands.

However, two months later, in December 1875, after a personal inspection of the two *talooks*, the Collector repeated his request for Rs. 12,000, stating that after the harvest, the people would find it difficult to obtain the means of subsistence.¹⁵ This time, the Government of Madras sanctioned the grant after a recommendation was passed by the Board of Revenue, illustrating that grants of financial assistance often

¹³ The Madras Board of Revenue was responsible for the daily intimate functioning of the state in the districts. Technically related to the Provincial Revenue Department, the Revenue Board exercised much greater influence than any other department of Government over district, *talook* and village level affairs. All matters connected with district and village level taxation, annual settlements under the *ryotwari* tenure, the management of temples went through the Revenue Board.

¹⁴ *Madras Famine Review*, p. 1.

¹⁵ *Ibid.*

had to be made several times by subordinate officials, thereby delaying the provision of famine relief.

In the meantime, despite rainfall in August and September 1875, the weekly seasonal reports from the end of October 1875 showed slight or partial rainfall in several other districts in the Presidency. By January 1876, the prospects of the northeast monsoon season in several districts had begun to look bleak. The dry Northern districts of Bellary, Cuddapah and Kurnool were particularly affected by the drought. On the 20th of January, the Provincial Government wrote to the Imperial Government that they expected a very extensive loss of crops.

Thereupon the Government of India, alarmed at the tenor of the weekly season reports, asked the Government of Madras to 'report more fully' on the state of affairs. In reply, the Provincial Government wrote to the Government of India that they expected 'loss of crops, large scale remissions and high prices'; and that 'relief works funded by Imperial revenues' might become 'inevitable.'¹⁶ Four districts were affected in particular: Bellary, Cuddapah, North Arcot and South Arcot.

Cries for help from other districts

In February 1876, revenue officials in other districts began to petition the Government of Madras for financial assistance to open relief works. The response of the Government of Madras to these requests was uneven. Requests for financial assistance were routed through the Madras Board of Revenue to the Madras Government. In many cases, financial grants for relief works were sanctioned or not sanctioned according to the extent to which the Revenue Board believed a request from a district collector was legitimate and justified. The persuasive power of district

¹⁶ Telegram dated 24th October 1876, from Secretary, Madras to Commerce, Simla, Famine Correspondence 1, IOR /V/4/Session 1877/Vol.65.

officials played a significant role, thus, in determining whether relief works were started or not in a particular district. The Collector of the Salem district reported to the Government of India that the season was exceptional, and requested a grant of Rs. 12,000 to start relief works in two *talooks* of the district. The Madras Government refused this request on the grounds that they did not consider the situation serious enough to justify applying for Imperial funds.¹⁷ By May 1876, lists of relief works had been referred by the Madras Government and approved by the Government of India in the districts of Cuddapah, Tinnevely, Chingleput and South Arcot. In the meantime, relief works were started in another *talook* of the Bellary district. The Collector of Nellore was asked to draw up a list of works to be kept ready for execution in case of monsoon failure. In June 1876, the Collector of Madura district reported 'distress' on the failure of the north east monsoon, but also stated that there was no sign of the distress turning into scarcity. The following month, the Collector of Cuddapah reported that there was 'every chance of distress amongst the poorer classes' and asked for a grant of Rs. 25,000 from the Provincial Government. In reply, the Government of Madras placed Rs. 10, 000 at the disposal of the Collector through the Board of Revenue, stating that the demand seemed 'very sudden'.¹⁸ The sub-Collector of Cuddapah advocated that the Government of Madras purchase grain in order to pay the famine stricken labourers as they would otherwise be 'unable to purchase food except at exorbitant prices'. At this stage, both the Government of Madras and the Board of Revenue turned down the idea of grain imports on the grounds that 'such interference would disorganize trade' and that 'the Government could not purchase or carry grain as cheaply as native merchants'.¹⁹

¹⁷ *Madras Famine Review*, p.1.

¹⁸ *Ibid.*

¹⁹ *Ibid.*

Provincial Demands for Imperial Assistance

In August 1876, the Government of Madras telegraphed the Government of India asking for sanction for the expenditure of Rs. 41,000 for relief works already begun in the districts of Bellary and Cuddapah.²⁰ This request was acknowledged by the Government of India only in October 1876, and thereupon summarily refused.²¹ Relief was initially provided on large public works run by the Madras Public Works Department.²²

In September 1876, however, the Government of Madras received requests from the Collectors of these districts (Bellary and Cuddapah) to open public works under their personal supervision instead of that of the Public Works Department (PWD) as the PWD system of employment was believed to be unsuitable for relief of agricultural distress where daily payment was a necessity. For example, the Collector of Bellary reported that 'coolies would not go to works run by the Public Works Department as the training and organization of its officers was not adapted to a system requiring daily payment of labour'.²³ From this point onwards, the Madras Government provided relief mainly in the form of works run by district Collectors and the Madras Board of Revenue. These works were called 'civil' works and they were funded from the ordinary revenue of the financial year in question.

By the end of October 1876, there were 83, 000 people on relief -mostly civil works- in Bellary and Cuddapah. By December 1876, civil works under the supervision of district Collectors were opened to employ famine relief labourers at the

²⁰ *Madras Famine Review*, p. 12.

²¹ *Ibid.*

²² 'Large works' were defined in the 1883 Madras Famine Code as those estimated to cost over Rs. 2500 and employ a 1000 people continuously for three months. (*Madras Famine Code*, Madras, 1883 p. 5). However, during 1876-77, there was considerable confusion between the Government of India and the Provincial Governments over what constituted 'large works' and there appeared to be no clear definition for purposes of undertaking relief works within a given administrative and ecological context.

²³ *Madras Famine Review*, p. 12.

rate of 1 ½ lb. of grain per man per day (women and children were paid 1 lb., and children ¾ lb.) In fourteen districts, covering an area of 80,000 miles, distress was felt: people began to leave their homes in search of food, to crowd into towns and *chhuttrums*; and seek employment on relief works.²⁴ There were also reports of 'distress' and 'scarcity' from the districts of North Arcot, South Arcot, Salem and Nellore. Simultaneously, the south west monsoon had failed in Bombay, Mysore and Hyderabad. In December 1876, the Government of Madras was forced to open centres for the gratuitous relief of people through distribution of food in relief camps.

From October 1876, the Government of India headed by Lord Lytton began to be alarmed about the likelihood of heavy Imperial expenditure on famine relief in Madras, Bombay and Mysore, all of which had experienced extensive and severe crop failures.²⁵ On the 27th of October 1876, the Government of Madras wrote to the Government of India stating that Provincial funds had been exhausted and that Imperial expenditure was now unavoidable.²⁶ The Government of Madras had already expended Rs. 3, 77,770 on famine relief. Over 50,000 famine stricken people were employed in Bellary district alone. The Government of Madras requested the Government of India for permission to employ people on building a railway line between the towns of Bellary and Guduk in accordance with the principles of relief followed during the famine in Bengal in 1873-4, which were to employ all who sought work on payment of lower wages than if the works was to be conducted on

²⁴ W. Digby, *The Famine Campaign in Southern India* Vol.1, Madras 1878, p. 11.

²⁵ The extent of the famine was at the time unknown, but three months later, in January 1877, the Government of India estimated that in Madras, 18 million people over an area of 80,000 square miles were affected and in Bombay 5 million people over an area of 54,000 square miles were affected. (Secretary of State for India to Government of India, Letter No. 16, dated Revenue Despatch No. 6, 12th January 1877, Famine Correspondence Part 1, IOR/V/4/Session 1877/Vol. 65.) The Government of Madras estimated the financial loss due to the famine at two crores and thirty two lakhs of rupees (Rs. 2,320,000 or £ 232, 000) in December 1876. (Letter No. 14, from Government of India to Secretary of State for India, dated 8th December 1876, Famine Correspondence 1, IOR/V/4/Session 1877/Vol. 65).

²⁶ Telegram dated 24th October 1876, from Secretary to the Government of Madras to Secretary Commerce, Simla, Famine Correspondence 1, IOR/V/4/Session 1877, Vol. 65.

ordinary terms. The Government of India vetoed the suggestion, stating instead that the Provinces should employ persons on smaller works closer to their homes, instead of starting large works, which were 'unlikely to be required 'after a short period'.²⁷

The Imperial Government thus initially disbelieved the reports of distress sent in from Madras, just as the Madras Board of Revenue and the Madras Government disbelieved reports of distress sent in by the district Collectors. Current political conditions and individual political personalities at the helm of affairs were important determinants of the willingness of senior officials and bodies to believe and acquiesce to the demands of subordinate officials for financial assistance. Yet, debates over famine relief in the immediate past also coloured the actions of the Imperial Government.

During the Orissa famine of 1866 (which also affected the Northern districts of Madras to a great extent) the Governments of India and Bengal had failed to intervene in the situation in time, despite warnings from district officials early on in 1865. This led to at least a million lives being lost in Bihar and Orissa and at least 400,000 in Madras. In 1873-4, the Government of India under Lord Northbrook began to import grain in November 1873, as soon as district officials reported distress. In 1876, the Government of India under Lord Lytton was determined that the 1873 policy could not be repeated without running the risk of bankruptcy, and this led to strict injunctions against monetary waste.²⁸

²⁷ Letter from the Government of India (GoI) To the Secretary of State for India (SoS), No. 28 of 1876, dated Calcutta, 17th November 1876, Famine Correspondence 1, IOR/V/4/Session 1877/Vol. 65.

²⁸ P. Brumpton, *A Selection from the India Office Correspondence of Robert Cecil, Third Marquis of Salisbury, 1866-67 and 1874-78*, Lewiston, 2002, p. 21.

Provincial Governments were also erratic in their assessments of crisis situations. Although the Madras Government swung into action late in 1876, their initial reaction was slow, unresponsive and even irresponsible. As we have seen earlier, requests from the district collectors for funds to start relief works were granted on an ad-hoc basis, depending on the ability of district collectors to convince the Madras Government rather than on any well-considered and reliable system of information and review.²⁹ In addition, there was a tendency amongst higher administrative authorities to mistrust the judgement of those lower down in the hierarchy, particularly when faced with requests for financial assistance to carry out famine relief works. This tendency was endemic to the colonial state as a whole; it marked the responses of the Government of India to the requests of the Provincial Governments; the Provincial Government and the Madras Board of Revenue to the district collectors under the *ryotwari* system; the district collectors to the *Tahsildars* and the village officials. This mistrust seems to have been pervasive not just in the responses of European administrators to native subordinates, but within the bureaucracy as a whole.

In early October 1876, the Governor of Madras, the Duke of Buckingham and Chandos, left Madras on a long tour to the Andaman Islands, Rangoon and Ceylon.³⁰ The Duke took with him most of the members of his council, leaving the reins of the administration in the hands of Sir William Robinson, whom Lord Salisbury, the

²⁹ This point (that Imperial sanction for relief measures tended to be made on an ad-hoc basis according to how convincing a district official could make his appeal) has also been made by Elizabeth Whitcombe. (E. Whitcombe, 'Famine Mortality', *Economic and Political Weekly*, XXVIII, 23 (1993): 1169-1179.)

³⁰ W. Digby, *The Famine Campaign in Southern India* Vol.1, pp.4-5. Digby wryly added that (the purpose of the Governor's tour) in the last named place (Ceylon) was 'to inquire about a railway which will not be wanted for a century.'

Secretary of State for India privately described as 'a most unfortunate phenomenon (with) a narrow provincial patriotism'.³¹ The departure of the Governor apparently led the Government of India as well as civil servants and journalists in Madras to believe that nothing was amiss and that the scarcity was being tackled satisfactorily.³²

Phase II: November and December 1876

Provincial Defiance: The Import of Grain

However, the Duke, in constant telegraphic correspondence with Robinson, soon became alarmed by reports of suffering and starvation in the Presidency. Grain riots took place in the Cumbum *talook* of the Kurnool district and Cuddalore town in South Arcot in October 1876.³³ Two officials- Mr. Thornhill, of the Madras Board of Revenue, and Mr. Arbuthnot, of the Madras Council, were deputed to visit Bellary and Kurnool respectively. Mr. Thornhill reported that Bellary district was 'full of grain' but that merchants were reluctant to contract either for sale or transport. There appeared to be a danger that once the certainty of the north east monsoon ended, merchants would refuse to sell grain altogether. In the meantime, the Government of India directed that all large projects requiring an expenditure of over Rs. 2500 should be avoided and prior sanction sought by the Provincial Governments before allowing district Collectors or the Madras Public Works Department to begin such works.

³¹ Letter No. 15 from Salisbury to Lytton dated May 4th 1877, Letters to the Secretary of State, Lytton Collection, IOR/MSS/Eur 218E/4A.

³² Digby, *The Famine Campaign in Southern India* Vol. 1, op. cit., p. 5.

³³ No. 1,599 A, From the Secretary to the Government of Madras (GoM) to the Secretary to the Government of India (GoI), dated 7th November 1876. There were also grain riots across the Bombay Presidency during 1876 October, and this perhaps alarmed the Government of Madras. (Note on the condition and resources of the districts in the Bombay Presidency which are threatened with scarcity; dated Simla, October 21st, 1876, Famine Correspondence 1, IOR/V/4/Session 1877/Vol. 65).

In late October 1876, the Government of Madras took a step that was openly in defiance of the policy of non-intervention in the grain trade imposed by the Government of India and the Madras Board of Revenue. Thornhill and Arbuthnot's report on the Ceded districts indicated that the drought had led to great distress and hunger. There was a 'marked increase in crime'; and despite the very low rates offered as wages on local relief works, 'large numbers of people resorted to them, including respectable *ryots* and heads of villages'.³⁴ Alarmed by reports of starvation and grain riots, the Governor of Madras wrote privately to Robinson to sanction the import of 30,000 tonnes of rice from Bengal through the agency of a commercial firm, Arbuthnot and Company, in a secret transaction. The Government of Madras intimated the Government of India of its action on November 4th, 1876, requesting that the Imperial Government foot the bill of Rupees 32 lakhs (Rs. 3,200,000).³⁵

The import of grain was a direct reversal of the non-interventionist policy laid down by the Government of India and the Madras Board of Revenue since the early nineteenth century as guides to famine relief policy. It incurred the wrath of Lord Lytton, the Viceroy, Lord Salisbury, the Secretary of State for India and several of the members of the Council of the Government of India. The Government of India wrote,

In the present state of the finances, such a measure should only have been resorted to upon the strongest grounds of proved necessity, and not...until full explanation of the necessity had been submitted to, and accepted by the Government of India, upon whom rests the entire responsibility for the financial administration of the Empire..... if local Governments are to be permitted to embark in financial considerations of such magnitude

³⁴ Letter from the Government of Madras (GoM) to the Government of India (GoI), No. 1599A, dated 7th November 1876, Famine Correspondence 1, IOR/V/4/Session 1877/Vol.65.

³⁵ The Government of India (GoI) wrote to the Secretary of State (SoS) for India on 17th November 1876, that they had received a telegram from the Government of Madras (GoM) on the 4th of November intimating that the latter had contracted confidentially with a local firm for the purchase of 30,000 tonnes of rice at a cost of Rs. 32 lakhs. The GoM requested the GoI to pay this amount at the rate of Rs. 4 lakhs a week. (GoI to SoS dated November 9, 1876, No. 27, Famine Correspondence 1, IOR/V/4/Session 1877/Vol. 65).

without the permission or knowledge of the Government of India, the most serious embarrassment must ensue.³⁶

Imperial administrators were resolutely against intervention in the grain market.

Salisbury would later write privately to Lytton: '.....In its uneconomical views about the supply of grain the Madras Government went incorrigibly wrong, and there it was absolutely necessary to resist'.³⁷ Others were more vocal in their displeasure. O.P.

Burne, Lytton's personal secretary, would write to Louis Mallet, Under Secretary of State for India: 'I should like to hang or shoot a great many people in South India if it were allowable!'.³⁸

In its defence (provided much after the transaction had been made), the Madras Government pleaded that this form of state interference was justified by the extraordinary circumstances:

In consequence of extreme uncertainty grain stores in distressed districts, and extraordinarily high prices prevailing in distressed districts in Madras, and difficulty in obtaining food for money, this Government have confidentially secured a Government reserve (of grain).³⁹

Clearly, concerns about threats to public order were intermingled with fears of mass starvation and death in the Governor's decision to import grain as a reserve for distribution as wages to labourers on famine relief works. (At the same time, it is noteworthy that the imported grain- rice- was intended as a reserve for distribution on famine relief works, rather than for gratuitous distribution. Much later in the course of

³⁶ Letter, GoI to SoS, No. 28 of 1876, dated 17th November 1876, Famine Correspondence 1, IOR/V/4/Session 1877/Vol.65.

³⁷ Letter from Salisbury to Lytton, No. 22, dated June 15, 1877, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4A.

³⁸ Letter from O.P. Burne to Louis Mallet dated Coimbatore, 10th September 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/MSS Eur/E218/48b.

³⁹ Letter, GoM, Revenue Department to GoI, Financial Secretary dated 4th November 1876, enclosed in GoI to SoS No. 28 of 1876, dated 17th November 1876, Famine Correspondence 1, IOR/V/4/Session 1877/Vol. 65.

the famine, relief officers in Bellary district complained that rice was insufficiently nourishing for the sustenance of famine relief workers.)⁴⁰ In a later letter, the Government of Madras also referred to the 'seriously threatening circumstances' in the famine stricken districts and stated that the import of grain was necessary in order to guard against the risk of 'great disaster and loss of life'. It also stated that 'there is no longer room to doubt that distress, which is even now threatening to culminate in famine requiring extraordinary State measures, must for some months be experienced by the poorer portion of the population'.⁴¹

The Government of Madras almost unanimously supported intervention, both in terms of importing grain and in terms of providing famine relief, when the magnitude of the impending famine became known. (The Executive Council in the Government of Madras consisted at this time of the Governor, the Duke of Buckingham and Chandos; Sir William Robinson and Alexander Arbuthnot). The reasons for this interventionist stance were complex, but it can be argued that one was a genuine sense of responsibility for human life on the part of the individuals who formed the Madras Council, the executive body of the Government. Salisbury wrote to Lytton in late April 1877 regarding the Duke of Buckingham and Chandos, who was the Governor of Madras at the time:

I have told you by telegraph of Buckingham's state of feeling as disclosed by his letters.... whatever may be the case with his advisers.....He is genuinely shocked at the suffering he sees and hears of, and is anxious as to the future.....he dreads being held responsible....for some terrible calamity.⁴²

⁴⁰ The Sub Collector of Gooty *talook* in Bellary district complained to the *Talook* Famine Relief Officer that 'the grain being boiled rice, labourers would not thrive on it, whereas it would do very well for the people who are fed in camps.' (Reply to Memo dated 26th October 1877, enclosed in Proceedings of the Government of Madras in the Public Department dated 31st December 1878 Nos. 212-213, G.O. No. 2634, TNSA).

⁴¹ GoM to GoI, dated 13th November 1876, enclosed in GoI to SoS, No. 30 of 1876, dated 24th November 1876 (Famine Correspondence 1, IOR/V/4/Session 1877/Vol. 65.)

⁴² Letter No. 14 dated April 27th, 1877 from Salisbury to Lytton, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4A.

What emerges from this extract is that one cannot generalize, (as have some writers on the basis of sources for other famine periods) that state intervention emerged only or even primarily when distress caused people to resort to theft, arson and attacks on European officials.⁴³ Undoubtedly the threat posed by grain riots did result in many district officials petitioning the Government of Madras for famine relief. However, we have seen that these requests were not always granted, and so to credit 'popular action' with such causative power would, we suggest, overstate the extent to which these actions could generate official responses. Officials responded to a situation of crisis for a variety of reasons, not all of which were congruent or consistent with each other. It appears that one cannot entirely discount a genuine sense of humanitarian responsibility on the part of individual administrators.

In evidence was also fear amongst administrators sitting in London and Simla, regarding the situation in Madras. Deep in the south, it appeared as strange, remote and ungovernable territory, and its bureaucrats, albeit European, difficult to control. Salisbury remarked: 'As to the Madras Government, I feel I know so little I can hardly criticize.....Madras seems to be a very peculiar country!'⁴⁴ The larger context of Madras within the Government of India seems to have made the defiance of Madras a source both of displeasure and trepidation by the Government of India.

⁴³ There is a large literature on food riots and peasant revolts in times of famine, both in the Indian and European contexts. The interested reader is referred to Sharma, *Famine, Philanthropy and the Colonial State*, op. cit. Ch.3

⁴⁴ Letter No. 22 dated 15th June 1877, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4A.

The Precedent for Intervention: Richard Temple's Import of Grain in 1873-4

The import of grain, however, was not the first instance of a Provincial Government acting in contradiction to the ideals of non-intervention and laissez-faire that had governed the utilitarian teaching that many civil servants learnt during their training since the beginning of the nineteenth century.⁴⁵ There was a recent precedent for Provincial interventionism, which had been supported by no less than the previous Viceroy of India, Lord Northbrook. This was in Bengal during a threatened famine in 1873-4.⁴⁶

The timely import of grain and relief work by the Bengal Government had prevented a large-scale calamity in 1873-4.⁴⁷ In late 1873, Lord Northbrook, the Viceroy of India at the time, had sanctioned a request by Sir Richard Temple for importing 100,000 tonnes of rice from Burma. Temple, who was the Famine Commissioner, later became the Lieutenant Governor of Bengal in 1874. Temple in particular came under fire for overestimating the amount of grain required to feed the distressed population. His generous estimates of the amount of food required daily by a labouring adult had led to the Government being faced with huge amounts of left over stocks of grain after the famine.⁴⁸ He had been singled out for criticism by

⁴⁵ The classic work on the intellectual trends informing colonial thought in the nineteenth century is E. Stokes, *The English Utilitarians and India*, Oxford, 1959. See also C. Dewey, *The Mind of the Indian Civil Service*, Mumbai, 1993.

⁴⁶ *Madras Famine Review*, op. cit., p. 12.

⁴⁷ Here it must be mentioned that the 1873-4 course of Government action was itself a reaction to the disastrous failure of a strictly non-interventionist state policy which had led to large scale mortality in Bihar and Orissa in 1866 and Rajputana in 1869. See J.C. Geddes, *Administrative Experience Recorded of Former Famines: Extracts From Official Papers Containing Instructions for Dealing with Famine*, Compiled Under Orders of the Government of Bengal. Calcutta, January 1874.

⁴⁸ An anonymous pamphlet writer (most likely a Bengal civil servant) wrote that Temple had estimated that the relief measures had cost the Government of India £ 4,400,000 and that the total imports amounted to 460,000 tonnes of grain, of which 435,000 were left untouched at the end of the famine. (*The Black Pamphlet of Calcutta: The Famine of 1874* by a Bengal Civilian, London: 1876.)

members within the India Office and the Government of India for the huge expenditure that had prevented the scarcity from snowballing into a famine.⁴⁹

During this famine, there were 'only' 23 deaths. Paradoxically, the limited scale of mortality during this famine caused the Government of India to doubt whether it amounted to a famine at all. Even more strikingly, each and every course of action of the Bengal Government- particularly Temple- to prevent mortality- whether it was the import of grain or the prompt and generous system of relief put into place- was later criticized by several civil servants as extravagant.⁵⁰ The authority given by the Government of India to local Governments to undertake famine relief measures upon the apprehension of distress had come under intense scrutiny following upon this famine.

It was now three years later, and the Madras Government defended its action on the basis of the Bengal precedent. In a review of the famine in 1878, the Madras Government wrote, 'It was impossible for the Government of Madras to choose any other course of action but that followed by Lord Northbrook'.⁵¹ This caused a great deal of friction between the bureaucrats of the Imperial and the Provincial Governments. O.P. Burne, the Personal Secretary to Lytton wrote to Louis Mallet, the Permanent Head of the India Office:

...Millions have been utterly wasted and the Madras people rest their defence....on the wretched famine policy left us as a legacy by Lord Northbrook, (!)...on the irresistible cry of humanitarianism..... fortunately my violent language does no one any harm as I shall not be in India to write the history of the famine or to expose to derision Lord

⁴⁹ The cost of the Bengal 'famine' was £ 6,333, 333 (about Rs. 63, 333, 330), while there were 'only' 23 deaths. See Hall-Matthews, 'The Historical Roots of Famine Relief Paradigms', op. cit.

⁵⁰ *The Black Pamphlet of Calcutta*, op. cit.

⁵¹ *Madras Famine Review*, p. 15.

Northbrook's principles and declarations, which would otherwise have given me a vast amount of pleasure to do so! ⁵²

After a series of acrimonious exchanges with the Madras Government, the Government of India decided to send a representative to supervise relief operations there. The subject of the choice of a delegate to Madras was much debated amongst officials gathered in Delhi to celebrate the proclamation of Queen Victoria as Empress of India. ⁵³

The Third Phase: Temple's Deputation in January 1877

In the light of Richard Temple's interventionist policy in 1874, it came as a surprise to many when he was deputed by the Government of India in January 1877 to advise the Madras Government on economy in famine relief. However, Lytton had a deeper understanding of Temple's character. He wrote to Mallet in January 1877, after the selection had been made:

Our best course (was) to send Temple in the character of our Commissioner with adequate powers to Madras. Temple is leaving to retrieve his reputation for extravagance in the last famine, by showing how efficiently he can work an economical policy... he carries with him great authority, and I don't think we could have found in all India at the present moment a man more likely or better able to help us to save money in famine management. ⁵⁴

The Government of India sent its delegate with an explicit brief. Temple's 1874 dictum that 'no expense should be spared in order to save lives' was inverted in January 1877 by the Government of India. Temple was instructed that

⁵² Letter from O. P. Burne to Louis Mallet dated Poona 23rd September 1877, Letters to Sir Louis Mallet, Permanent Under-Secretary of State, Lytton Collection, IOR/MSS Eur/E218/48b. Louis Mallet, Under Secretary of State for India, was a passionate supporter of a free market, and authored a number of essays on the subject. See L. Mallet, *'Free Exchange'*, London, 1891.

⁵³ The incongruence of the lavish ceremony in Delhi to commemorate the Queen's accession to the title at a time when millions were starving in southern and western India was commented upon both among the press and the Madras bureaucracy. See Digby, *The Famine Campaign* Vol. 1, op. cit., p. 56.

⁵⁴ Lytton to Mallet, dated Benares 11th January 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/ MSS Eur/E218/48b.

Even for the object of such paramount importance as the preservation of life, it is obvious that there are limits imposed on uswe must plainly admit that the task of saving life, irrespective of the cost, is one which it is beyond our power to undertake.⁵⁵

Clearly, Lytton, along with other bureaucrats in the Government of India such as Richard and John Strachey, O.P. Burne and Louis Mallet were intent on enforcing a strictly non-interventionist famine policy. However, it is difficult to make definitive statements about whether they were motivated by belief in classical political economic theories or merely by mercenary concerns of saving the Government from what they saw as serious financial embarrassment. Burne and Mallet were passionate ideologues of non-interventionism as a tenet of governance. Mallet was the author of a number of tracts and essays on free trade, while Salisbury was a loyal member of the Conservative party.⁵⁶ Yet, they were also deeply concerned about the state of Imperial finances, as famine relief was seen as constituting a Provincial drain on Imperial revenues. Clearly, for these individuals, ideological beliefs did play some role in shaping responses to famine. However, the weight of the evidence seems to point to financial expediency as a dominant influence on the Government of India's policy decisions in 1877.

Salisbury had written to Lytton in April complaining against the humanitarianism of the Madras Governor, 'Of course there is a calamity of a totally different kind: the emaciation and starvation of the Budget next week- to which he (Buckingham) pays little attention, and on which he wastes no anxiety'.⁵⁷

⁵⁵ From the Secretary to the Government of India to the Hon. Sir Richard Temple, Bart, K.C.S.I., Lt. Governor of Bengal (on a Special Mission), dated Calcutta the 16th January 1877. (Famine Correspondence 2, IOR/V/4/Session 1877/ Vol. 65.)

⁵⁶ See Mallet's posthumous collection of essays, *Free Exchange: Papers on Political and Economic Subjects*, London, 1891.

⁵⁷ Letter from Salisbury to Lytton, dated April 27th 1877, Letters to the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4A.

Lytton in turn wrote to Mallet:

I anxiously hope you will not encourage any humanitarian (impulses) in England about the famine- that is now our greatest danger- if the British public insists on our keeping *ryots* alive 'regardless of expense' and imposes on us a 'life at any cost' policy- the British public might in fairness find us the money (which we have not) for satisfying the commands of its cheap sentiments.⁵⁸

It appears from this extract that a nebulous 'public opinion', both in England and in India, had begun to play a significant role in shaping official famine policy. (As the famine wore on, both Lytton and Salisbury became more and more worried about the public image of official famine policy. This preoccupation is evident in the official correspondence, although a study of newspapers and journals would have further enabled a detailed critical view of this issue). Further, although this point cannot be substantiated with detailed evidence, it does appear that famine policy began to acquire more and more of a 'public image' as the nineteenth century wore on, possibly in large part due to the development of printing and circulation of newspapers, journals and pamphlets both in English and in vernacular languages.

By December 1876, the Government of India had received estimates stating that the financial cost of the famine in Madras alone was computed at Rs. 2 ½ crores. A complete failure of the monsoons in Bombay, and reports of starvation and distress in the princely states of Hyderabad and Mysore signalled a vast Imperial financial outlay. Salisbury wrote to Lytton that '.... I am afraid you have had a terrible time with the famine. It is a sad blow to all our financial castles in the air'.⁵⁹

⁵⁸ Lytton to Mallet, dated Bewares 11th January 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/MSS Eur/E218/48b

⁵⁹ Salisbury to Lytton, Letter No. 2, dated February 9, 1877, Letters from the Secretary of State, Lytton Collection, IOR/ MSS Eur/E218/4A.

At the end of 1876, over a hundred thousand people were employed on relief works across Madras Presidency, consisting mostly of repairs to roads, wells and river works. These works were managed by district Collectors and opened to all who sought employment at a wage that was lower than the wage paid to able-bodied labourers on ordinary Public Works Department works. The Government of Madras had also begun to distribute food gratuitously in relief camps and kitchens to starving people in the vicinity of Madras city.

Private Charity and State Relief: An Uneasy Relationship

Private Indian charity appears to have had an uneasy relationship with the provision of Government sponsored relief. From an early stage onwards, 'native gentlemen' were active in providing gratuitous relief in their houses or in the streets of Madras. There was official recognition from an early stage onwards that Government relief operations were woefully inadequate. Yet, private charity was viewed with suspicion and disapproval, on several grounds. The first of these was that it attracted huge crowds into the main cities, such as Madras, which the Government was anxious to keep free of starving migrants.⁶⁰ 'Indiscriminate' private charity was believed to attract people in unmanageably large numbers to these towns, where such relief was mostly given. Cornish complained that private charity caused 'rumours to fly about the neighbouring districts that in Madras, there were 'mountains of rice and rivers of ghee' awaiting the arrival of the hungry.'⁶¹

⁶⁰ Despite these allegations, it appears that the failure of the Government machinery to provide adequate relief in the more far-flung and remote rural areas was the main factor which induced migration of people to the towns. This failure is evident from the responses received by the Indian Famine Relief Fund for financial assistance from September 1877. (See later in this chapter).

⁶¹ *Fourteenth Annual Report of the Sanitary Commissioner for Madras for 1877, (henceforth SCR 1877)*, p. 191.

Another complaint was that relief was given indiscriminately- that those who received it were not (in the eyes of European officials) truly in need. Therefore, private charity was seen to encourage dependency amongst the undeserving poor. In his sanitary report for 1877, Cornish remarked that from around October 1876 onwards, native gentlemen of means and position opened kitchens of their own account, where 'if the relief was indiscriminating, much food was also given away to the really deserving'.⁶²

Private charities were also seen as less amenable to supervision and standardization. Cornish complained,

In these private feeding kitchens, no attempt was made to issue a standard allowance of food. A certain amount of grain was cooked daily, and whether the applicants were 1000 or 3000, an attempt was made to divide the dole between the whole number. Those who were strong and robust, and who by sheer strength could scramble earliest into the feeding places, got best served while the weak often had to put up with a scanty ration or none at all.⁶³

Finally, private charities were seen as providing an unscientific or inadequate diet. In February 1877, Cornish complained that 'relief was given in such a form as to do but little good....the quantity of grain appeared to be insufficient but being made up of with buttermilk and a strong sprinkling of hot condiments.'⁶⁴ He continued: 'at one of these private charities, the rations, in my opinion and in that of Dr. Thompson's, did not equal half a pound of rice in each ball of cooked food.'⁶⁵ Yet, he also expressed a belief that Government relief operations were ill-equipped to deal with a tragedy on the scale of the famine, and suggested that private individuals be encouraged to contribute food to Government relief camps.⁶⁶ Thus, private charity was discouraged by the Government if the relief houses was managed by non-governmental or private agencies, but private charity as subsidiary to Government

⁶² SCR 1877, p. 191.

⁶³ Ibid.

⁶⁴ SCR 1877, p. 181.

⁶⁵ SCR 1877, p. 191.

⁶⁶ Ibid.

relief operations was seen as essential for the state was to tackle the famine satisfactorily. Cornish later remarked that he could not 'help concluding that it was a grave mistake to dry up, at an early stage of the famine, the springs of private charity'.⁶⁷

This account of official responses to private charity during the famine would confirm Sanjay Sharma's assertion that the colonial state was willing to encourage and recognize indigenous efforts if they conformed to a more formal and institutional idea of charity. Sharma suggests that indigenous practices were sought to be shaped according to new principles deriving from Christian charity and standardization.⁶⁸ Yet, as will be clear, at a later stage in the famine, provincial officials themselves rued this drive as having the effect of severely limiting the scope of operations.⁶⁹ Thus, we might state that a drive towards standardization and assumption of the sole right to give 'appropriate' charity was quickly contradicted from within the state itself during the famine of 1876-78. Official attitudes towards philanthropy, while seemingly aimed at standardization and institutionalization, were in reality marked by uneasy and contradictory attitudes regarding the interaction between private charity and official relief and the ability of official relief to undertake the task of preventing starvation.

Thus, state famine policy was marked by deep divisions between Centre and Province over three aspects of famine relief. First, there was a concern over whether the state had a moral duty to undertake to feed the famine stricken or merely to employ them (deriving in part from debates over whether there was a famine of work or food, and the ability of private trade to overcome local shortages of food through

⁶⁷ *SCR 1877*, pp. 191-2.

⁶⁸ Sharma, *Famine, Philanthropy and the Colonial State*, pp. 177- 192.

⁶⁹ *Ibid*, p. 187.

transportation). Secondly, there were divisions over the nature of relief works: their size, management and purpose. Which Government Department was best suited to manage famine relief works? Should relief should be 'charitable' or 'profitable'? How large should they be, given the topographical and administrative realities of a particular region? Finally, was the Imperial Government was to place a ceiling on local and Provincial expenditures on relief and demand bureaucratic scrutiny of district level demands, or allow district level administrators the administrative and financial freedom to respond quickly to a situation of agrarian crisis. While non-interventionist policy formed a core 'shell' around which state responses to famine were organized, it is evident that unbridled non-interventionism had a number of official detractors, both for moral as well as expedient reasons. However, the existence of humanitarian impulses did not effectively prevent starvation. In the districts and villages, a slow tragedy unfolded. (See Table 1.1).

Table 1.1: Districts Affected by Famine, January 1877⁷⁰

DISTRICTS	Area in sq. miles	Population	Land revenue (In rupees)	Excise on spirits and drugs (In rupees)
Bellary	11,007	1,668, 006	23,43,386	6,89,841
Kurnool	7,358	959,640	14,27,653	3,31,272
Cudappah	8,637	1,351, 194	17,71,726	2,07,108
TOTAL first tract	26,732	3,978,840	55,42,765	12,28,221
Kistna	8,036	1,452,374	38,46,936	1,64,585
Nellore	8,462	1,376,811	24,73,598	89,773
Chingleput	2,753	938,184	16,32,688	1,57,129
North Arcot	7,139	2,015,278	26,91,778	3,15,342
Salem	7,483	1,966,995	21,88, 827	3,06,113
Madura	9,502	2,266,615	19,24,196	1,37,974
Coimbatore	7,432	1,763,274	25,01,180	2,80,718
Trichinopoly	3,515	1,200,408	15,54,787	1,49,363
Tanjore	3,654	1,973,731	39,89,490,	4,94,555
TOTAL second tract	57,976	14,953,670	2,17,03,480	20,95,582
GRAND TOTAL	84,708	18,932,510	2,72,46,245	33,23,803

Temple's Recommendations

In the meantime, Richard Temple began his tour of the famine stricken districts of Madras. Sent as a delegate, Temple had the sanction of the Imperial Government to recommend changes in administering famine relief. Lytton proved to be astute in his assessment of Temple's keenness to show his ability to 'work an economical famine

⁷⁰ Only seven districts in the Presidency were considered 'free from famine,' in January 1877. These were Tinnevely, Malabar, Ganjam, Godavery, Vizagapatam, Nilgiris and South Canara. In two of these- Tinnevely and Malabar-there were reports of high prices and 'distress'. (Letter, Gol (Revenue, Agriculture and Commerce) to SoS, No. 2, dated Calcutta, 12th January 1877, Famine Correspondence 2, IOR/V/4/Session 1877/Vol. 65.) While a discussion of the various grades of distress or necessity for intervention recognized by the state and the politics of 'famine certification' would be extremely insightful, such a study is beyond the scope of this thesis. However, Amrita Rangasami has discussed the role of the bureaucracy in the classification of famine and distress. (A. Rangasami: 'The Masking of Famine: the Role of the Bureaucracy', in Floud and Rangasami, *Famine and Society*, op. cit.) New Delhi, 1993. See also P. Brass, 'The Political Uses of Crisis: The Bihar Famine of 1966-67', *JAS*, XLV, 2 (1986): 245-265.

policy'. Temple set about his duty of economizing relief measures in Madras in full earnest.

Temple went over the famine stricken districts of the Presidency at breakneck speed, finding the time to pen over two hundred elaborate minutes and memoranda in the course of his tour. He secured the approval of Lytton and the Government of India. But in Madras, Temple ruffled many feathers and even Salisbury, the Secretary of State for India, was alarmed at his revolutionary zeal. In these minutes and memoranda, Temple made a series of recommendations to the district collectors, engineers and the Government of Madras. These recommendations were aimed at economizing expenditure on famine relief. However, to officials in Madras, they also seemed to have been penned with a determination to convince the Government of India that nothing was amiss in Madras; the people were not suffering; and the Government was doing all it possibly could at the lowest possible cost.⁷¹

The keystone of Temple's proclaimed famine policy was that the Government could undertake to save lives, but it could not prevent distress. In addition, financial considerations, rather than humanitarian ones, were to take pride of place in the principles of provision of state relief. All but those who would be in danger of losing their lives unless given state aid were to be declared ineligible for famine relief. Temple's recommendations included the restriction of employment to those who were proven by physical examination to be in real need; the substitution of money wages for grain wages; and the discontinuation of small relief works and the concentration of labour on large works at a distance from people's homes. He insisted that the system of managing relief works through the agency of district Collectors was to be

⁷¹ Digby, *The Famine Campaign*, Vol.1, p. 66.

overturned, and the Madras Public Works Department be made responsible for famine relief. The Madras Government had already, in December 1876, created a famine department under the secretaryship of the Collector of South Arcot, Mr. H.H. Garstin, which Temple asked to be dismantled.⁷² Temple further insisted that in keeping with the Government of India's policy of concentrating labour on large, 'well-supervised' works under the stewardship of the Public Works Department, famine relief labourers were to be 'patiently and firmly' transported from Bellary, Kurnool and Cuddapah to the East Coast Canal Works near Nellore district.⁷³ Additionally, Temple ordered that task work was to be strictly imposed on relief works. Labourers who refused to work for the reduced wage were, in his opinion, not entitled to receive state aid.⁷⁴

Temple secured the approbation of the Government of India (Lytton was later to declare that he had 'behaved very well indeed').⁷⁵ However, in Madras, his visit created much anger and dissatisfaction amongst members of the Government and the bureaucracy. The Governor of Madras expressed a fear that Temple's sweeping economy would result in much suffering. On February 22nd, 1877, the Governor issued instructions stating that rules regarding the exaction of tasks on relief works were not to be too strictly applied; and that due care was to be taken by famine relief officers to ensure that no harm came to relief labourers; and that wages were not cut in case of those who were too weak to work.⁷⁶

By February 1877, Temple had succeeded in rubbing the entire bureaucracy and press in Madras the wrong way. Three of his recommendations came under

⁷² Digby, *The Famine Campaign* Vol. 1, p.26

⁷³ Minute regarding the Nellore district, dated Coimbatore, 6th March 1877, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

⁷⁴ Memorandum on the Condition and Prospects of Relief Affairs in Bellary District as ascertained by Sir Richard Temple's conferences with Local Officers on the 17th and 18th of January 1877, No. 8 of Famine Correspondence 2, IOR/V/4/Session 1877/Vol. 65.

⁷⁵ Letter from Lytton to Sir Louis Mallet, dated 13th September 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/MSS Eur/E218/48b.

⁷⁶ Digby, *The Famine Campaign* Vol. 1, pp. 88-90.

particular fire. The first was the reduction of the wages for adults on famine relief works from 1 ½ lb. per day for an adult male to 1 lb a day (famously known as the Temple ration). The second was to dismiss all labourers who did not seem to be in dire straits or poor physical conditions, from the relief works. The third was to make village officials responsible on pain of punishment for detecting and preventing all cases of starvation by bringing people on a system of gratuitous relief, either in closed relief camps or in relief kitchens where cooked food was distributed to the poor.

The One Pound Wage

Upon his arrival in the Bellary district on the 19th of January 1877, Temple wrote to the Government of India stating that relief on works and in relief camps in the famine districts was being conducted on far too liberal a scale. He advised that the wage for labourers on civil (Revenue) famine relief works- which constituted the bulk of the relief works in Madras- be reduced by a third. This 'experiment', he confidently assured the Governments of India and Madras, would result in a saving of Rs. 30 lakhs over the following 4 months. Temple wrote:

I myself think that one pound per diem might be sufficient...and the experiment ought to be tried...There might indeed be a question as to whether life cannot be sustained with one pound of grain per diem.... one pound ought to be made to suffice.⁷⁷

The wages payable on famine relief works after Temple's reduction were as follows.

For workers on civil (revenue) relief works, the wage was reduced from the amount or cash equivalent of 1 ½ lb. of grain per diem in addition to a small cash allowance for condiments and fuel, to 1 lb or cash equivalent thereof. For those on PWD works (which formed a very small proportion of relief works in Madras), the wage was to

⁷⁷ Minute by Sir Richard Temple, No. VII dated 19th January 1877, Famine Correspondence 2, IOR/V/4/Session 1877, Vol.65.

remain at a pound and a half of grain and a small cash allowance.⁷⁸ Anticipating protests from Provincial officials regarding this reduction, Temple pleaded that the reduced wage be given a fair trial, as it was an experiment on which the precious cause of saving public money revolved. Accordingly, on the 31st January, the Government of Madras passed orders stating that the reduced wage be adopted on civil works throughout the Presidency.⁷⁹

Within a short period, however, there were protests from medical, revenue and public works officials in Madras as well as in Calcutta and back in England regarding the insufficiency of the Temple wage. The wage in turn became a symbol of a harsh and difficult famine policy, and was criticised severely. These criticisms ranged from the utilitarian (people could not work up to their maximum potential on the wage; and to employ them on such terms was a waste of public money) to the humanitarian to the pragmatic. They seemed to have had an influence on the Government of India and the India Office. Indeed, Salisbury cautioned Lytton:

I am entirely of your opinion as to the necessity of bringing the demand for relief in case of famine under some sort of regular system; otherwise we shall demoralize the people..... But it must be done in language the British people can understand. Sensibility is a strong political force just now- just as honour used to be- and you must phrase the resolution decently so as not to shock their ears with the (undue phrase?) of political economy.⁸⁰

The most trenchant critic of the one pound wage was Dr. William Robert Cornish, the Sanitary Commissioner of Madras. Between February 1877, when Cornish returned to Madras after absence of leave in England, and May 1877, there was a fierce exchange of letters in the official papers between Temple and Cornish. This exchange centred primarily on discussions of how much food was necessary to

⁷⁸ Minute No. VII by Richard Temple, dated Bellary, 19th January 1877, enclosed in letter from Government of India, Department of Revenue, Agriculture and Commerce to the Secretary of State for India, dated Calcutta, 26th January 1877, Famine Correspondence 2, IOR/V/4/Session 1877/Vol. 65.

⁷⁹ Letter No. 10, from the Government of India to the Secretary of State, dated Calcutta, 2nd February 1877, Famine Correspondence 2, IOR/V/4/Session 1877/Vol. 65.

⁸⁰ Salisbury to Lytton, Letter No. 2, dated February 9th 1877, Letters from the Secretary of State for India, Lytton Collection, IOR/ MSS Eur/E218/4A.

support a labourer in health and strength; the effectiveness of the agency by which starvation and starvation-related sickness was reported; the 'scientific' status of Temple's experiment; and the moral responsibility of the state in times of crisis.

The debate was, as we shall see in the following chapter, keenly followed by journalists, politicians and medical professionals in India and England. Cornish's criticisms of the 'Temple ration' were widely reported and acclaimed in the English and vernacular press; and in medical journals. Despite the Government of India and the Secretary of State for India publicly approving the wage, however, Temple's severe economy alarmed senior Government officials. Salisbury wrote to Lytton in May 1877:

Temple has been so baffled by the enthusiastic prodigality of the Madras officials that he has leant more vehemently towards economy than he would naturally (have) done.... we are beginning to be alarmed lest he should have overdone it.... . The apprehension that (his) ration was insufficient was I think shared by all Indian members of Council including our General Strachey who takes the severest economical view on these questions.⁸¹

The 'Shroffing' of Works

In response to some of the criticisms, Temple conceded some ground. Thus, when it was pointed to him that the reduced wage would not suffice to feed families where there were young children dependent on an adult bread winner, he ordered that young children of labourers should be given a separate allowance. When it was further pointed out that people on the works received a wage only six days a week, he ordered that they receive a Sunday wage as well.⁸² Yet, Temple's enthusiasm indeed seemed to have overtaken him. Between January 14th and 19th, he visited the districts of Bellary, Kurnool and Cuddapah and ordered the district officials stop admitting

⁸¹ Salisbury to Lytton, No. 15, dated May 4th, 1877, Letters from the Secretary of State for India, Lytton Collection, IOR/MSS Eur/E218/4A.

⁸² Minute LVII by Sir Richard Temple, on the subject of giving subsistence allowance to the younger children of relief labourers, No. 145, and Letter from Dr. Cornish, the Sanitary Commissioner for Madras, to the Chief Secretary to the Government, Fort St. George dated Madras 6th April 1877, No. 209, Famine Correspondence 3, IOR/ V/4/Session 1877/Vol. 65.

people to relief works; to dismiss all those already on relief works who were not already in severe want (which he termed 'shroffing' the works); and to make village officials responsible for detecting and preventing starvation deaths.⁸³ He then travelled to North Arcot district, where the district Collector had not opened relief works in this district, and where no gratuitous relief was being given. Temple praised the Collector for his economy and contrasted the district favourably with the state of affairs in Bellary and Cuddapah.⁸⁴ He then visited Coimbatore, Trichinopoly, Madura and Tinnevely in five days and further made comparisons on the cost at which relief was being provided. He went on to Salem, Chingleput and Madras, taking several trips of each of these districts in four months.

In sum, Temple ordered a host of measures intended to enable the market to operate freely and to minimize state intervention. These measures included restricting entry to relief works only to those 'in real danger of starvation'; encouraging private activity in the grain trade by augmenting existing railway lines and building new ones; and the medical examination of all entrants to relief works and relief camps in order to test the veracity of their destitution. Temple ordered that wages for labourers on famine relief works should be paid in money rather than grain; and that gratuitous relief was to be strictly limited.⁸⁵ In response to criticism from Provincial and district officials in Madras about the inability of the famine wages to support workers, he conceded firstly that young children accompanying their parents on the works should be paid a small money dole of 3 pies; and that workers should be paid for seven days although they were not required to work on Sundays. At the same time, he refused to see evidence of slow starvation and suffering around him in the course of his

⁸³ Digby, *The Famine Campaign* Vol. 1, p. 55.

⁸⁴ North Arcot district was later to supply a steady flow of starving, emaciated and sick people to the relief camps in Madras city. It was one of the worst affected districts.

⁸⁵ Minute by Sir R. Temple on his third visit to the North Arcot District, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

whirlwind tour through the famine districts of Madras between January and May 1877.⁸⁶

In the meantime, conditions in the famine stricken districts worsened. As people were thrown off relief works, they drifted into weakness, debility and starvation. The mortality from starvation and disease rose steadily upwards through December 1876 and January 1877, to five times above the quinquennial average.⁸⁷

Village Officials and the Burden of Detecting Starvation

In response to fears expressed by district and Provincial officials that his drastic policy of turning off the so-called 'undeserving' from the works and relief camps would lead to large scale starvation, Temple made his third main recommendation. In order that no case of dangerous destitution or starvation was to go undetected, he urged upon the Madras Government the need for a system whereby every house in the famine affected districts was to be visited by village officials. In this, Temple sought to continue the pursuance of an order that had been passed by the Governor of Madras in 1869; that village revenue officials- the *Karnam*, *Patel* and *Munsiff*- were to be held responsible, on pain of punishment, for reporting every single case of dangerous starvation and emaciation, especially amongst 'wanderers' and bringing these people on a system of gratuitous relief in the villages so as to prevent starvation deaths.⁸⁸

⁸⁶ An English newspaper, the *Madras Mail*, reported on March 13th 1877 that Temple and his companions came across a man dying in the neighbourhood of Madras while on their tour. The man was within a quarter of a mile of a police station, and a Local Fund Dispensary. A few yards later, the party came across the dead body of an emaciated child. Temple was informed that an adult male had died at the same spot a day earlier. (Digby, *The Famine Campaign*, Vol. 1, p. 94).

⁸⁷ Letter from Dr. Cornish, Sanitary Commissioner for Madras, to the Chief Secretary to Government, Fort St. George, dated Madras, 6th April 1877, Famine Correspondence 3, IOR/V/4/Session 1877/ Vol. 65, No. 144. (See Table 4.3).

⁸⁸ Minute by Sir Richard Temple, respecting passages in the Report of the Sanitary Commissioner of Madras, dated Cuddalore, the 18th April 1877, No. 218, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

Temple's suggestion was met with cynicism amongst revenue officials and medical men who believed that the local authorities were not likely to feel compelled to report deaths from starvation because of their relative autonomy from Provincial control and influence. Secondly, the enforcement of this suggestion would, it was feared, lead to the fudging of death returns from starvation, inasmuch as the agency which was to be punished for the occurrence of starvation deaths was the same agency which recorded causes of death in the village registers.⁸⁹ It was thus feared that the suggestion would, instead of making the subordinate agencies more accountable, lead to a weakening of an information system that was vital for the prevention of starvation, and defeat the purpose of vital registration itself. From the available evidence, it appears that these fears were quite well-founded, particularly in Nellore, of which Cornish wrote in August 1877:

From the returns, no one would guess that Nellore is a famine district, but the more accurate municipal town registration shows a death rate of 93 per mille.⁹⁰

Responses to Temple: Medical Opinion and Provincial Concern

Whilst Lytton and his allies were very pleased with Temple, his visit was a thorn in the side of the Madras Government. Colonial medical officials in Madras and Bombay were deeply divided on the question of the nutritional adequacy of the ration. By April 1877, the weight of medical opinion was that the existing ration provided

⁸⁹ On death registration as part of the duties of village officials, see chapter 3 of this thesis. On Cornish's criticism of Temple's third recommendation, see letter from Dr. Cornish, the Sanitary Commissioner for Madras to the Chief Secretary to Government, Fort St. George, dated Madras, 6th April 1877. Digby also presents a stringent critique of the village agency. See Digby, *The Famine Campaign Vol. 1*, pp. 96-103 and p. 139-140.

⁹⁰ Letter from W.R. Cornish, Sanitary Commissioner of Madras, to the Chief Secretary to the Government of Madras, dated 1st August 1877, enclosed in Proceedings of the Government of Madras in the Public Department dated 11th August 1877, G.O. No. 1069, TNSA. See Chapter 3 of the thesis for a further discussion of the issue of accuracy during famine periods.

both in camps and on works was dangerously insufficient.⁹¹ On May 22nd 1877, the Madras Government finally discontinued the 'Temple ration', quoting the cautious support of Salisbury for Provincial independence in regard to famine relief matters and stating that the weight of medical opinion in the Presidency was averse to the continuation of the wage.⁹² This was widely seen as a significant victory for the Madras Government and in particular for Cornish.⁹³ (However, we shall suggest in the following chapters that specific role of the Temple wage in exacerbating the total mortality during the famine can be questioned on several grounds).

The Fourth Phase: May to September 1877

Temple's Departure

At the time of Temple's departure from Madras in early May 1877, the condition of the Madras districts was critical. District and Provincial officials waited anxiously for the south west monsoon rains in June. If these rains were copious, then the famine would end in October, but if the rains failed, then the suffering caused by the famine would intensify.

Temple reported to the Government of India in April 1877, that everything was under control in Madras; that human lives had been saved at the lowest possible cost; and starvation had been successfully combated.⁹⁴ However, despite an official

⁹¹ Report of Drs. Gordon and Smith on the Monegar Choultry Camp, *Fourteenth Annual Report of the Sanitary Commissioner for Madras*, pp. 205-208.

⁹² Salisbury wrote to the Government of India expressing 'serious fear that insufficiency of relief food on famine works, especially in Madras, is producing diseases of exhaustion, and will end in great mortality.' He also stated that it was preferable not to place too much restriction on the Local Governments. (Letter from Secretary of State to Government of India, No. 43, dated India Office, 10th May 1877, No. 251, Famine Correspondence 3, IOR/V/4/Session 1877/ Vol. 65).

⁹³ William Digby, Editor of the Madras Times, wrote in his account of the famine that several Provincial officials asked Cornish at an official dinner in May 1877, 'Are you sure that Sir Richard Temple has *really* left the Presidency?' (Digby, *The Famine Campaign* Vol. 1, p. 132).

⁹⁴ Temple reported as early as February 1877 to the Government of India that 'Over the whole of the Madras Presidency, famine is successfully combated and starvation prevented.' (Famine Correspondence 2, IOR/V/4/Session 1877/Vol. 65.)

statement that famine had been successfully contained, the India Office was beginning to be anxious about the effects of Temple's economy. Salisbury telegraphed the governor at the end of April cautioning that 'humane principles' were to be carried out and that 'no scale of rations would be sanctioned which was inadequate to maintain famine labour.'⁹⁵

The price of food grains rose steadily upwards in early May, and along with them, the number of people on relief works and gratuitous relief also rose.⁹⁶

The Closure of the Buckingham Canal and the Censure of Madras by India

On May 8th 1877, the Government of Madras passed orders that forced emigration of labourers to the East Coast Canal in Nellore was to cease; and that the Bellary-Hubli railway line, long vetoed by the Government of India as unsuitable for relief purposes, was to commence as a relief work. This seems to have marked a shift in the Government of India's perception of the seriousness of the situation. Prior to this point, the Government of India vetoed suggestions both from Madras and Bombay to commence the construction of railway lines as famine relief works, on the grounds that these would remain unfinished if the crisis lasted just a few months.⁹⁷

In the meanwhile, in early May, the Government of India passed an order of censure against the Government of Madras for its alleged delay in informing the Imperial Government of the impending famine, and its exaggeration of the extent of distress.

⁹⁵ *Madras Famine Review*, p. 42.

⁹⁶ The numbers on state sponsored famine relief were as follows. In March 1877, the numbers on relief works was 664,000, and those on gratuitous relief were 97,000. In May 1877, there were 671,000 people on relief works, but the numbers on gratuitous relief had increased to 329,000. (See Famine Correspondence Parts 2-4 IOR/V/4/Session 1877/Vol. 65 and IOR/V/4/Session 1878/Vol. 59 for numbers at various points.)

⁹⁷ *Madras Famine Review*, p. 43.

Comparing the way in which the famine had been handled in Bombay and Madras,

Lytton observed of the Madras bureaucracy that

His Excellency in Council is willing to make the most ample allowance for the irksomeness and difficulty which must have been felt in submitting detailed statistics by officers who were labouring under the practical difficulties of organizing relief for starving and clamouring multitudes, but is constrained to observe that had they more generally grasped the imperative need of temperate and thorough diagnosis of the condition of affairs around them at a very early stage of the famine, the exaggerated impressions which were received, and the excessive and uncalled for relief which was consequently given, might have been alike avoided, and the general policy of the Government might have been, in important particulars, different from what it was.⁹⁸

The Imperial Government implied, through this memorandum, that Madras district officials and the Madras Government had been alarmist in estimating the extent of relief required, and had consequently been excessively generous in their estimation of relief requirements, unlike the Bombay Government.⁹⁹ This censure had the effect of pushing the already strained relations between Madras and India almost to breaking point. It was rumoured that the entire Madras Government was in danger of resigning from office. Salisbury had to step in to avoid political disaster in May 1877. He cautioned the Government of India publicly against being too strict about enforcing measures of economy, stating that the matter of the reduced wage on relief works 'required extreme vigilance' and that it was 'better not to place too much restriction on the Local Government' in the matter of the ration.¹⁰⁰

Privately, however, Salisbury wrote to Lytton:

I felt bound to tell you of the Duke's soreness as a guide to conduct for there is no doubt that his resignation on a matter of insufficient relief would have done immeasurable harm. But I do not think you can in any way blame yourself for such a state of feeling. It is one of the inevitable consequences of the important difference of opinion between superior and subordinate. You can no more assail some friction and mortification in governing than you

⁹⁸ Extract from Proceedings of GoI DRAC, dated Simla, 5th May 1877, Famine Correspondence Part 3, IOR/V/4/Session 1877/ Vol. 65.

⁹⁹ David Hall-Matthews in his account of the famine in Ahmednagar district shows that the assumption that official relief measures prevented further starvation in Bombay was mistaken. See *Peasants, Famine and the Colonial State*, op. cit.

¹⁰⁰ Revenue No. 36, Secretary of State for India to the Governor General in Council, dated India Office, 26th April 1877, and No. 251, from the Secretary of State for India to the Governor General in Council, Revenue No. 43, dated 10th May 1877, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

can avoid breaking eggs in making an omelette and losing men in war. Governing means making men go the way they would otherwise not go and they don't always like it.¹⁰¹

The result of this friction was a relaxation of Imperial attempts to control Provincial famine relief measures. On the 21st of May 1877, the Government of Madras withdrew the one pound wage and substituted it with a higher ration of 1 ½ lb on the grounds that 'the weight of medical evidence (in the Presidency) was adverse to the maintenance of the lower scale.'¹⁰² The higher scale of 1 ½ lb rice in addition to 1 anna in cash was made applicable to labourers on all relief works.

Suspensions or Remission: William Robinson v/s Richard Temple

In the middle of June, there was a steady downpour of rainfall and prices declined. However, from this point onwards, mortality rates began to rise again. In the meantime, Temple began to focus on more ways to limit the financial loss caused by the famine. His fourth suggestion was with regard to the cultivating peasants or the *ryots*, who suffered almost as much as the artisans and the labouring classes. From February 1877, he attempted to force the Madras Government to take steps to ensure that the full land revenue for the financial year 1876-77 was collected from the *ryots*. Temple recommended that the collection of the annual land revenue demand should be deferred rather than completely given up. This raised the hackles of district Collectors and the Madras Government in general. Sir William Robinson, a member of the Madras Council, exchanged a series of letters and telegrams with Temple where he dwelt at length on the customary principles of land revenue collection in south India. Robinson stated that the principles of the *ryotwari* system of land revenue

¹⁰¹ Letter from Salisbury to Lytton dated May 19, 1877, No. 19, Letters from the Secretary of State, Lytton Collection, IOR/ MSS Eur/E218/4A.

¹⁰² Ibid.

collection was especially demanding and left no margin in ordinary years for the vicissitudes of a bad season. He further stated that it had been customary in years of famine to entirely remit rather than merely defer the collection of the land revenue. He believed that Temple's proposals were 'contrary to the principle of a *ryotwari* settlement and customary immemorial law of the country', and 'specially unjust under the circumstances of the season and of the agricultural population at a time like this'.¹⁰³

Temple's insistence on forcing the Madras Government to promise suspensions led him into further disrepute with the Madras Government. He attempted to quote his personal interviews with the Collector of Chingleput district as being in support of a temporary suspension rather than a complete remission of the land revenue. The Collector in turn refuted Temple's proclamations as misquoting him.¹⁰⁴ Things came to a head when Temple was refused permission by the Madras Government to view papers relating to the systems of land revenue settlement in the Presidency. In a report to the Secretary of State, the Government of India complained that 'the tone and tenor of the Government of Madras letter of 10th April appear to indicate a very extraordinary misapprehension on the part of the Government of Madras of their position in relation to the Government of India.'¹⁰⁵ In the end, however, the Secretary of State for India and the Council of the Government of India were forced to concede to a full remission of the land revenue.¹⁰⁶

¹⁰³ Minute by the Honourable Sir W. Robinson, No. 247, Famine Correspondence 4, IOR/V/4/Session 1878/ Vol. 59. In the light of the fact that Madras was the most highly taxed Province in the entire Presidency, Robinson's caution appears to have been well-founded.

¹⁰⁴ Demi-official letter from the Secretary to Sir Richard Temple to the Collector of Chingleput, dated Madras, 13th March 1877, No. 160 of Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

¹⁰⁵ Government of India, Department of Revenue, Agriculture and Commerce, to Secretary of State for India, dated Simla, 25th June 1877, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

¹⁰⁶ Minute by the Honourable Sir W. Robinson, K.C.S.I., Extracts from the Proceedings of the Government of Madras, dated 9th February 1877, No.2, IOR/V/4/Session 1878/Vol. 59.

Relief in Madras in May 1877

In May 1877, famine relief in Madras continued to consist of a system of small relief works managed by district Collectors close to the affected districts. This was in direct contrast to Bombay, where from a very early stage onwards the PWD managed famine relief works. (It was also in contradiction to the Government of India's belief from January 1877, that large works were more economical). Work on two large works- the Bellary-Hubli railway line and the East Coast Canal, for which labourers from Bellary, Cuddapah, Kurnool and Nellore were transported- had begun since early March.¹⁰⁷ However, as the conditions of those on relief works worsened; and the numbers of people who were too weak to work rose steadily, relief camps- where residence was imposed as a condition of relief- and relief kitchens- where food was distributed to people who were granted relief tickets as residents of a certain locality- became increasingly common.¹⁰⁸ Simultaneously, the heads of villages and towns were authorized to grant temporary relief and medical care to migrants who were travelling in search of work and food.

Relief Works Under Public Works Supervision: the Debate between Madras and India

Besides moral questions over the necessity of intervention and debates about financial devolution and control of relief operations, there were also divisions between Madras and India over the agency best suited to manage relief. In a resolution dated June 14th 1877, the Government of India issued a Resolution stating that relief works could be

¹⁰⁷ Minute LII regarding the Nellore district, dated Coimbatore, 6th March 1877, No. 138, Famine Correspondence Part 3, IOR/V/4/Session 1877/Vol. 65.

¹⁰⁸ On the 12th of June 1877, there were 730,000 people employed on relief works across the Presidency. (Telegram from the Viceroy to the Secretary of State for India, dated June 1, 1877, No. 39 Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59). Three months earlier, in the third week of March 1877, these numbers had been 664,000 on works and 97,000 people on relief works.

most conveniently and economically supervised by officers of the Public Works Department. This system had been followed in Bombay since the beginning of 1877 and was seen by the Imperial Government as conducive to ensuring that adequate work was extracted for the wage.

However the Government of Madras continued to concentrate the management of relief works largely in the hands of district Collectors working under the orders of the Famine Department, as a sub-department of the Board of Revenue till August 1877. Thus, administrative as well as financial management was a source of friction between the two Governments. When the south west monsoon, which began in June, failed again, the Government of Madras ordered that a scheme of large works managed by the Public Works Department (PWD) was to be set underfoot. Whilst the Government of India and Temple himself believed that works run by the Public Works Department were more efficiently and economically managed than those managed by district Collectors, there was considerable ambiguity even within the Government of India regarding what constituted 'large works' and whether large works or small works were to be the basis of an economical famine policy. Early on in the famine, this ambiguity had resulted in a sharp confrontation between the Governments of India and Bombay. The Government of Bombay had requested sanction for starting two railway lines as relief works late in 1876, a proposal which the Government of India had turned down on the grounds that the distress was not severe enough to justify undertaking a work of such magnitude. By February 1877, the Government of India, on Temple's suggestion, suggested that the Madras Government employ people on piece work rates under PWD officers.¹⁰⁹ Thereafter,

¹⁰⁹ Local. No. 21e.-86 of 1877: Secretary, Government of Bombay, Public Works Department, to Secretary., GoI, Department of Revenue, Agriculture, and Commerce, dated 18th January 1877; Extract from the Proceedings of the GoB, dated the 26th of January 1877; Minute XXXI by Sir Richard

Temple attempted to force the Madras Government to concentrate labour on large irrigation works, of which there were but few in Madras, except for the Chilkha Canal and the East Coast canal Works. On the 8th of May 1877, the Government of India admitted:

There is some confusion as regards the term 'large works'. In so far as it extends to undertakings of primary magnitude such as the East Coast Canal and other irrigational projects, there may be.....some difficulty in devising them in the Madras Presidency, or at any rate, in doing so in time to be of use at the present juncture.¹¹⁰

The unfamiliarity of the Madras Public Works engineers with local geographical and social realities also made for difficulties in negotiating local hierarchies and setting up an efficient system of relief in Madras. To complicate matters, the divisions between the Imperial and Provincial Governments made for conflicts of command. For example, Temple had insisted in February 1877 that the Madras Government forcibly transport large numbers of labourers from the small works in and around the Ceded districts (Bellary and Cuddapah) and Nellore to the site of the Buckingham Canal, one of the only works which was classified as a 'large' work. Despite Temple's enthusiasm for the work, however, workers were not keen to go to the Canal. Temple wrote to the Governor of Madras suggesting that workers be ordered to proceed to the Canal, with the threat of dismissal if they did not comply.¹¹¹ Although the threat was not put into effect, it appears that subordinate officials were unclear about whether labourers were to be forcibly transported or not. A few months later, Captain Vernon, an official of the Public Works Department, was summoned by

Temple, dated 10th February 1877; : LXXV Minute by RT on the Labour Test and the Wage Test, dated Sholapur, March 18th 1877, Famine Correspondence Part 3, IOR/V/4/Session 1878/Vol. 59.

¹¹⁰ Letter dated Simla, 8th May 1877, Additional Secretary, Government of India to Additional Secretary, Government of Madras, No. 423, Part 3 of Famine Correspondence, IOR/V/4/Session 1877/Vol. 65.

¹¹¹ Minute XLVIII, by Sir Richard Temple about drafting off relief labourers from the neighbouring districts to the East Coast Navigation Canal, No. 128, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

the Madras Government on charges of assaulting a man, Pagoda Balaya, in Giddalore, a village en route to the works. In his defence, Vernon stated that he had struck Balaya because the man had approached the group of labourers whom he (Vernon) was escorting from Nellore to the East Coast canal works near Kurnool district. Balaya approached the group and spoke loudly in Telugu. Thereupon, a great crowd assembled, and there was a verbal altercation between Vernon and Balaya, which created further unrest. In a melee that ensued, the crowd pelted stones and verbal abuses at Vernon, whereupon, Vernon struck Balaya twice in the eye. Pleading forgiveness from the Madras Government, Vernon admitted that the disturbance would not have occurred if not for his own indiscreet conduct. He further stated that owing to his ignorance of Telugu, he 'misinterpreted an excited remonstrance' on Balaya's part as an indication of violence and assault, and thereupon struck Balaya. The Government readily accepted his apology for striking Balaya and his assurance that he acted in self-defence against a perceived threat of bodily harm. Yet, the records for this particular case included a pencilled note from the Secretary of the Revenue Department which stated that 'the police report shows that Captain Vernon was to blame.his own account shows that he was taking the labourers *against their* will to another part of the country, and that the villagers protested.'¹¹² Accordingly, Vernon was censured for his use force in transporting the labourers against their own will- a course of action enjoined by Temple!¹¹³

The Vernon case also reveals the extreme fear of local outbursts of anger that famine relief officers faced. Quite clearly, it required men who were well-versed in the ways of local communities to manage famine relief, and this, the Madras

¹¹² Letter from Captain Vernon on Famine Relief Duty to Acting Collector, Kurnool, dated Cumbum, 13th May 1877, enclosed in Proceedings of the Government of Madras in the Judicial Department dated February 27th, 1878, Nos. 182-184, G.O. No. 438, TNSA.

¹¹³ Ibid.

Government (rightly, it appears) felt, PWD men could not do as efficiently as district Collectors.

The Fourth Phase: June to September 1877

Relief in Madras City

By June 1877, famine stricken migrants were thronging the streets of Madras city. Relief within the city of Madras became a priority for the Government of Madras. The Committee of the Monegar Choultry, the main poor house in Madras city, wrote to the Government of Madras stating that existing structures of relief were inadequate and that large numbers of the high caste poor were being left out of a system of state relief due to considerations of status. The Government of Madras then put in place a system whereby a central committee would control and manage relief operations of the entire city under the Madras Municipality.

The Madras Town Relief Committee was formed and headed by the Commissioner of Police in Madras. Existing relief kitchens would continue to provide cooked food to destitute residents of the city who were provided tickets by police officials. Relief camps on the outskirts of the city provided food for 'wanderers' from neighbouring districts who reached the city, exhausted in search of food. There also existed closed workhouses wherein conditions of light task work and residence were imposed on people who were weak but still able to do some work, in return for feeding. Finally, for the high caste poor of the city, who were reluctant to accept food in kitchens and camps, relief would be given in the form of a money dole of 1 anna per adult and ½ anna per child. In some of the relief kitchens of the city, separate feeding areas were also marked off for the high caste poor.

The Failure of the Monsoons in July 1877

By the end of July 1877, there was panic regarding the critical state of the season. The rains which had begun promisingly at the end of June ceased entirely in July. Fears regarding more expenditure in Madras were translated into Imperial pronouncements on financial and administrative efficiency. Lytton telegraphed Salisbury on the 28th of July communicating his deep anxiety regarding the 'enormous and fruitless expenditure' that was likely in Madras.¹¹⁴ Simultaneously, there was widespread public criticism of the Government of India's policy, particularly the effects of the one pound wage. Newspapers in Madras and Calcutta had begun to carry reports of the great mortality that had occurred on account of the Government of India's 'economical policy.' Cornish's remonstrance against the one pound wage provided a rallying cry for the public opinion and caused much alarm for Salisbury and Lytton.

The Government of India and the Press Opinion

It is difficult to provide a comprehensive view of 'public opinion' or 'press opinion' as this account has relied primarily on official sources. However, even from these sources, it appears that there was very vocal criticism of the Government of India's famine policy in the press. This raises the question of whether we can see this critical public opinion as a causative factor in shaping famine policy, and if so, whether we can trace this to improved communications and information networks across the Presidency in the latter half of the nineteenth century. These are important questions, but cannot be answered satisfactorily within the scope of this thesis.¹¹⁵

¹¹⁴ Telegram from Lytton to Salisbury, dated 28th July 1878, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

¹¹⁵ Yet, we know that the press in current day situations can play a significant role in eliciting Governmental and public responses to food crises, or on the other hand, of suppressing the existence of

Salisbury had written to Lytton in May that

Information of the outside world is not reassuring. All newspaper correspondents seem to agree that the ration is exhausting the people and that mortality from disease and exhaustion is assuming alarming proportions. The extracts from native newspapers which have just come home, take the same line.¹¹⁶

As the months went by, it was clear that 'the Madras people,' as Salisbury termed them, had no intention of letting up on their demand that the Government of India support financially their attempts to effect a humanitarian and liberal famine policy.

Nor did the press let up in its criticism of the Government of India's severe economy.

Salisbury attempted to quieten Lytton's fears regarding public opinion in June 1877:

I do not think you rate sufficiently low the importance of the attacks one or two newspapers here occasionally make on you. Everyone with an active feeling must present points of attack and every newspaper having to furnish a certain number of articles daily requires points of attack. As the bee to the flower so flies the sleepy distracted article writer to the statesman whose activity promises to supply him with material for the copy which within two hours he must inexorably render.¹¹⁷

On August 10th, however, even Salisbury was forced to admit what the Imperial

Government was working against:

The general feeling with respect to the famine is very much what might have been expected. The Feeling of all those who express it is that every effort should be made to save life, however inconvenient the financial results may be.¹¹⁸

a famine, as in China in the 1970s. With the advent of photography since the 1860s, photographs and other visual images of starving people circulated in the press have had an even greater impact on 'public opinion'. In recent years, some of the responses of journalists and reporters to famine have come under intense public scrutiny. The paradox of representation versus involvement has generated much debate and criticism. This paradox is epitomised perhaps by the success and tragic suicide of Kevin Carter, a journalist who won a Pulitzer Prize in 1993 for his haunting photograph of a starving little girl crawling to a relief centre, published in the New York Times. Carter received international acclaim for the aesthetics of his photograph and his depict Almost immediately after the acclaim, Carter was faced with a barrage of hostile public opinion for his failure to save the little girl and this, amongst other things, led him to take his own life in 1994. See 'Wanting a Meal', a web entry on Carter's life: (www.flatrock.org.nz/topics/odds_and_oddities/ultimate_in_unfair.htm); or www.kevincarterfilm.com, the official website for Dan Krauss' 2006 film, 'The Death of Kevin Carter'.

¹¹⁶ Letter from Salisbury to Lytton, dated May 4th, 1877 Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4A.

¹¹⁷ Letter from Salisbury to Lytton dated June 15, 1877, No. 22, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4A.

¹¹⁸ Letter from Salisbury to Lytton dated August 10, 1877, No. 32, Letters from the Secretary of State, , Lytton Collection, IOR/MSS Eur/E218/4B.

The failure of the monsoons in July 1877 meant that the long and weary wait for the end of the famine would be extended. Even Salisbury was forced finally to admit that the stringent policy of non-interference of the Government of India might be dangerous.

Of course there is a practical point beyond which it is not safe to rely on the trade. In a longer or shorter time demand will attract supply; but the longer time may be long enough to starve a population.¹¹⁹

A month later, Salisbury reiterated:

....I quite agree with.... a general aversion to any interference with trade. But all absolute dogmas in human affairs are a mistake and in the present instance there are considerable cases where the assumptions might involve a vast calamity.¹²⁰

It was clear that yet again, the differences between the Madras Government and the Government of India were heading towards a crisis. Accordingly, it was decided that the Viceroy himself should undertake a visit to the famine affected districts in Madras. On the 28th of July, Lytton wrote to Salisbury that unless immediate measures were taken, 'a great catastrophe as well as enormous and fruitless expenditure of money' was imminent.¹²¹

Salisbury concurred with Lytton on the need to manage the political crisis with urgent measures. Accordingly, Lytton himself was to visit Madras and Mysore, which Salisbury believed would 'settle many controversies' and 'greatly satisfy the public mind'.¹²² As Lance Brennan has remarked, when a Viceroy had to step in at this level of administration, the situation was indeed extremely serious.¹²³

¹¹⁹ Ibid.

¹²⁰ Letter from Salisbury to Lytton dated September 13, 1877, No. 37, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4B.

¹²¹ Telegram from Lytton to Salisbury, dated 28th July 1877, No. 96, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

¹²² Telegram from Salisbury to Lytton, dated 31st July 1877, No. 104, Famine Correspondence 2, IOR/V/4/Session 1878/Vol. 59.

¹²³ Brennan, 'The Development of the Indian Famine Codes', p. 97.

Lytton left for Madras in early August, accompanied by Sir John Strachey, Finance Member of his Executive Council and a Mr. Arbuthnot, the Head of the Famine Department of the Government of India.¹²⁴

Lytton wrote Salisbury on the 16th of August 1877, complaining that the state of things in Madras was 'frightful'; that there was 'the greatest zeal and devotion everywhere, but want of unity in administrative authority.'¹²⁵ Privately, he complained to Salisbury about the great waste that he believed was being incurred in the name of famine relief, and the fraud of famine relief funds to feed those who, he believed, were not truly in need. Salisbury wrote back: 'I am afraid there is imposition and waste in all relief camps, but the case of Madras is extreme.....The worst is that all this waste in the relief camps does not prevent starvation.'¹²⁶ Lytton clearly *wanted* to believe that the issue was one of lack of Provincial management of famine relief, rather than a need for more central funding. In our assessment of the situation, it appears that the two, however, were intertwined and contributed jointly to the tragic mortality that occurred during this famine. If Imperial funding was stingy and delayed, the Provincial Government had few means and even less will to ensure that relief measures were implemented in a way that would ensure that mortality was prevented.

The Reorganization of Famine Administration in Madras

Lytton accordingly attempted to do what he could to bring administrative unity to the administration of famine relief in Madras. The outcome of his visit was

¹²⁴ This individual was not the same Arbuthnot who was deputed by the Madras Government to visit the famine affected districts in October 1876.

¹²⁵ Telegram, Viceroy to SoS, dated August 16, 1877, No. 140, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

¹²⁶ Letter No. 41 from Salisbury to Lytton dated October 8, 1877, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4B.

that in the middle of August, the administration of famine matters in Madras was reorganized. The most important change was that control of famine matters was wrested away from the Madras Board of Revenue and the Madras Famine Department under J.H. Garstin. Instead, the Governor of Madras, the Duke of Buckingham and Chandos was placed directly in charge of the administration of famine matters. Further, the Famine Department of the Government of India was also reorganized under Lytton's personal supervision. Lytton was to complain to Salisbury that 'it was impossible to get anything done as long as the Department remained under Arbuthnot.'¹²⁷

Lytton's mistrust of other individual administrators was clearly marked in his views on the Governor of Madras. Both Salisbury and Lytton considered the Duke of Buckingham and Chandos to be a nuisance. He was seen as 'undoubtedly unintelligent'¹²⁸ 'dreadfully slow'¹²⁹, and 'an utterly bad man of business.'¹³⁰ Accordingly, Lytton was anxious to maintain an Imperial presence- and one that he could trust- in Madras. He felt the need for an officer who had 'the confidence of the Supreme Government'; to be placed as the personal assistant to the Governor of Madras and advise him in the discharge of famine relief matters. The Governor himself was placed directly in charge of the management of famine relief to be 'free from the interference of the Madras Council or the Revenue Board.'¹³¹

¹²⁷ Letter from Lytton to Mallet, dated Ootacamund, 13th September 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/MSS Eur/48b.

¹²⁸ Letter from Salisbury to Lytton, dated May 25th, 1877, No. 19, Letters from Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4A.

¹²⁹ Letter from O.P. Burne to Sir Louis Mallet, dated Poona, September 23, 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/ MSS Eur/48b.

¹³⁰ Letter from O.P. Burne to Sir Louis Mallet, dated Coimabatore, September 10, 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/MSS Eur/48b.

¹³¹ Telegram, Viceroy to SoS, dated August 16, 1877, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

The Deputation of Kennedy

Accordingly, Lieutenant General Michael Kennedy, a Public Works Department man from Bombay was sent to Madras. Kennedy was chosen for his 'admirable skill in managing the famine relief operations in Bombay.'¹³² However, it appears that Kennedy had been deputed in a similar capacity in August 1877 as had Temple in January of that year: in order to control the expenditure of the Government of Madras on famine relief; to tighten administrative accountability and to soften reports about the severity of the famine that might leak out to a critical press and public in Calcutta and in Britain. Lytton had written to Salisbury that the 'state of things in Madras and Mysore (were) frightful' that there was the greatest 'greatest zeal and devotion everywhere, but want of unity in administrative authority.'¹³³

Kennedy was believed to hold out the hope of bringing famine relief administration in Madras under Imperial reign. However, even the Imperial Government was not sanguine about Kennedy's ability to change the situation. Lytton's personal secretary wrote to Louis Mallet:

Poor General Kennedy has a task before him which I do not envy, until he can get matters more into one groove or the Duke to grasp great principles instead of small details.¹³⁴

Yet, the Viceroy's visit resulted in a tightening of relief measures. The provision of relief was made much stricter. In institutional terms, the distinction between 'ordinary' and 'famine relief' works was abolished in twelve famine stricken districts. ('Ordinary works' referred to PWD-run works which imposed a full task in return for

¹³² Ibid.

¹³³ Telegram, Viceroy to SoS, dated August 16, 1877, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

¹³⁴ Letter from Col. O.P. Burne to Louis Mallet dated Coimbatore, September 10, 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/MSS Eur/ E218/ 48b.

payment of the famine wage; while 'famine relief works' on the other hand had earlier admitted all who were in need, and willing to work for the famine wage.)

This meant that tests of need were to be strictly applied. District officials were warned that 'relief works to be prevented from becoming unduly attractive' and that 'prima facie evidence was to be required that an individual really required relief'. Penalties were to be imposed in cases of 'incorrigible insubordination' and 'short work'

Relief was now to be conducted entirely through a scheme of large relief works as its backbone, with all gratuitous relief to be temporary and subsidiary to the main objective to getting people on relief works. The Madras Public Works Department was to supersede the Board of Revenue in the management of relief works. Persons considered to be 'capable and in fair health' were to be drafted onto Public Works Department works along with their families.¹³⁵ The 'distance test' of need was to be applied on PWD works, wherein a person was required to prove his need for relief by travelling a distance to works. The test of need was considered complied with when a labourer went to a PWD-managed relief work and performed the full task exacted. On the few remaining civil works, revenue officials were to refuse relief to all but the very destitute. Exceptional cases were to be drafted to works as soon as a medical officer considered them fit to do so.

District Collectors and the Madras Board of Revenue were to supervise the distribution of gratuitous relief which was to be entirely confined to those unable to work. The relegation of the Board of Revenue to such an 'inferior' position in famine relief was a source of conflict between the Governments, and there soon came reports of conflicts between PWD officials and district Collectors in taking on those who were less than able bodied. While Collectors were keen to avoid a reliance on

¹³⁵ *Madras Famine Review*, p. 51.

gratuitous relief by employing all who sought work, PWD officers were unwilling to employ weak persons on their projects.¹³⁶

Gratuitous relief consisted of relief kitchens and relief camps. To persons resident in localities where kitchens were established, relief was offered in the form of cooked meals doled out in kitchens once or twice a day on the production of a relief ticket. In addition, village and town authorities were authorized to provide relief to persons who were 'wandering' in search of food and work. 'Wanderers' were to be fed in villages and passed on to nearest camp. Relief camps in turn were sheltered spaces where food and rest were provided until the residents were strong enough to be passed on to relief works. In some cases, light work was imposed as a requisite for relief in camps. Persons requiring special treatment were to be treated under medical advice.

Finally, Temple's 'safety net' - the provision of relief in villages of those too weak to work - was to be confined to persons who were incapable of labour or house-ridden by illness; or prevented by caste status from coming to relief kitchens and relief houses. On 24th of September, these arrangements were brought in to force throughout the Presidency on the 24th of September, 1877.¹³⁷

Official Administration and Private Charity: The Mansion House Fund

In August 1877, there had arisen a fresh source of tension between the Provincial and Imperial Governments. On the 4th of August, the Duke of Buckingham and Chandos convened a meeting in Madras city of a number of European and Indian residents of the city. The main reason of the meeting was to discuss an appeal to be made in India and England for charitable contributions towards famine relief efforts in

¹³⁶ *Madras Famine Review*, p. 58.

¹³⁷ Extract from Proceedings of the Government of Madras, Revenue Department, No. 2847, dated 24th September 1877, contained in Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

the districts and the town of Madras. This endeavour came to be called the Mansion House Relief Fund or the Indian Charitable Relief Fund. Led by members of the Indian business community and by William Digby, W. R. Cornish and the Duke of Buckingham and Chandos, this Committee resolved unanimously at its first meeting that 'the increasing severity of the distress arising from the Famine necessitates an appeal to private charity' and that the idea of obtaining this charity be communicated at once by telegram and letter to the Lord Mayors of London, York and Dublin; the Mayors of Bristol, Liverpool, Birmingham and Manchester, the Lord Provosts of Edinburgh and Glasgow.¹³⁸

In the light of Temple's assurances that all was well and under control in Madras in February 1877, the formation of the Committee six months later was viewed by Lytton with consternation. During his visit to the Presidency in August 1877, he informed the Madras Governor that he was 'unwilling to appeal for public subscriptions towards Government efforts to keep people alive through the same means and channels of organization that Government had already occupied.'¹³⁹ Lytton informed the Committee that 'earlier experiments with soliciting private charity had shown that when Government relief organizations had been placed under a Central Relief Committee, it has led not only to the Committee being burdened with additional work, having to render double returns and correspond with an additional master, but has also led to unseemly conflicts between Government officials and their superiors.'¹⁴⁰ In addition, Lytton was keen that private relief did not interfere with the

¹³⁸ *The Indian Famine Relief Fund 1876-78 (Henceforth IFRF): Proceedings of Committees and Personal Agencies, Final Reports &c. August 1877 to April 1879*, Madras; Ch.1, p. 4.

¹³⁹ Letter No.772 (Famine) from Additional Secretary, Government of India, to Secretary, Government of Bengal, dated Governor General's Camp, Madras, 31st August 1877, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

¹⁴⁰ Ibid.

strict economy in the relief kitchens and camps. There was a final consideration which underlay Imperial opposition to the appeal for private charity. This was that Lytton had already begun planning to tax the Indian business community in Madras and Bombay, on account of famine relief efforts, despite public pronouncements that the famine was under control. To appeal to them for private contributions at this juncture would lay the ground for resentment and protest when the Famine Cess was announced at a later date.

In order to meet the heavy drain on the finances of India, which the Madras and Bombay famines are already causing, the Government of India will sooner or later be obliged to resort to heavy taxation...the very class whom the Government would be obliged to tax might be the same class from whom subscriptions might be levied.¹⁴¹

The friction between the two Governments over the prospect of applying for private charitable funds came to a head when the Calcutta *Times* published a report stating that the Supreme Government was against soliciting private charity.¹⁴²

The efforts of the Madras Government to solicit private funds in aid of famine relief, however, had support from London-based Britons. The effects of the *Times* report was reported to the Indian Famine Relief Fund General Committee (henceforth termed the Committee) by the mayor of London, who forwarded twenty thousand pounds to the Committee.

Twenty thousand pounds herewith. Telegram in today's *Times* deprecating private efforts as Government will do all necessary. How does your Grace propose to distribute the funds- during the last famine, a Local Committee was appointed.¹⁴³

Nathaniel Rothschild, the Chairman of the Chartered Mercantile Bank in London, cautioned the Committee:

Times states this morning from Calcutta Government deprecates private charity, unless officially contradicted will prevent further subscription.¹⁴⁴

¹⁴¹ Ibid.

¹⁴² *IFRF 1876-78*: No. 1, p. 9.

¹⁴³ Ibid.

The reply of the Central Committee of the Fund in consonance with the Duke of Buckingham expressed less than sanguine sentiments about the ability of official famine relief to reach the famine stricken. The inability of existing administrative officers to cover the entire affected population was quite clear:

Action Supreme Government, unaccountable. Here notorious no Government efforts can reach certain classes, private agency can. Central Committee, Madras, manages funds, controlling Local Committees interior. Operations quite distinct from Government, not conflicting but supplementary.¹⁴⁵

Salisbury would later write to Lytton that

...The Duke's Madras meeting...was in many ways terribly inconvenient.¹⁴⁶

A political crisis between India and Madras was finally avoided by the Central Committee resolving to focus on objectives and classes which 'the ordinary machinery of Government could not hope to reach.'¹⁴⁷ However, what is important to note is that in August 1877, over a year after the first signs of distress, an admission of the inability of the state to manage the crisis was forced on the Government of India by the Provincial Government.

There was much debate amongst the members of the Committee regarding what the objectives of the Fund should be. It was resolved that, since Government relief was focused on the relief of those who were in absolute need, the Relief Fund should focus on those whom the Government system could not reach. These included grants of money to sharecroppers and cultivators who had been reduced to poverty by the

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

¹⁴⁶ Salisbury to Lytton, Letter no.37, dated September 13, 1877, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4B.

¹⁴⁷ Ibid.

famine; the clothing of women whose destitution had left them naked; and the care of children orphaned by the famine. Essentially, the Fund was intended originally to supplement Government efforts to relieve the poorest, by aiming their efforts at people who were immediately above the class of the utterly destitute. In addition, the Madras Government published a notification in the official Gazette stating that Government officials were encouraged to support the Local Committees in their endeavours, to the extent that this effort was not detrimental to their official duties.¹⁴⁸ The Relief Fund continued its operations from September 1877 to the end of 1879. In the course of its functioning, Local Committees and sub-Committees were formed in every district, and district officials often played a key role in the administration of the distribution of the Fund.

The Proceedings of the Fund revealed several cases where Government relief was either not provided, or was being provided in a limited and ineffective way. The circumstances of its creation, however, constrained the operations of the Committee.

Other Administrative Factors: 'Informal' Networks of Relief Distribution

In the chain of administration, informal networks operated in the distribution of relief at the district and village level. In some cases, village heads would refuse to go into the Pariah settlements within the village in order to inspect the condition of the people or to disburse relief.¹⁴⁹ William Digby, Editor of the *Madras Times* and a staunch critic of Government policy, quoted from relief reports in which it was noted

¹⁴⁸ The Notification issued was as follows : 'It is the desire of Government that public servants of all grades should give all the assistance they can render without detriment to their official duties, to the formation of Local Committees; and generally to promote the objects which the Famine Relief Committees and subscribers of the Famine Relief Fund have in view.' (Proceedings of the Government of Madras in the Public Department, dated 24th September 1877, published in *IFRF 1876-78*, No. 4, p.1).

¹⁴⁹ Digby, *The Famine Campaign* Vol. 1, p. 139-140.

that 'village heads are beginning to understand to whom they are *not* to give food.

Whether they are equally clear as who is entitled to be fed may be open to doubt.'¹⁵⁰

In several cases, relief meant for agricultural labourers and the untouchable castes was intercepted by village heads or by influential people within the village.

There understandably appears to be more evidence of such interception in the case of the Indian Famine Charitable Relief Fund than in the case of the management of state relief with regard to relief camps and works. However, Government officials were perfectly aware of these networks and turned a blind eye to them in their administration of private famine relief funds. For example, in June 1878, Reverend Henry Little wrote to the Government of Madras expressing anguish at a case of extortion involving village officials; and of a subsequent miscarriage of justice involving the son of a European district collector. Several *ryots* had approached him, as the Joint Vice President of the Erode sub-divisional committee of the Mansion House Fund in the Coimbatore district, with a complaint of extortion against the *Patel* and *Karnam* of the Vanjaman Gudalur village. The *Karnam* had, it seems, taken away half of the money allotted to them by the Famine Relief Committee for the purpose of seed corn and bullocks, under a threat of using his influence with the *Tahsildar* against them. Upon receiving this complaint, Little contacted the officials in charge of famine relief at the district level, and was told that they could not help him.

Thereafter, Little asked a Native complainant to try the case in court, but the man, a Brahmin named Ramaswami Aiyangar, had refused. Instead, the son of the District Collector had tried the case, and the appeal of the *ryots* was dismissed on grounds of insufficient evidence. In his letter, Little explained the facts of the case and

¹⁵⁰ Digby, *The Famine Campaign in Southern India*, Vol.1, Madras, 1878, p. 140.

established the guilt of the *Patel* and *Karnam*. Yet, the Government Pleader expressed the opinion that although the law provided for the prosecution of public servants who were found guilty of cheating or extortion in the exercise of their official functions; distribution of the Mansion House funds was not an official function. Little's complaints went unheeded.¹⁵¹

In another case where a native *Sheristedar* accused a priest, Rev Balcou of 'misappropriation of the Mansion House funds'; the same official later went on to explain that he had intended to complain about the tendency of Christian priests to distribute the money to 'only the untouchable and lower castes', without 'sparing a thought for the more respectable classes of the famine stricken.'¹⁵² Other cases of cheating and extortion were levied against lawyers and merchants in Madras city in connection with the Mansion House funds.¹⁵³

The distribution of funds was often the source of bribery, bullying and extortion amongst local and village officials; which the Government was powerless to prevent or restrain due to the lack of a legal status for the Fund.¹⁵⁴ What appears to have happened is that as official relief failed to tackle the crisis at the most basic level by preventing starvation, migration and death amongst the untouchable agricultural labouring classes, and excluding small cultivators, the artificial line between those in

¹⁵¹ Proceedings of the Government of Madras in the Judicial Department, dated 16th January 1878, No. 107, TNSA.

¹⁵² The talook *sheristedar*, Mr. A. C. Subba Row, had at a meeting of the Mansion House Local Committee of the Arni and Polur talooks of the North Arcot district, alleged that 'Roman Catholic priests had systematically misapplied' famine relief funds. Subba Rao, when questioned by the district Collector, Mr. Whiteside, explained that 'in his opinion, the relief money was sent to India not for the relief of Pariahs or other low castes, but solely for the relief of the respectable upper classes of the Native community; and as the Roman Catholic priests had, he believed, expended the money in the relief of all classes and castes whom they found to be distressed, he considered himself justified in characterising their action as a misapplication of relief money'. (Proceedings of the GoM in the Judicial Department, dated 20th April 1878, G.O. No. 822).

¹⁵³ Proceedings of the Government of Madras in the Judicial Department dated 30th September 1878, Nos. 184-185, G.O. Number 1989, TNSA.

¹⁵⁴ Proceedings of the Government of Madras in the Judicial Department, dated November 16, 1878, Nos. 52-53, GO No. 2317, TNSA.

danger of starvation and those who were merely in distress became increasingly difficult to maintain. In these circumstances, even village officials and petty officials fell victim to famine. Whilst the initial objectives of the Fund were to avoid conflicting with Government relief structures, eventually the Committee landed up taking on the people left out of Government structures after the reorganization of famine administration in September 1877.¹⁵⁵

The final sum collected by the Relief Fund amounted to Rs.800, 000. Most of this money was channelled to the districts through Local Committees, which were heavily dominated by missionary organizations. The Fund although administered by Digby, Cornish, and other administrators in Madras, also contributed to famine relief in Bombay, Mysore and the North-western Provinces.

The amount collected by the Fund was miniscule when compared with officially sponsored relief. Yet, its effects were arguably quite significant, although not necessarily in terms of its stated objectives. The Committee Members at Madras, believing that European missionary organizations were closer and more reliable to official administration than private Native charity, channelled most of the money to district and local committees which they were in charge of. This decision appears to

¹⁵⁵ Reverend J. Strachan, one of the prominent founding members of the IFRF, received a request from Mr. Oldham, the Famine relief Officer of Adoni talooka in Bellary, one of the worst affected districts, in early October. Oldham stated that the effect of the Government order of 24th September (concentrating relief work in the hands of the PWD and tightening strictures would be to 'throw a large number of people on the Fund'. Oldham stated that he had received orders to throw 5000 people daily off the rolls of gratuitous relief in villages and requested the Fund to make a grant in aid to of Rs. 3000 each for November and December 1877, from which those on government sponsored relief works could be 'bodily ' transferred from Government relief to the Fund. Strachan asked whether the members of the General Committee 'ought to take over those whom Government refuse to support?' It was resolved by the Committee that as a general principle, persons who under the GO dated 24th September cease to receive village relief, and who...are unable to have recourse to Relief Works or Relief Camps...must be considered as proper subjects...of the Famine Relief Fund' However the Local committees of the Fund were considered as being 'not justified in taking over in large bodies persons whom Government refuse to support.' (*IFRF*, No. 4, p. 1.)

have had important consequences. The Census of 1881 found that the proportion of the population who reported themselves as Christian had increased since the 1871 census and at least partly attributed this to religious conversions during the famine.¹⁵⁶ That the famine had had a significant effect on religious conversions is also corroborated by Geoffrey Oddie's work on Tanjore and Trichinopoly districts. While noting that there was a sharp increase in the Christian population between 1871 and 1881, attributable in large part to famine relief provided by Christian missionaries, Oddie also suggests that the economic explanation is not sufficient to account for the continuous increase in religious conversions among untouchables in Tanjore and Trichinopoly over a series of generations prior to the famine. In other words, religious conversions were spurred by more complex motives than merely the desire to keep body and soul together to seek upward economic mobility.¹⁵⁷ (Further exploration of this issue, albeit interesting, is beyond the scope of this thesis.)

It is, of course, difficult to quantify how far the operations of the Mansion House Fund in particular contributed to religious conversions, and the data on this is understandably vague. Yet, one can argue that the Mansion House Fund, a semi-Government famine relief fund which was specifically set up on the admission of the failure of the state to tackle pauperization and starvation, had significant social effects in the sense of lending official support to missionary activities for the purpose of famine relief. This would then imply that disorganized Government relief and

¹⁵⁶ The Census of 1881, an official document confirmed this. The Census report stated that 'In 1871, one fourth of Christians were in the Famine Districts which contained above two fifths of the total population. In this tract in 1881, while the total population had decreased by 13 per cent, the Christian population had increased 35 ½ per cent. In only one district did Famine Mortality outstrip the numerical results of Missionary labours. In every other district, famine and Non-famine, they have increased. The Famine appears to have been the Missionaries' opportunity, for the number of conversions is believed to have been largest in the worst years.' (*Census of India 1881*, Vol. 1, Madras 1883, p. 43).

¹⁵⁷ G.A. Oddie, *Hindu and Christian in South East Asia*, 1991, pp. 153, 154, 157.

disputes between different levels of Government, which led to starvation, death and pauperization on a large scale, provided the space for religious conversions on a scale which might not have been possible in non-famine periods. (An interesting question, which this study has not been able to address within its scope, would be the extent to which state welfare policy contributed to religious conversion and other social movements in Southern India).

The Fifth Phase: October 1877 to July 1878

In September and October 1877, there were torrential rains in the Presidency, leading to the destruction of existing crops in some parts of the Presidency. Thereafter, the numbers on relief works fell, so that more than three fourths of these had left by October 1877. Prices however continued to remain high till November. In December 1877, the Madras Government ordered that the provision of gratuitous relief in relief camps be closed.

By November 1877, official famine relief began to be curtailed, as the north east monsoon promised to be normal. From November 1877 onwards, the Madras Public Works Department began to petition the Government of Madras to abolish the distinction between professional and famine relief works, so that the PWD could be freed of the responsibility of providing famine relief. The management of famine relief works had resulted in friction between the Public Works Department and the District Collectors during the middle of 1877. In Nellore district, there arose a dispute between the district Collector and the district engineer over how to deal with paupers incapable of performing 50% of the task. The Collector insisted that to refuse work to

someone on the basis of unfitness to perform a task was to swell the numbers on gratuitous relief, whilst the district engineer wished to turn off those who were unfit from the relief works.

However, the condition of the people was far from sanguine. The winter crops were planted much later than usual; and excessive rainfall of July and August 1877 had spoiled a large proportion of the crops that were planted. There were a series of attacks by locusts in several places across the Presidency. District officials expressed the fear that there would be another famine in the middle of 1878.¹⁵⁸ This fear was later stated to be 'unfounded'.¹⁵⁹ Official relief began to wind down in early 1878. In February 1878, the Government of Madras stated that it was satisfied that workers on Public Works were capable of doing the full task; whilst the weaker labourers were to be drafted off onto civil works. In March and April 1878, ordinary 'budgeted' public works were started in several districts; whilst civil works continued to employ famine labour¹⁶⁰. Village relief was completely discontinued in the districts of Madura and Tinnevely from the end of February 1878; and shortly thereafter in the others.

Between March and April 1878, several famine relief works were ordered to be stopped; and to absorb the labour thus set free, ordinary Local Fund and Provincial works were begun. State sponsored famine relief was officially closed in May that year. However, it appears that there was still considerable distress in the Presidency. As we shall see in Chapters 4 and 5, cases of emaciation and starvation were reported well into 1878.

¹⁵⁸ Digby, *The Famine Campaign in Southern India* Vol. 1, p. 240.

¹⁵⁹ Ibid.

¹⁶⁰ 'Budgeted' public works referred to works undertaken from the PWD budget of the current year.

Conclusion: State Intervention and Famine Policy in Madras 1876-78

It will, it is hoped, be evident from this chapter that famine policy in Madras was shaped by a variety of influences during 1876-78. Not all of these were determined by the Government of India, and in fact, Provincial famine policy was almost a direct inversion of Imperial injunctions.

Repeated statements of faith in non-interventionism were a broad edifice within which stated principles of famine relief were laid out on several occasions through the nineteenth century by Imperial and Provincial administrators. In theory as well as practice, however, the state did intervene on several occasions in famine processes. This was due to a variety of factors, ideological as well as administrative. Non-interventionism was one of ^{several} competing ideologies of governance and famine administration. It co-existed with older paternalistic ideologies, particularly in Madras, in which the state was morally responsible for preventing starvation and mass mortality. This belief was in part utilitarian in that prevention of distress through employment was seen as preventing a far worse dependence on gratuitous relief. Yet, it had humanitarian elements too. Several administrators believed that the state had a moral duty to intervene to prevent agrarian distress from accelerating into starvation and mass mortality. Thus, beliefs did matter, but both non-intervention and intervention were important components of official beliefs regarding state responses to famine.

The above account however also suggests that in the Madras context, administrative factors limited the extent to which the Government of India's non-interventionist

policy based on large works managed by the Public Works Department could be applied. There was considerable ambiguity between India and Madras in determining what was meant by 'large works'. Further, it appears that it was extremely difficult to make the PWD the ultimate source of management for famine relief works in a context where the Madras Board of Revenue and the district Collectors were seen by the Governing Council as having greater administrative authority amongst the peasantry. The PWD itself was not happy to accept the responsibility for famine relief. (This was strikingly the case in Mysore where the Chief Engineer of the PWD obdurately refused to admit weak workers to his works for lower wages until Lytton had to intervene by dismissing him.)¹⁶¹ Another administrative factor that limited the application of the Government of India's non-interventionist policy was the difficulty of adapting a system of weekly and monthly payments on PWD works to a famine relief system whereby payments had to be made daily to avoid exhaustion, and the difficulty of forcing reluctant labourers to large works in the face of a recalcitrant Provincial Government. A further obstacle was the unfamiliarity of PWD engineers with district realities in Madras, which made for difficulties in enforcing the large works policy.

The inability of the Government to enforce a large works policy in Madras- also enables us to evaluate the relevance for Madras of the argument, made by Sanjay Sharma in the context of famine relief in the North Western Provinces in 1837-38,

¹⁶¹ Lytton wrote to Mallet of the Mysore episode: 'I have been obliged to remove Sankey from the administration of the Department of Public Works...strictly speaking there has not been a single relief labourer on public works in Mysore since the beginning of the famine till now- and all because Sankey chose to consider famine relief as no business of his. I anticipate that the arrangements now made have brought several thousands of the persons now in receipt of gratuitous relief, upon well supervised works...' (Letter from Lytton to Mallet, dated Ootacamund, 13th September 1877, Letters to Sir Louis Mallet, Lytton Collection, IOR/MSS Eur/48b).

that relief provided on large works enabled the structural expansion of the colonial state. In Madras, this does not appear to have been the case. Famine relief was provided on large works inconsistently, and labour was concentrated on the repair of small tanks and wells. The 'structural expansion of the colonial state' was thus quite limited.

Sharma's point regarding the role played by the state in reforming traditional forms of private charity and disallowing non-institutional and religious forms of charity appears to have some resonance in the Madras context. However, it would appear that individual officials had different attitudes to private charity, and that at a later stage in the famine, institutionalization appears to have been ruled by some officials as detrimental to the effort of saving lives. Thus, it would appear that institutionalization was itself inconsistent. Further, late in 1877, private charitable relief through the Mansion House Fund appears to have become a safety net- albeit a flimsy one- for those left out of Governmental relief. Thus, in the Madras context, private charity and official initiatives intertwined in ways that were less consistent than Sharma's account has suggested for the North-western Provinces.

Finally, individuals such as the Duke of Buckingham, William Robinson and William Robert Cornish- as well as a number of unnamed district administrators- contributed a great deal to the way in which famine relief policy was finally worked out in Madras. The agency of individual officials in policy decisions at the Provincial and district levels has not often been recognized in the context of discussions about 'the colonial state'. Yet, the history of this famine does provide ample evidence of such agency shaping policy processes. The Madras Government took a remarkably interventionist

path during the famine due to the role played by individuals, although it did not appear to have attained much success in preventing starvation and achieving administrative efficiency in famine relief. Moreover, within the course of a single famine event as well as between different famine events, individuals did change their stance on intervention, as did Salisbury between January and May 1877 and Temple between 1874 and 1877. These changes had significant consequences, both in an immediate as well as a long term setting. 'Personalities and politics' thus played a significant role in shaping famine policy both during the famine of 1876-78, as well as in subsequent decades.

Chapter 2 William Robert Cornish and State Intervention during the Madras Famine

I. Introduction

William Robert Cornish was one of the most prominent individuals in the history of the famine of 1876-78. Cornish is well-known by famine historians for his debate with Richard Temple over the issue of the adequacy of famine relief wages, where he suggested that Temple's standard of a pound of grain per day for men and half an *anna* in cash be replaced by a higher wage of one and a half pounds of grain per day and half an *anna* in cash. The wage became symbolic of a harsh famine policy, blamed by contemporary observers for an appallingly high rate of mortality amongst famine labourers. Although the reduced wage was adopted, at least in theory, for three months, the Government of Madras replaced it in May 1877 with Cornish's standard, despite Imperial support for the "Temple ration", as it was termed. Besides his role in official famine relief policy, Cornish also produced a wealth of medical and demographic observations which have been used extensively by social and medical historians and historical demographers.¹

In this chapter, we look at Cornish as a historical figure in greater detail in order to explain, understand and contextualize his contributions to famine relief and policy and to the demography of famine. We suggest that there were three important factors in understanding Cornish's role during this famine. The first relates to his personal characteristics of industry and professional ambition, as well as a certain idealism regarding the practice of public health. The second relates to the prevailing relationship between different levels of colonial Government and the medical services

¹ See Bhatia, *Famines in India*, pp. 95-6 Davis, *Late Victorian Holocausts*, op. cit., D. Arnold, 'Social Crisis and Epidemic Disease in the Famines of Nineteenth Century India', *Social History of Medicine*, 6,3 (December 1993): 385-404; idem, 'The "Discovery" of Malnutrition and Diet in Colonial India' *IESHR*, 31,1 (1994): 1-26; Dyson, 'On the Demography of South Asian Famines Part I', op. cit., Klein, 'When the Rains Failed', op. cit., Lardinois, 'Famine, Epidemics and Mortality in South India', op. cit.

during the famine of 1876-78. This relationship was marked by divisions over intervention in social and economic processes and tension over financing of public health schemes, and these divisions were crucial to Cornish's prominence during the famine. The third relates to conditions internal to the Indian Medical Services. As Mark Harrison has shown, the IMS was marked by professional competition in the top rungs of the services, and by animated discussions about the causes of epidemic disease and the possibility and desirability of state investment in public health and preventive medicine.² While Harrison's work shows how these divisions influenced the making of *medical* policy, I will argue that these divisions also shaped *famine* policy through Cornish, and arguably the whole question of state economic and medical intervention in agrarian crises.

I. The Man: Ambition, Talent and Professional Recognition

William Robert Cornish was born in 1828, into a farming family in the parish of Butleigh in Somerset. All evidence points to the conclusion that he was unusually talented and hardworking. Mark Harrison, in his discussion of the social origins of IMS recruits, finds that the largest proportion of IMS men were sons of British medical practitioners between 1850 and 1914. Between 1855 and 1896, an increasing number were sons of businessmen, civil servants, clergymen, and 'new professionals'. What is important is that very few IMS men came from farming families, and in fact, the 'farmer' proportion of the IMS remained remarkably small between 1855 and

² Harrison, *Public Health in British India*, esp. chs. 4 and 5; Idem., *Climates and Constitutions*, esp. chs. 3 and 4.

1914, as Harrison's study shows.³ Cornish came from this minute proportion of farmer families, evidence of his dedication and ambition.

Cornish won the IMS appointment as a prize in a competition at St. George's Hospital in London in 1853.⁴ It remains an interesting question why he was recruited into the Madras Medical Department, rather than the Bengal or Bombay departments, which, Harrison suggests, were more prestigious.⁵ One hypothesis would be that he lacked the money and status necessary to obtain an appointment in the other provinces. Whatever the case, Cornish's career, both before and after his appointment to the IMS, was marked by professional recognition and relative success. He was awarded the gold medal for clinical surgery by the Hospital Board at St. George's during his training there in the early 1850's and obtained the appointment with the East India Company in a competitive examination in 1854.⁶ He was recommended for the IMS appointment on account of having 'distinguished himself by his studies and good behaviour and by his persevering industry' and for 'the success which has uniformly attended his competition for prizes'.⁷ What is more, at the time of his retirement in 1885, Cornish belonged to the tiny minority of IMS officers in the Madras service who had acquired the prestigious FRCS.⁸ In 1920-21, almost a quarter

³ Harrison, *Public Health in British India*, p. 28, 236. Appendix A on p. 236 of Harrison's study shows that between the years 1855 and 1884, less than 4% of all IMS recruits were sons of farmers. This proportion went up to 4.4% between 1885 and 1896; and down to 2.6% between 1897 and 1914.

⁴ Military Records, Assistant Surgeon Papers, Certificate No.32 of 1853/54, C.B. 18 of 1854, IOR/MIL/9/935

⁵ Harrison, *Public Health in British India*, pp. 23-25.

⁶ Obituary: William Robert Cornish, F.R.C. S., C.I.E, Etc., Surgeon-General, I.M.S. (Retd.), *BMJ*, Vol. II for 1897, p. 1299-1300.

⁷ Recommendation dated 15th February 1854, by Joseph Gunning, of St. George's Hospital Board, Military Records, Assistant Surgeon Papers, IOR/MIL/9/935.

⁸ This referred to the Fellowship of the Royal College of Surgeons (FRCS) or the Fellowship of the Royal College of Physicians (FRCP). Harrison shows that less than 10% of IMS recruits between the years of 1851 and 1890 were elected to either fellowship (*Public Health in British India*, p. 20).

of a century after his death, he was recognized as a pioneer for his work on ‘famine dropsy’ during the 1876-78 famine.⁹

Cornish was about 25 years old when he joined the IMS.¹⁰ He was deputed to the Madras Medical Department in 1854. By this time, his father had died and his mother was living in London. After serving for 3 years as a military surgeon-the common rite of passage for a young IMS recruit- he was appointed the Civil Surgeon of the Coimbatore district in 1857. In 1858, he was appointed the Secretary to the Principal Inspector General (later the Surgeon General) of the Madras Medical Department, in which capacity he served till 1870. Cornish’s selection to the post of Secretary to the head of a Provincial Medical Department at the young age of 30 is further evidence of acumen, ambition, and professional recognition of what his obituarist called his ‘very exceptional merit’.¹¹ He also authored the first Provincial Census Report in 1871 and played a significant role in preparing the second report of 1881, where his calculations of population loss due to the famine of 1876-78 were used extensively.

It appears that Cornish enjoyed being in positions of authority, both in his professional career and as a member of the European community in Madras. Throughout his career in India, he held a number of honorary and official posts. He was Secretary of the Madras Medical Fund- a contributory pension scheme for IMS officers and their families- from 1864 to 1870.¹² Cornish edited some issues of the *Madras Quarterly Journal of Medical Science*, a professional journal of the Madras

⁹ See J.A. Nixon, ‘Famine dropsy and pioneer work in India’, *Proceedings of the Royal Society of Medicine Section of the History of Medicine*, 14 (1920-21): 1-2.

¹⁰ This is calculated from the date of baptism, which is 7th September 1828. (Military Records, Assistant Surgeon Papers, IOR/MIL/9/935.

¹¹ ‘Obituary’, p. 1299.

¹² Ibid.

Medical Department which was published irregularly during the 1860s. He founded the Madras Philharmonic Society, and was a keen horticulturist and enthusiast of the Madras Botanical Gardens.¹³

Cornish was keen to be recognized as a successful and original public health administrator by his peers and by the Government. This is made evident through an incident which occupied some official attention. In 1872, he devised a scheme which sought to 'bribe' Indian mothers in the city of Madras with money to permit their children to be vaccinated and allow the extraction of vaccine lymph from their arms. The Madras Vaccination Depot had for years struggled to maintain an adequate supply of lymph in the face of much popular opposition and administrative inefficiency, despite the provision of food to mothers and children who came to be vaccinated. Cornish communicated his idea about a money payment to Dr. John Shortt, a peer of Cornish's in the IMS, and the Inspector General of the Vaccination Department at the time.¹⁴ The 'bribery scheme', as it was called by the Government of Madras and by Cornish and Shortt, was hugely successful in the first two years of its application. Large numbers of mothers and children came to the Vaccine Depot in Madras city. (The scheme fell through a few years later due to a miscalculation of the

¹³ 'Obituary', p. 1299.

¹⁴ Shortt and Cornish had both joined the Madras Medical Department in 1854. See D. G. Crawford, *Roll of the Indian Medical Service 1615-1930*, London, 1930, p. 343-44. Through the 1870's until Shortt's retirement in 1877, the two often entered into bitter disputes about vaccination policy. When a dedicated Vaccination Department was organized for the first time in 1865, Shortt was appointed Inspector General and held this post until 1875, when the Vaccination Department was subordinated to the Sanitary Department. Cornish scored an important point with this amalgamation, when the post of Inspector General of Vaccination was changed to Deputy Sanitary Commissioner and made subordinate to that of the Sanitary Commissioner's post. An interesting aspect to this professional rivalry might have come from the fact that Shortt had not been recruited directly to the Indian Medical Service as had Cornish. He obtained a commission in the IMS by nomination from the Subordinate Medical Department, and worked his way up the senior service. See Crawford, *A History of the Indian Medical Services*, Vol. 2, London, 1914, p. 111.

extent to which a money payment would entice people, as well as lack of official financial and administrative support).

Cornish had a public dispute with two other senior medical officials over the intellectual origins of the 'bribery scheme' immediately after this flush of success. These officials were Dr. Shortt and Edward Balfour, then Inspector General of the Madras Medical Department. Balfour claimed that the idea of substituting money for rice was first suggested to him by John Shortt.¹⁵ Shortt himself claimed in his report for 1872-3 that the experiment was conducted 'under his personal supervision'.¹⁶ Conversely, Cornish insisted that the idea of bribing the people had been put into effect by Shortt only after he, Cornish suggested it to him, and that there was evidence of this meeting in the form of pencilled notes that Cornish had made in Shortt's office during the meeting, owing to the fact of Shortt being deaf. Shortt in turn informed Cornish that he had not kept the notes that Cornish had given him during the meeting.¹⁷

The dispute led to an ugly, personal confrontation in the Government Proceedings. Cornish insinuated that Shortt's physical handicap of deafness may have prevented him from fully recollecting the conversation that Cornish carried out with him in pencilled notes, wherein the idea of 'bribery' was suggested. Shortt, in response to this, was ambiguous about Cornish's role and skirted the issue of who had originally suggested the scheme. Cornish's written defence to the Government of Madras was politely -and characteristically-sarcastic: 'The misunderstanding (was)

¹⁵ Proceedings of the Government of Madras in the Public Department dated October 15th, 1874, Nos. 49-51, G.O. No. 1134, TNSA.

¹⁶ *Annual Report on Vaccination in the Madras Presidency for 1872-3*, Madras 1874, p. 9.

¹⁷ Letter from Dr. W. R. Cornish, Sanitary Commissioner of Madras, to the Secretary to Government, Fort St. George, No. 1238 dated Madras, 1st October 1874, enclosed in Proceedings of the Government of Madras in the Public Department, dated October 15th, 1874, Nos. 49-51, G.O. No. 1134, TNSA.

due to Dr. Shortt imperfectly recollecting my communication to him and the destruction of the pencilled record of an important conversation on a subject of public importance. The great success and vigorous pursuit (of the bribery scheme) must have occupied his thoughts so much that he forgot its real origins'.¹⁸

Cornish insisted that he- and not Shortt- be recognized by the Madras Government and the Madras Medical Department as the brain behind the scheme, despite the fact that Shortt had implemented the scheme. Ultimately, Cornish succeeded in eliciting an official apology from Shortt and from Balfour, both of whom recognized his claim.¹⁹ Cornish's persuasive powers and bureaucratic skills, in evidence during this episode, served him in good stead throughout his career as a medical official. One important aspect of these skills was his ability to put forth written evidence in a logical sequence to convince his medical superiors and non-medical officials in the Government of his point of view.

Quite clearly, Cornish had a keen sense of duty and professional commitment. He appears not only to have aspired to the proper performance of his tasks as a Government servant; but also desired official recognition of his ideas about public health, disease transmission and indeed, of the workings of Indian society and health-seeking behaviour. These ideas had two aspects: firstly, they can be seen as manifesting an understanding of health and disease in which a variety of predisposing factors- not just filth or climate- took precedence. But more generally, they can also be seen as the product of an interventionist and paternalistic approach, which was one of several official attitudes to the governance of Indian society. Based on the belief that a scientific and sympathetic study of Indian society, personality and human character was the basis for state intervention, and in turn that intervention was a

¹⁸ Ibid.

¹⁹ Ibid.

product of enlightened European governance, this stance sat uneasily with other approaches and beliefs which were more fatalistic about the impossibility, pointlessness or the detrimental effects of intervention.

This argument would be further substantiated by a study of intellectual trends and non-official activities both of non-medical administrators and of IMS men. Did Cornish's support for what appears to have been a relatively humanitarian interventionist famine policy represent merely a personal belief; a desire for professional advancement; or can it be seen as representing a broader outlook that characterized one section of colonial official thought? Studies of non-medical colonial administrators do point to the existence of a sympathetic and paternalistic approach to governance amongst British administrators in the late eighteenth and early nineteenth century. For example, Eric Stokes' classic study of political thought amongst British administrators casts Thomas Munro, the first Governor of Madras and one of the main architects of the *ryotwari* system, as belonging to one –if the last- generation of men who believed that the task of European colonization was 'to take the peasant in all his simplicity, to secure him in the possession of his land, and so to avoid all the artificialities of a sophisticated European form of rule- these political aims surely spring directly from that current of contemporary thought which literary historians have called the Romantic movement'.²⁰ Stokes characterizes the ascendancy of utilitarianism after Munro as a victory in the battle between two ideologies: the one representing conservative paternalism; the other representing the application of 'rational' principles of European governance (of which political economic theories

²⁰ Stokes, *The English Utilitarians and India*, p. 13.

were a significant part).²¹ Burton Stein's biography of Thomas Munro also casts this historical figure as 'a man of an eighteenth century world innocent of Victorian arrogance and certainties....a hinge connecting the long development of South Indian rural political and cultural institutions with the long nineteenth century imperial era'.²² It would perhaps not be going too far to state that some aspects of Munro's vision -of a paternalistic and benevolent European governance which would preserve indigenous political and social institutions- survived into the late nineteenth century, both in the attitudes of individual administrators as well as in some of the administrative systems and usages of the *ryotwari* system in Madras.

Clive Dewey's detailed study of the personal papers of two Indian Civil Service officials also points to two sets of intellectual trends amongst ICS officers at the end of the nineteenth century.²³ The one saw the task of European governance as essentially a paternalistic 'civilizing mission'; the other emphasized what Dewey termed the 'cult of friendship'. Cornish can be said to have represented a combination of conservative paternalism and what can be termed as a desire to understand *scientifically* Indian society and culture which can be linked with eighteenth century Orientalism and with early visions of empire voiced by administrators such as Munro.²⁴

There are fewer (in fact almost no) secondary works which deal with intellectual trends, social position and ideas amongst medical officials recruited by the East India

²¹ Ibid, pp. 19-21. See also Idem, *The Political Ideas of English Imperialism: An Inaugural lecture given in the University College of Rhodesia and Nyasaland*, London, 1960.

²² B. Stein, *Thomas Munro: The Origins of the Colonial State and His Vision of Empire*, Delhi, 1989, p. 5.

²³ Dewey, *The Mind of the Indian Civil Service*, New Delhi, 1993.

²⁴ Stein, *Munro*, op. cit.

Company, and after 1858, the Provincial Governments, except for Mark Harrison's studies. Harrison suggests that the low status of the medical profession in Britain was combined with the handicap of the indifference of colonial administrations to make medical service in India unattractive. In addition, low pay, poor conditions of employment and over-staffing led to much dissatisfaction amongst many young IMS recruits.²⁵ Accordingly, most recruits entered the service with few ambitions and with little predilection for medicine, and the professional aspirations of many IMS men can be said to have been modest. Further, Harrison finds that the uncertain official and legal status of most IMS men positively discouraged innovation in theory and practice, leading to fatalism and indifference to the plight of Indian people.²⁶ For most IMS men, then, a career as a colonial medical official was a means to a secure, if modest remuneration, rather than a calling.

In another work, however, Harrison suggests that despite the general mediocrity of the majority of IMS recruits, the impulse towards sanitary reform in the mid-nineteenth century was seen by some medical officials as an essential component of a larger programme for restoring India to prosperity. Environmental improvement was thus part of a growing trend towards reform and intervention, in which the medical services played an important part. Harrison points out quite rightly that this reformist trend amongst medical officials was as critical of an apathetic administration as it was of Indian sanitary practices. Yet, those officials who voiced critical opinions were clearly in the minority and had few hopes that their sanitary critique of the colonial administration would be heeded.²⁷

²⁵ Harrison, *Public Health in British India*, pp. 9-10.

²⁶ *Ibid*, pp. 34-35.

²⁷ Harrison, *Climates and Constitutions*, pp. 170-172; 177.

Yet other clues come from Richard Grove's study of the origins of environmentalism in the seventeenth century, although we would need to be careful in pushing forth such generalizations to the nineteenth century. Grove suggests that there did exist a group of government scientists and medical men who combined a 'reasonably sensitive and atypical interest in the culture and welfare of the indigenous population with an equivalent concern to develop public works specifically related to the basic resource needs of the population', and that 'this concern for basic needs far outweighed more short term commercial consideration'.²⁸ Grove suggests that for an understanding of the intellectual origins of such ideas amongst medical men, we must turn to men like Alexander van Humboldt, Joseph Hume and J.B. Boussingault, representing eighteenth century Physiocratic thought and a certain degree of evangelical fervour.²⁹ For these men, argues Grove, man's natural environment was seen as possessing value in much wider terms than the purely commercial. This in turn fed into what Grove terms an 'anticolonial' sentiment amongst a small minority of IMS officials.³⁰ Grove's use of this term would tend to indicate that despite the fact that these officials gained authority, status and remuneration through their affiliation with the colonial state, they were still critical of the way in which non-medical administrators governed the people and resources of India.

These studies indicate that Cornish appears to have had some predecessors, who were concerned about the welfare of the people in a wider moral and material sense than is evident amongst the majority of civil servants or IMS recruits in India. Quite clearly,

²⁸ R. H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600- 1860*, Cambridge, 1995, p. 448.

²⁹ On the influence of Alexander von Humboldt on medical thought and colonial medical geography in the nineteenth century, see N.A. Rupke, 'Humboldtian Medicine', *Medical History*, 40, 3 (July 1996): 293-310. Rupke argues that a significant aspect of Humboldtian medicine was its commitment to a theory of causation that stressed 'natural' rather than 'social' causes. (Ibid., pp. 307-309).

³⁰ Grove, *Green Imperialism*, p. 426.

he belonged to a small minority. At the same time, a detailed analysis of the intellectual origins of his ideas must remain obscure for lack of sources on his personal life and early years.

Cornish seems to have been a talented, hardworking and ambitious man. His aspirations were rewarded by recognition both within the medical profession and by the Madras Government. In 1880, he was promoted from the post of Sanitary Commissioner to that of Surgeon-General with the Government of Madras.³¹ In this, he became one of just six officers in the entire history of the Indian Medical Services to have skipped four intermediate ranks to succeed to the highest civil medical post in the Presidency. D.G. Crawford, historian of the Indian Medical Service mentions that Cornish 'never held the rank of Deputy Surgeon General, and on appointment as Surgeon General, went over all four (existing) Deputy Surgeons General and seven senior Brigade Surgeons'.³² Although it is difficult to substantiate this point since we have no evidence on how his peers viewed him, his rapid promotion must surely have raised several hackles within the Madras Service. It is also extremely likely that this rapid rise in professional status might have had to do a lot with his very prominent public role in support of the Madras Government's famine policy against that of the Government of India. In 1880, he was made a Companion of the Indian Empire, an honour which was usually reserved for senior bureaucrats.³³ He was appointed Honorary Surgeon to the Viceroy of India in 1881.³⁴

³¹ 'Obituary', p. 1299; Mountstuart Elphinstone (1885?), 'Draft of a speech in honour of W.R. Cornish, Surgeon-General of Madras on his retirement, with notes on his career and distinguished predecessors in the Madras Medical Service', Private Papers of Mountstuart Elphinstone as Governor of Madras, IOR/MSS/Eur/F234/118.

³² D.G. Crawford, *Roll of the Indian Medical Service 1615-1930*, London, 1930, p. 343.

³³ Mountstuart Elphinstone, 'Draft of a speech in honour of W.R. Cornish', op. cit.

³⁴ Ibid.

Despite the recognition of his merit by the Government of India, Cornish achieved greatest recognition at a Provincial level. In 1882, he assumed the position of Chairman of the Committee commissioned to look at Lord Ripon's proposals for Local Self Government in Madras.³⁵ He was appointed additional member of the Legislative Council of Fort St. George in 1883. In this position, he played a significant part in compiling the Madras Famine Code of 1882. He retired in 1885 and returned to England.

Back in England, Cornish continued to be active in professional bodies and to occupy positions which highlighted his significant experience in understanding the empire, its people and health issues. In the last years of his life, he was a member or fellow of several medical societies: the British Institute of Preventive Medicine, the Sanitary Assurance Association, the Royal Medical and Chirurgical Society, and the Epidemiological Society of London. He represented the Madras and South Indian branch of the British Medical Association till his death in Worthing in 1897 at the age of 69.³⁶

II. State Intervention, Public Health and the Indian Medical Services

Cornish participated and in some cases played a prominent role in the professional culture of the Indian Medical Services during the middle three decades of the nineteenth century. Debates over the origins of epidemic disease, their character in an Indian setting, and the means of prevention, control or cure were the subject of much lively and animated discussion, not just among officers within a Provincial Medical department but also across different Provinces.

³⁵ *Report of the Committee on Local Self-Government in Madras*, Madras 1882.

³⁶ 'Obituary', op. cit.

While protecting the health of European military and civilian populations was an important motivating factor behind these discussions on disease, it seems evident that there were other aspects to these endeavours, which have not always been taken into account by previous writers on the colonial medical services. It would appear that for a number of medical officials, defending the scientific credentials of medicine to a cynical administration was a major preoccupation. The repeatedly expressed need for accurate vital statistics of the population pointed to this aspect.³⁷ Another aspect of medical inquiries into disease causation in a colonial setting pertained to their value for 'rational' governance; knowledge of colonial populations and Imperial control of these populations. Previous historians have tended to take for granted that this value was recognized by non-medical administrators, and that the medical services were an important 'ideological and technological component' of Imperialist ambitions.³⁸ However, it would appear that non-medical administrators were not always convinced either of the scientific status of medical inquiries, or of the value of medical 'science' itself as a component of governance, at least till the 1890s.

Although inquiries into factors governing military, prisoners', plantation labourers' and European health in an Indian climate was a constant preoccupation, and environmental theories of disease causation led to attempts to 'cleanse' Indian towns and villages, IMS officials were also concerned with wider medical questions pertaining to the endemic disease amongst the general population, and with the

³⁷ On the origins of social statistics and their status as science, see D. R. Headrick, *When Information Came of Age: Technologies of Knowledge in the Age of Reason and Revolution*, Oxford, 2000, Ch. 3. (Transforming Information: The Origin of Statistics). Headrick's reading of how statistics transformed social policy in the western world would appear somewhat idealistic in the context of nineteenth century India, where the 'avalanche of printed numbers' does not seem to have corresponded quite so closely to visions of orderly progress, as much as they recorded European administrative desperation to understand and control a reality that bewildered them.

³⁸ Cf. Arnold, 'Medicine and Colonialism' in W. F. Bynum and R. Porter (eds.) *Companion Encyclopaedia of the History of Medicine Vol. 2.*, London, 1993, p. 1411.

peculiarities, both medical and social, of diseases in an Indian setting.³⁹ However, their recommendations regarding prevention were not always taken into account and were often handicapped by lack of knowledge about the precise character of epidemic disease, particularly cholera and fever.

III. Multicausality and predisposing factors in disease causation

In 1869 and 1870, Cornish wrote two reports examining the history of the cholera reports of those two years. In his report, Cornish challenged the theory propounded by the Statistical Assistant with the Government of India, Dr. J.L. Bryden, who suggested that the movement of cholera had nothing to do with contagion or human contact, but was borne by winds. Cornish argued that all evidence pointed to the likelihood that cholera was indeed transmitted through human contact, directly influenced by congregations of human populations, more likely to attack starved and undernourished people, and preventable by the enforcement of sanitary legislation and in some cases, sanitary cordons.

Yet, Cornish did not rigidly endorse a contagionist theory of epidemics, where human beings were seen as foci of filth and thereby disease. As will be seen in this and other chapters, his was essentially a multicausal view of disease causation, in which the notion of *predisposing factors* was an important component.⁴⁰ During an

³⁹ These debates were particularly pronounced in the case of cholera and fever epidemics, which were a source of deep fear and considerable anxiety on the part of medical officials due to their threat to European military and civilian health. This anxiety is manifest in the number of pages devoted to cholera epidemics in annual sanitary reports. (This usually far outnumbered the number of pages given to other diseases or medical concerns). See also Harrison, *Public Health in British India*, ch.4, 'Cholera Theory and Sanitary Policy'; idem, *Climates and Constitutions*, ch.4, 'Epidemics and the Ideology of Improvement 1800- 1860'. However, the pages of hospital and dispensary reports, as well as medical journals such as the *Madras Journal of Medical Science* point to the fact that other sorts of activities, such as medical curiosities, surgical operations and snakebites, also were of considerable interest.

⁴⁰ The notion of 'predisposing causes' occupied a central role in eighteenth and early nineteenth century medical thought. Chris Hamlin argues that medical theories based on concepts of predisposition were important reasons for medical men to oppose Edwin Chadwick's sanitary programme in England which sought to reduce the causes of disease to filth. (See C. Hamlin, 'Predisposing Causes and Public Health in Early Nineteenth Century Medical Thought', *Social History of Medicine*, 5,1(1992): 43-70. Within this notion of disease, causality was complex and sophisticated, and could not be reduced to a single factor such as 'filth'. Disease meant a deviation from health, and

epidemic of fever in the Godavery and Kistna districts in 1873-4, Cornish entered into an argument with the Surgeon General of the Madras Medical Department, Dr. Edward Balfour, who believed that irrigation and water-logging in these districts was the main reason for increased fever mortality. Suggestions that irrigation made regions unhealthy and promoted the circulation of miasmas had formed an important component of non-interventionist arguments by bureaucrats and politicians, who wished to curtail the construction of public works from borrowed money on financial grounds.⁴¹ However, Cornish argued on the basis of a district surgeon's reports that the epidemic had less to do with irrigation than with the movements of miasmatic winds over mountain ranges and marshy lands before they entered these districts. Thus irrigation works were not causative of fever epidemics. On the contrary, state investment in irrigation works had a positive role to play in the prevention of disease by increasing prosperity and well-being.⁴²

It appears that Cornish belonged to a school of thought which propounded a notion of extensive state intervention in sanitation and medical relief but also in the improvement of economic welfare. Economic intervention was seen both in utilitarian as well as in moral terms. On the one hand, improved economic welfare and agrarian

most discussions of disease recognized two main divisions of cause: the 'proximate cause' and the set of 'remote causes'. The 'proximate cause' was the 'essence' of the disease itself, the 'pathological process that characterized it'. The remote causes were further classified into 'predisposing causes' and 'exciting' causes; all remote causes could, according to Hamlin, be thought of as necessary causes for the disease to surface and manifest itself. (pp. 50-51). Hamlin suggests that this understanding left considerable room for medical practitioners in the late eighteenth and early nineteenth century to appreciate the role of social factors in the causation of disease. (p. 52). Mark Harrison also suggests that medical conceptions of fevers in India differed from developments in Britain after 1800 in the important respect that Anglo-Indians were more likely than their British counterparts to attribute ill-health to poverty and dearth, rather than merely to filth amongst the poor and the working classes. (Harrison, *Climates and Constitutions*, pp. 176-177).

⁴¹ Some of these debates can be gauged from a Parliamentary Report on Public Works in India. See Report from the select Committee on East India (Public Works) together with the Proceedings of the Committee, Minutes of Evidence and Appendix, IOR/V/4/Session 1878/ Vol. 12).

⁴² Proceedings of the Government of Madras in the Public Department dated 30th December 1872, G.O. No. 1413, TNSA.

prosperity prevented epidemic disease by protecting a population's nutritional status. On the other hand, agrarian prosperity was seen as a moral and civilizing end of enlightened European governance. A multi-causal theory of health/disease in which nutritional, sanitary and climatic factors combined to act upon human beings for good or worse was an important complement of these ideas. However, there are some important qualifications to be made in this regard. Firstly, there is no evidence to suggest that Cornish's medical ideas or professional activities were religious in orientation, in the sense of emerging from a motive to religious conversion, as was the case with some of his IMS contemporaries.⁴³ Secondly, it appears likely that what we might loosely term an anthropological imagination- in the sense of an attempt to frame and present a construction of the Indian as a subject of social, scientific and medical inquiry- was an important part of Cornish's approach. He was the author of the first census of Madras Presidency in 1871, and the censuses themselves have been seen as grand anthropological exercises in the construction of an exotic people.⁴⁴ Cornish's endeavours in collecting, compiling and presenting the information contained in the first Census were noticed by the Government of Madras with approbation. He was thanked by the Madras Government and by the Secretary of State for his 'lucid and valuable report....that indicated his wide research and large views' and awarded an honorarium of Rs. 5,000 'to mark their sense of the efficient manner in which he had executed his joint functions'.⁴⁵

Cornish believed that accurate vital statistics, physiology, anatomy and surgery could form the basis of efficient medical practice and would contribute to health and

⁴³ This would place Cornish in contrast to some of his colleagues discussed in the introductory chapter, for whom medicine was an explicit means of saving souls, rather than merely bodies.

⁴⁴ For the classic statement of this view, see B.S. Cohn, 'The Census, Social Structure and Objectification in South Asia' in idem, *An Anthropologist among the Historians and Other Essays*, Delhi, 1987, pp. 224-254.

⁴⁵ Mountstuart Elphinstone, 'Draft of a speech in honour of W.R. Cornish', op. cit.

well-being of populations through public health and sanitary policy. In an address to the College of State Medicine in London in 1892, he advised public health students:

You deal with human life in the aggregate, and whatever you may be able to effect...will be for the benefit of thousands, instead of the units who fall into the hands of the practising physician...if ever the glorious time is to come when men and women shall die of old age, just as ripe fruit falls, and enjoy long and healthy days, you will have the satisfaction of knowing that sanitary science, which has already appreciably added to the longevity of human life, and to which you give your loving duty and service, has been the chief factor.⁴⁶

Although we are restricted to Cornish's official correspondence and addresses, one can clearly notice a belief in the idea of public health as a moral and political practice, not unlike that sketched by John Eyler for William Farr.⁴⁷ Eyler writes of Farr that 'statistics were, for Farr, always a means to an end, a tool in a greater reform campaign'.⁴⁸ Farr appears to have used far more sophisticated statistical tools than Cornish (reflecting perhaps more reliable data, although some of the English death statistics were as troublesome in terms of accuracy as the Indian ones). Yet, a similarity of purpose in the uses of statistics and in the social orientation of medicine is evident. A similar reformist spirit was also part of the medical ideas of Rudolph Virchow.⁴⁹ It seems plausible to draw common connections between the three men in their visions of a state sponsored public health, despite the vast differences in context

⁴⁶ Abstracts of Introductory Lectures, etc: The College of State Medicine, Introductory Address by Surgeon-General W.R. Cornish, C.I.E., Q.P.H., *The Lancet*, Oct. 8, 1892, p.830.

⁴⁷ On Farr, see J.M. Eyler, *The conceptual origins of William Farr's epidemiology: numerical methods and social thought in the 1830s*, in A.M. Lilienfield (ed.) *Times, Places and Persons. Aspects in the History of Epidemiology*, Baltimore, 1980; Idem., *William Farr (1807-1883): An Intellectual Biography of a Social Pathologist*, Thesis Submitted to the Graduate School of the University of Wisconsin in partial fulfilment of the requirements for the degree of Doctor of Philosophy, Idem., *Victorian Social Medicine: The Ideas and Methods of William Farr*, Baltimore, 1979; Idem., 'Mortality Statistics and Victorian Health Policy: Program and Criticism', *Bulletin of the History of Medicine*, Vol. 50, pp. 335-355.

⁴⁸ Eyler, *Victorian Social Medicine*, p. 197.

⁴⁹ On Virchow's life, professional activities and political ideas, see I.F. McNeely, *Medicine on a Grand Scale: Rudolph Virchow, Liberalism and the Public Health*, The Wellcome Trust Centre for the History of Medicine at UCL, Occasional Publication No.1, 2002. An earlier extensive biography was written by Erwin Ackernecht. (*Rudolph Virchow: Doctor, Statesman, Anthropologist*, Madison, 1953.) To Virchow is attributed the statement 'Medicine is a social science, and politics is nothing more than medicine on a grand scale'. (McNeely, p. 1).

between colonial India and late nineteenth century Europe. However, that context was also important in shaping the way in which Cornish's ideas were put into practice, or not, as will be seen below.

IV. William Robert Cornish and Famine Policy 1876-78.

The 'Temple Ration'

As discussed earlier, the famine of 1876-78 began as early as in 1875, when some districts experienced what was termed as 'distress' by the district Collectors and the Provincial Government. By the middle of 1876, the signs of famine were clearly pronounced in several districts, and resulted in friction between the Imperial and Provincial Governments over the question of intervention. As has been described, relations between the Provincial and Imperial Governments became turbulent over imports of grain and the management of famine relief works. In January 1877, Richard Temple was deputed to enforce economy in the famine stricken areas of Madras.

Signs of friction between the Provincial and Imperial Governments were pronounced by January 1877, when Cornish, who had been on furlough in England from October 1875, returned to his post as Sanitary Commissioner. In a letter dated 13th February 1877 addressed to the Government of Madras, Cornish laid out his objections to the Temple scale.⁵⁰

This was to be the first of a series of exchanges between the two over the following three months. Cornish's objections to the wage rested on the argument that the diet was deficient in quantity as well as quality, particularly in terms of its nitrogenous elements. While Temple advocated that labourers on relief works should

⁵⁰ Letter from Surgeon-Major W.R. Cornish, F.R.C.S., Sanitary Commissioner for Madras, to the Chief Secretary to Government, dated Madras, 13th February 1877, No. 115, *SCR 1877*, p. 192.

receive the equivalent of 16 oz. (1 lb.) of dry grain; Cornish stated the normal consumption of the adult human being as not less than 24 oz., while many Indians could consume up to 48 oz. of dry grain in a day. Further, he also held that the nitrogenous proportion of a daily ration should not be under 140-180 grains in a state of rest; ordinary labour required 300 grains of nitrogen; while severe exertion required 500-600 grains of nitrogen. The 16 oz. of grain provided by Temple's wage would provide 68-80 grains of nitrogen if rice was given; 100 grains of nitrogen if *ragi* or *cholum* was given; and 116 grains of nitrogen if wheat was given. A diet containing less than 200 grains of nitrogen, while barely sufficing to provide nutrition for the human body at rest, would not permit the severe exertion which was required of famine labourers on relief works. Cornish based his argument for a higher wage upon a dietary survey he had co-ordinated in 1863 using the agency of district medical officers. His study indicated that in ordinary years, the average labourer in the Ceded districts (Bellary and Cuddapah) consumed at least 24 oz. of dry grain (*ragi* or *cholum*) per day; very often consuming up to 48 oz.⁵¹

The crux of Cornish's objection to the Temple scale was that, going as it did against the results of the 1863 Madras survey, it was unscientific and disregarded the current nutritional knowledge about dietary requirements. However, there was another aspect of Cornish's argument which was equally significant: such an 'experiment' was cruel and dangerous and risked the loss of life in great numbers. He warned that current knowledge suggested that the symptoms of starvation were often insidious and invisible until the human body had passed the point where life could be saved.⁵² In other words, starvation was difficult to detect through cursory physical inspection by

⁵¹ W.R. Cornish, *Reports on the Nature of the Food of the Inhabitants of the Madras Presidency and on the Dietaries of Prisoners in Zillah Jails*, Madras, 1863.

⁵² Ibid.

medically untrained personnel. This difficulty was exacerbated amongst gangs of relief workers where numbers fluctuated greatly from week to week and continuous observation of a stable cohort was difficult, if not impossible. The conditions under which people sought relief thereby would make it difficult to monitor the effects of the reduced wage and there was a great danger of going against established norms regarding minimum nutritional requirements. Clearly, Cornish was laying stake not only to claims of humanity as a characteristic of the medical and public health profession, but also to claims of the expertise of medical 'science' in constructing standards of nutritional adequacy and appropriateness.⁵³

Cornish's appeal seems to have had an immediate impact upon members of the Madras Council. A few weeks later, the Governor of Madras met Temple with a summary of Cornish's objections and pleaded that the wage not be imposed on famine stricken workers.⁵⁴ As described in an earlier chapter, the Governor 'dreaded being held responsible for some terrible calamity'.⁵⁵ Yet, Temple persisted in his appeal to give the wage a 'fair trial' before discarding it as insufficient.⁵⁶

⁵³ Such 'expertise', however, seems to have been contested rather than given, as ideas regarding nutritional adequacy appear to have been fluid at this time. See Kenneth J. Carpenter, 'A Short History of Nutritional Science Parts 1-3', *Journal of Nutrition*, 133, pp. 638-645, American Society for Nutritional Sciences, 2003.

⁵⁴ In an order dated 1st March 1877, No. 757, the Government of Madras resolved to forward Cornish's letter to the Government of India and the Secretary of State for India; and to 'anxiously watch' the effects of the reduced wages on the labourers. (*SCR 1877*, p. 194).

⁵⁵ Letter No. 14 from Salisbury to Lytton dated April 27th, 1877, Lytton Collection, IOR/ MSS Eur/E218/4A. (See also footnote 43 in Chapter 1).

⁵⁶ Temple pleaded with the Government of Madras that the adequacy of the wage should be tested by 'patient practical observation of the labourers' and not by 'pre-conceived physiological theories'. (No. LV1-Minute by Sir Richard Temple, reviewing the objections of the Sanitary Commissioner, Madras, to the reduced scale of wages, No. 144, Famine Correspondence 3, IOR/V/Session 1877/Vol.65.)

Temple defended his recommendation publicly a few weeks later, and this led to a spirited defence on Cornish's part.⁵⁷ There followed a series of exchanges between the two men over the course of the next six weeks, which mirrored and shaped differences of opinion between the Government of Madras and the Government of India over the wage; and indeed over the question of state intervention. Without going into too much detail about this lengthy correspondence, it suffices to state the points on which the debate was conducted. Firstly, Temple questioned the value of specialist medical, nutritional, and physiological knowledge for famine administration, drawing a distinction between 'practical observation' and 'medico- chemical theories' in the composition of an adequate diet for famine stricken labourers. Secondly, he argued that in determining standards for adequately nourishing diets, lower body weight in general as well as the lower nutritional requirements of Indians as compared to Europeans should be taken into account in applying standards established by European medical men. (Cornish patiently pointed out that the theories he enunciated referred to Indian labourers and not European men; and that they were not based on chemical theories as much as on physiological understanding). Thirdly, he argued that 'theories' of nutritional requirements were essentially uncertain and that the only test of adequate diet was a 'patient examination' of the physical condition of the people on the relief works and in the relief camps.

In turn, Cornish's criticisms of Temple's arguments were wide-ranging and devastating, particularly when he demonstrated that Temple's knowledge about the measurement of nutritional standards was outdated and incomplete. Cornish further remarked on the inconsistency in Temple's publicly recorded views on the possibility

⁵⁷ Temple's minutes and memoranda, which were the main form in which he made his attack on Cornish, were published in the Government of India's *Gazette* as well as in what was known as the 'Blue Books' or Parliamentary Papers.

of using nutritional standards as a guide to constructing dietary standards in 1874 and 1877. As Lieutenant Governor of Bengal in 1874, Temple had calculated that he would need to import 3.75 million tonnes of grain to feed the famine-stricken population. He had used the census of 1871 as a baseline, then calculated the amount of food required by each person so enumerated, and assumed that each person required a *minimum of 1 ½ lbs. per diem* for a period of nine months.⁵⁸ In 1877, Temple claimed that a precise calculation of the amount of food required by a human being was not possible, and that ‘patient practical observation’ of the physical condition of labourers was the only guide to constructing a dietary standard.⁵⁹ Temple’s later stance threw doubt on the assumption that dietary adequacy could be determined by calculating the amount of nitrogen and carbon in a given quantity of food. The crux of Temple’s argument in 1877 was that dietary adequacy could only be determined by noting the physical effects of a given diet on the human frame, while his earlier position had suggested that accumulated evidence in jail dietaries could provide an accurate guide to constructing dietary standards. Further while the census of 1871 was seen as a reliable source of population estimates in 1874, Temple in 1877 denied that an accurate estimate of food requirements or dietary adequacy could be arrived at.⁶⁰ Quite clearly, what had changed in the intervening three years was not the scientific status of a method of estimating nutritional requirements for a large population, but Temple’s own political compulsions.

⁵⁸ See Table 2.1.

⁵⁹ See Table 2.1.

⁶⁰ See Table 2.1

Table 2.1: Richard Temple on Famine Relief in 1874 and 1877⁶¹

<i>Sir R. Temple in 1874 (Bengal famine)</i>	<i>Sir R. Temple in 1877 (Madras Famine)</i>
<p>“This rate (3/4 of a seer or about 1 ½ lbs. for men, women and children) at which grain should be provided was assumed after due consideration and discussion. The lowest diet provided in the Bengal jails for non-labouring prisoners is equal to about 1 seer or 2 lbs. The ordinary diet of a labouring adult in Bengal is taken after statistical inquiry to be about 1 seer of rice besides ¼ seer (about ½ lb.) of fish, pulse, pepper and other condiments. The diet prescribed for adult Bengalee immigrants on ship board and for Bengalee sailors always exceeds one seer a day in total weight, and in some cases reaches two seers a day. Many of the poor people for whom grain was to be provided would be labouring hard on the relief works during inclement and exhausting weather. Nearly the whole of the Government provision of grain consisted of rice, which contains less strength giving qualities than wheat and some other grains. It was known that each bag of the expected consignment of Burma rice would contain from 8 to 20% of innutritious husk. In view of all these considerations, I framed my estimates of total requirements on the basis that each person to be relieved would on average require ¾ seer (1 ½ lbs. grain) per day. In practice it was found that even to ordinary paupers, who did not do any work, local Committees had to give 2/3 of a seer or rice daily besides one pie (3/8 penny) for the purchase of salt and condiments; to women in delicate health and persons reduced by previous hunger, a still larger daily dole had to be allowed. Being responsible for the general</p>	<p>“The present rate of wages is fixed at 2 annas per diem for an adult and proportionately lower for women and children. This rate is fixed upon the presupposition that it will purchase 1 ½ lbs. per diem, a quantity which is deemed essential for a man while at work. There might indeed be a question whether life cannot be sustained with 1 lb. grain per diem; and whether Government is bound to do more than sustain life. This is a matter of opinion, and I myself think that 1 lb. per diem might be sufficient to sustain life, and that the experiment ought to be tried. Possibly the gangs might not perceptibly fall off, or not; if they were to seriously fall off, then the point could be considered.” * * * * *</p> <p>(11.) “The objection to the new scale, which Dr. Cornish states in detail is properly formulated by the phrase a full day’s wages (that is something more than the 1 lb. and a half anna) for a fair day’s work. But the phrase postulates that there is a fair day’s work, which is just what the vast majority of the relief labourers do not render. Therefore they are not entitled to, and do not physically need, the full day’s wage.” * * * * *</p> <p>(14.) * * “The scale laid down appears to me on the whole sufficient to yield to people that subsistence which alone Government can afford. We would gladly give more if it were in our power, but we must content ourselves with saving life; and cannot pretend to prevent all forms of distress.” * * * *</p> <p>(16.) Having carefully inspected during</p>

⁶¹ Reproduced from Letter from Dr. Cornish, the Sanitary Commissioner for Madras, to the Chief Secretary to the Government, Fort St. George dated Madras 6th April 1877(Famine Correspondence 3, IOR/V/4/Session 1877/ Volume 65).

<p>character of these estimates, I feel bound to record my tribute to the utility of census carried out two years previously under Sir George Campbell-the first regular census which had ever been taken in Bengal. If the success of the prescribed plan of relief operations has in any degree depended on the framing of estimates, if these estimates have in any degree helped the Government to make a proper forecast of the supplies and the resources necessary to encounter the crisis, then it is to be remembered that these estimates could never have been framed had not that census existed.”</p>	<p>my tour of this Presidency thousands of relief labourers, I give it as my opinion that with very few exceptions, which are not, as a rule, traceable to insufficient relief wages, the general physical condition of the labourers is as good now as in ordinary years.”</p> <p>* * * *</p> <p>(17.) In conclusion, it is not possible, I submit, to determine <i>a priori</i> on scientific data, what amount of food is necessary to sustain the particular classes who come to our relief. The real point to be considered is whether in ordinary times they get more than 1 lb. a day for a male adult. This is an economic question which can be determined by calculating the rates of wages in the rural districts, not the wages of trained professional labourers employed by public bodies, not the wages of stalwart men of the professional class of workmen, but the men of lesser physique and lighter frame such as that of the village poor-the wages received by the labouring poor in the villages of the interior; and then by taking the prices of common grains in ordinary years. Now from inquiries made in various districts of the Madras Presidency, I apprehend that the labouring poor in rural localities can hardly get more than 1 lb. a day for a male adult in ordinary times.”</p>
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A particularly embarrassing aspect of Cornish’s critique of Temple’s pronouncements involved the latter’s misreading of nutritional standards based on a typographical error in a standard manual used by medical officers in the Presidency, a mistake which Cornish pointed out succinctly in his longest reply to Temple.⁶² Yet another point of dispute between the two men related to the methods of estimating the

⁶² Letter from Dr. Cornish, the Sanitary Commissioner for Madras, to the Chief Secretary to the Government, Fort St. George dated Madras 6th April 1877(Famine Correspondence 3, IOR/V/4/Session 1877/ Volume 65).

presence of starvation amongst workers and recipients of relief. In March and April 1877, Temple had requested two IMS officials travelling with him to inspect the condition of relief labourers in the Ceded districts and make pronouncements regarding the adequacy of the wage. Both these men- Dr. Harvey, Temple's personal medical adviser, and Dr. Townsend, Officiating Sanitary Commissioner with the Government of India, corroborated Temple's insistence that labourers on the works were in fine physical condition.⁶³ This was cited as evidence of the sufficiency of the reduced wage. Harvey had on March 25th 1877 informed the Government of India that

I have been agreeably surprised and greatly pleased to find the people of all classes on the works, on gratuitous relief, and the poorer classes generally in much better physical condition than I expected, or imagined to be possible, considering the extent of the failure of crops, and the severity of the scarcity.⁶⁴

Townsend's visit to the Madras Presidency in April 1877 further reiterated Harvey's assessment of the normal condition of the people. He went further to suggest that nutritional scientists were divided over the determination of standards of nutritional adequacy. Townsend pointed out that physiological theories of nutrition were greatly contested amongst the medical profession:

The question of the sufficiency or otherwise of the allowance could not be decided on physiological grounds...some years ago, the doctrine on the subject was that muscular exertion entailed waste of muscular tissue and that in order to compensate this waste, food containing nitrogenous principles must be supplied in proportion to the labour undertaken...late investigations have tended greatly to modify this teaching, and certainly at the present time there is no theory on the subject so generally accepted or founded on data so incontrovertible that no economic question involving the expenditure of large sums of public money can be decided by it.⁶⁵

⁶³ Memorandum by Dr. Harvey, on special duty with Sir Richard Temple, on the physical condition of the people in the distressed districts of Madras and Bombay, dated Kiergaon, March 25, 1877, and Report by Surgeon-Major S.C. Townsend, Officiating Sanitary Commissioner with the Government of India, on the Condition of Famine Relief Labourers in the Madras Presidency, dated Bangalore 3rd April 1877(IOR/V/4/Session 1877/Volume 65).

⁶⁴ Memorandum by Dr. Harvey, on special duty with Sir Richard Temple, on the physical condition of the people in the distressed districts of Madras and Bombay, dated Kiergaon, March 25, 1877(Famine Correspondence Part 3, IOR/V/4/Session 1877/Volume 65.)

⁶⁵ Report by Surgeon-Major S.C. Townsend, Officiating Sanitary Commissioner with the Government of India, on the Condition of Famine Relief Labourers in the Madras Presidency, dated Bangalore 3rd April 1877(Famine Correspondence Part 3, IOR/V/4/Session 1877/Volume 65).

Townsend thus averred that ambiguities in scientific theories made them of limited use in the formulation of famine policy. Further, Townsend argued for a test of nutritional need based on anatomical investigation rather than on theories of physiology or chemicals. Townsend touched upon a question that was central to the Imperial concern, of limiting relief only to those who were in danger of death without it. How was the state, for purposes of famine relief, to identify the signs of unusual starvation? Was it possible to demarcate the point at which extraordinary suffering - which would lead to starvation- could be distinguished from ordinary poverty? Townsend's argument was that it was difficult to distinguish between the physical effects of ordinary poverty, which the state had no moral responsibility to relieve, and extraordinary suffering, which it had only a limited duty towards. Thus, 'when inspecting masses of people with a view to estimating the effects of abnormal scarcity amongst them'; a 'very large allowance must be made for what may be called permanent poverty, which it is beyond the power of Government to remove'.⁶⁶ Ironically, Townsend's aim in making this point was to insist that it would be perfectly justifiable to err on the side of strictness. (An opposite interpretation might have been possible, and was in fact the basis of Cornish's critique: that it was impossible for an observer to discern the point at which inadequacy of food became irreversible, and therefore it was better to err on the side of liberality.) Townsend went on to detail the 'ordinary low level of living' amongst Indians. According to him, 'loose skin, paleness and anaemia' - all details noted by Cornish in his inspection of the poor in camps, on works and generally in the district- were regular features of Indian people and not specific to famine conditions.⁶⁷

⁶⁶ Ibid.

⁶⁷ Ibid.

The Government of India concurred in Townsend's report, and claimed it as evidence that ~~no~~ deterioration had taken place in the physical condition of the labourers between January and April, when the wage had been in force.⁶⁸

Through March, April and May 1877, Cornish toured the districts and reported extensively on the presence of unmistakeable signs of starvation and unusually high mortality from ordinary diseases, both on relief works and in relief camps.⁶⁹ He observed that after the introduction of the one pound wage, numbers on the relief works had begun to dwindle while those of gratuitous relief- considered universally by administrators a far more expensive, wasteful and ultimately useless form of intervention- had begun to rise.⁷⁰

Cornish chronicled a process of gradual and fatal deterioration of workers on the one pound wage. As insufficient nutrition continued for days, weeks or months, they gradually became weaker and unable to work and were eventually drafted off into the relief camps. The result of Temple's "shroffing" the works and camps was that the numbers of people on relief works fell from 907,316 in the first week of February 1877 to 662, 195 in March. However, the numbers of people too weak to work, falling upon gratuitous relief, rose from 38,163 in the first week of March to 99, 113 in the last week of March.⁷¹ Mortality in the camps meanwhile reached alarming proportions and was largely attributed to diarrhoea or dysentery, fatal symptoms of chronic starvation.

⁶⁸ See No. 21 of 1877, From GoI to SoS for India, dated Simla, the 19th April 1877(Famine Correspondence 3, IOR/V/4/Session 1877/Volume 65, No. 221).

⁶⁹ See Chapter 4 for references.

⁷⁰ Letter from Dr. Cornish, the Sanitary Commissioner for Madras, to the Chief Secretary to the Government, Fort St. George dated Madras 6th April 1877(Famine Correspondence 3, IOR/V/4/Session 1877/ Volume 65).

⁷¹ Ibid.

Temple rejected the suggestion that inadequate wages had led to weakening workers' health and pushing them into a state of exhaustion so that they were only fit for gratuitous relief. He vehemently argued that there was no connection between the recipients of the two forms of relief.

The inmates of the camps who are admitted there as being unable to work are a class totally different from those who are admitted to the works as being able to work...the poor inmates of camps have never gone to relief works at all...Indeed, the very reason for their being admitted to the camps is this, that they were incapable of going to relief works. They are diseased, infirm, or being indisposed to work, have wandered about, passing by means of relief close at home, have wandered to a distance.⁷²

In other words, people who went to the works never reached the camps. People in the camps had never been on relief works. Where there was evidence that relief workers had indeed left the works, Temple attributed this to their laziness: such people were reluctant to perform the required task or to travel a distance to the works, and the wage itself was not culpable. He then concluded that there was no mortality on the works from inadequate nourishment, any deaths that occurred were due to cholera and smallpox caused by inadequate sanitary arrangements in the camps. With regard to mortality in the camps and in people's homes in the villages, he attributed it to the inefficiency of the village officials who had been instructed not to allow any mortality from starvation in the villages. The imperfect supervision of village officials by the district administration and the Provincial Government was thus to blame for famine mortality, rather than the inadequate wages recommended by Temple and approved by the Government of India.⁷³

⁷² No. 23 of 1877, GoI DRAC to SoS, dated Simla, 3rd May 1877, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

⁷³ Minute XXXIX by Sir Richard Temple, dated Nundydroog, 8th February 1877, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

Yet, public criticism of the wage had already begun to alarm the Secretary of State for India. In early May 1877, Salisbury wrote to Lytton:

Our telegram of yesterday will tell you that we are beginning to be alarmed lest (Temple) should have overdone it, disquieting accounts and opinions come in from every side.⁷⁴

Clearly, the reduction of the wage was a widespread concern amongst senior civil servants. As Salisbury wrote:

...Letters from...the Provinces...cast serious doubt on the sufficiency of Temple's pound of grain.⁷⁵

The Collectors of Bellary, Cuddapah, Nellore, Chingleput, North Arcot, and Coimbatore were unanimous about the detrimental effects of the wage. Most of these reports deprecated the wage on the grounds that it was insufficient for work, and therefore wasteful and expensive in the long run. On the 17th of April, the deputy collector of the Bellary district, V. Venkatachalam wrote:

It is a known fact to all natives that half a seer of grain is hardly sufficient for a single meal for an able bodied coolie (i.e. half a day's food); the coolies are falling off in strength and growing depressed in spirits; 92 deaths have occurred in one party since the new scale was introduced. A special deputy collector says women eat more than men and require more nourishment, and their wage ought not to be less than a man's.⁷⁶

On 18th April, Venkatachalam requested that the Madras Government raise the wage on the grounds that it was insufficient for the sustenance of workers:

Considering the amount of exhaustion resulting from wastage among the relief labourers, I would respectfully suggest a gradual increase in the rates of wages until such time as we could detect a change for the better in their physique.⁷⁷

In Cuddapah, the Collector Mr. J. F. Price reported on 17th April: 'I fear that with the present scale of wages (task work) can never be done. Making the coolies in this case

⁷⁴ Letter No. 15 dated May 4th 1877, Letters to the Secretary of State, Lytton Collection, IOR/MSS Eur E218/4A.

⁷⁵ Ibid.

⁷⁶ *Report of the Indian Famine Commission Part 3: Famine Histories*, p. 217, IOR/V/4/Session 1881/Vol. 71.

⁷⁷ Ibid.

turn out anything but the veriest pretence of a task will mean killing them'.⁷⁸ Price

later deputed before the Famine Commission to state that

I watched carefully the working of the Temple ration in the Cuddapah district....it was applied I believe in March and continued until Government raised the ration in May or June. It was certainly in force for over two months. During this time I personally inspected 10,000 persons, some of the gangs two and three times; and in saying that I observed distinct deterioration, I base my observation upon particular observation of particular individuals whom I personally remembered.⁷⁹

In Nellore, the Collector reported a 'marked falling off in all classes' in the week ending 18th of April.⁸⁰ The Civil Surgeon of Vellore in North Arcot opined that the condition of labourers on the scale had 'much deteriorated'.⁸¹ The Special Relief Officer in Coimbatore reported that the condition of the coolies had 'certainly deteriorated owing to the small pittance we pay them'.⁸²

Yet, it is difficult to estimate how far these observations were based in truth, although mortality rates were well above their normal levels in the three months that the wage was in force. There certainly were reports that people on works became weaker after the introduction of the wage, but whether this was the case on *all* relief works was not (and is not now) verifiable from existing data, which was not systematically collected for all works. It would appear that the prescribed rate was sometimes not given, or the labourers themselves were defrauded by overseers and grain sellers. In addition, there seems little doubt that many of the labourers were indebted and forced to pay their debts at the cost of obtaining adequate food supplies.

⁷⁸ Ibid, p. 218.

⁷⁹ Ibid, p. 223.

⁸⁰ Ibid, p. 225.

⁸¹ Ibid, p. 228.

⁸² Ibid, p. 230.

The reasons for the lack of systematic local data seem to have lain in the administration of famine relief. Frequently, gangs of labourers moved from one place to the other, and attendance on works fluctuated considerably. Members of a gang who were present at one inspection were not present at the next, and it was only careful observers like Collector Price who would bother to keep track of the individuals from one week to another. Even so, district Collectors were medically untrained men whose observations of physical condition, even if recorded regularly from week to week, could at best sort people by condition into categories of 'condition good', 'fair', 'indifferent' (unable to perform small tasks), 'bad' and 'very bad', the categorization of which left very wide margins. While this is not to devalue their observations, it does mean that reading the reduced wage as the single most important cause of increased mortality would tend to assume that Provincial recommendations were completely and carefully implemented and monitored at a district and village level. It is thus clear that we need to be cautious about making such a sweeping generalization regarding the direct link between the Temple wage and famine mortality, and also account for the role played by local factors in influencing the nature of relief.

However, the reduced wage does seem to have become a *leitmotif* for critics of Imperial policy. Press reports were severely critical and Salisbury was worried both about the physical and the political effects of the wage:

Information of the outside world is not reassuring. All newspaper correspondents seem to agree that the ration is exhausting the people and that mortality from disease and exhaustion is assuming alarming proportions. The extracts from native newspapers which have just come home, take the same line. On the whole we thought that the time had come for hanging out a danger signal.⁸³

⁸³ Salisbury to Lytton, Letter No 15 dated May 4th, 1877, Letters from the Secretary of State, Lytton Collection, IOR/ MSS Eur/ E218/4A.

What emerges from these sources is that Cornish's objections had become a rallying cry for public criticism of Imperial policy as embodied in the Temple ration. Further evidence from the districts of Madras reveals considerable support amongst district Collectors for a higher wage, on both humanitarian and utilitarian grounds.

It is also worth noting that these debates were played out in the media and that the Government of India was forced to take an ill-defined 'public opinion' into account. Although this 'public opinion' is not the main focus of this study, this issue deserves further research, as it is of continuing and possibly greater significance today. (For example, 'starving baby' pictures force Governments to act and provoke international censure of Governments for not preventing hunger even today.)

Prison rations and famine wages

The Temple ration thus came to be associated with harsh Imperial famine policy. The battle over the adequacy of wages was fought on a number of grounds: scientific, moral and political. Newspaper correspondents and district officials were indignant about the fact that prisoners in the jails of the Presidency received a higher wage than the 'innocent famine labourer'. This indignation was apparently present not only amongst officials, but also among the famine labourers themselves, indicating that the labourers were themselves quite aware of discussions amongst European officials. For example, The Deputy Collector of Hospett, V. Venkatachellum, wrote of a famine labourer in Bellary district asking an overseer, 'Have I not the virtue of a convict to get a bellyful of food?'⁸⁴ This example seems to indicate the presence of a 'peasant' understanding of a moral contract with Governmental authority, and also possibly of Governmental anxieties regarding the setting of a nutritional standard for the wage. These concerns seem to have occupied 'public' attention amongst Indians as well. In

⁸⁴ *SCR 1877*, p. 218.

Malabar, one Indian reporter protested against ‘the criminals of our jails being fed better than innocent and starving cultivators’.⁸⁵

However it would be a mistake to attribute the official desire to provide an adequate wage to humanitarianism alone. Official morality differentiated between ‘criminals’, ‘innocent labourers’ and the indigent famine stricken in camps. Perceptions of jail inmates were thus necessarily more negative than those of relief labourers, despite an awareness of the impact that famine had on the rural economy, and thereby on crime. Indeed the official perception of famine criminals as being driven to commit offences in order to seek out official relief seems also to have had these negative connotations.

Official morality thus clearly differentiated between those whom it was permissible to protect, and those whom it was not. Cornish himself suggested that a starvation wage be tried and its effects on the health of prisoners documented in order to settle the question of famine wages once and for all.⁸⁶ This suggestion was immediately vetoed by the Inspector General of Prisons, on the grounds that the prisons were filled with the starving poor upon whom such an experiment would be disastrous. (This is further evidence that different agencies within the Government took different positions on moral and scientific questions). What emerges from this is that Cornish believed that it was morally permissible to experiment upon prisoners, while crying down the same experiment on labourers and inmates of relief camps, indicating that notions of the deserving and the undeserving were firmly embedded in the official mind.

Popular opinions: in support of Cornish and criticism of the Temple ration

⁸⁵ *Report on Native Newspapers for the Month of April 1877*, Madras, 1877.

⁸⁶ *SCR 1877*, p. 226.

The debate on the reduced wage captured public opinion in the Presidency as well as in Bombay. There were strong moral overtones to criticisms of the wage, and this in some senses reflected the moral differentiation between labourers and criminals. In particular, opponents of the wage were furious that it was lower than the diet prescribed for convicts in the jails of the Presidency. Thus the plight of 'innocent famine stricken' was repeatedly juxtaposed with that of 'hardened criminals'.⁸⁷ The wage, according to the critics, rewarded criminals and punished the honest. Vernacular opinion of the wage was particularly scathing, as we have seen. Labourers and overseers alike decried the anomaly of criminals receiving a higher wage than the famine stricken.⁸⁸

In Britain as well there was much indignation over the wage. Pamphlets describing the condition of those suffering from starvation were indignant about the apathy of the Government of India.⁸⁹

Medical Opinion in India on the Temple scale: in support of Cornish

Cornish received widespread support from amongst senior IMS officials for his discussion of science and morality in the formulation of famine policy. Such support seems to have been based on two grounds: first, on Cornish's call to a scientific standard in determining nutritional needs; and second, on his claim to professional involvement in political and economic questions. It may thus be argued that his arguments and the support that he received from Provincial administrators, medical officials and 'public opinion' were reflective of a growing idealization of

⁸⁷ See footnote 85.

⁸⁸ See footnotes 84 and 85.

⁸⁹ It is necessary to point out that criticism of the Government of India's famine policy was voiced on many grounds and from many quarters, both in India and in Britain. One of the fiercest critics was Sir Arthur Cotton; a pioneer of irrigation works in India, and an Engineer of the Madras Public Works Department who accused the GoI of shortsightedness in their refusal to finance public works from Imperial money. Others included Florence Nightingale, Sir John Bright, M.P.; John Wilson, Editor of the Indian Daily News; and William Digby, Editor of the Madras Times.

‘scientific standards’ and indeed of ‘science’ itself as the new logical basis for governance. Within this understanding, the medical establishment gained power and authority due to its claim to possess a ‘scientific’ solution to political and economic problems.

Medicine thus took on an explicitly interventionist stance in famine relief policy. It is important to note that this stance was not justified on grounds of its utility for preventing disease in military cantonments or prisons, but on general humanitarian, scientific and professional grounds. This will be evident from the following quote. Cornish had, during his debate with Temple, called upon humanitarian principles in treating the famine stricken:

Sir Richard Temple is like a skilful general commanding a battle. His attention is fixed on the main points of attack and defence. If these are safe, his work is accomplished. I, on the other hand, as a public health official, whose special duty it is to preserve life, am bound to listen to the cry of the wounded and note in what way combatants suffer. I should be wanting in my duty to myself and to the Government if I failed to state the facts coming to my knowledge and the deductions thence.⁹⁰

After a visit to the Monegar Choultry Relief Camp in Madras city on the 9th of April 1877, Cornish reported at length on the physical appearance of people at the camp. People on gratuitous relief in camps received a higher food allowance than those of relief works owing to their low state of health. The inmates of the Monegar Choultry camp had been receiving 1 ½ lbs. of rice in addition to a small quantity of vegetables, *dal*, ghee, curry and meat. Yet, Cornish reported that the inmates of the camp had seemed ‘in a low state’ and ‘suffering from a peculiar condition of the mucous membrane of the mouth and tongue’.⁹¹ Following this, the Government of Madras invited Dr. C.H. Gordon, the Surgeon-General of the British Medical

⁹⁰ Letter from Dr. Cornish, the Sanitary Commissioner for Madras, to the Chief Secretary to the Government, Fort St. George dated Madras 6th April 1877 (Famine Correspondence 3, IOR/V/4/Session 1877/ Volume 65).

⁹¹ *SCR 1877*, p. 204.

Department, and Dr. G. Smith, the Surgeon -General of the Indian Medical Department, to report on the necessity for increased diet. Both Surgeons-General reported of the more recent inmates of the relief camp that their physique was 'inferior'; that their health was 'deranged'; and that the diet was 'altogether insufficient' to enable them to resume work'.⁹²

They also declared that in cases of persons presenting a deranged state of tongue and gums, the present ration was 'altogether insufficient to preserve health.' The Surgeons General both agreed that 'a diet of less than 24 oz. a day was not enough to maintain a man in health and work'. If people could not recover health on less than 24 oz. of rice per day, 16 oz. a day was unlikely to keep people healthy enough to work. Cornish interpreted this as evidence in favour of his increased wage.⁹³

Sir Joseph Fayrer, the head of the India Office Medical Board from 1876 to 1896, also strongly supported Cornish. In his memoirs, Fayrer mentions that

Early in May (1877), I was present at the Famine Committee of the Indian Council, where I strongly supported the recommendations of Dr. Cornish of Madras with reference to the supply of food to the starving.....to give them a higher scale of diet than the Indian authorities had contemplated.⁹⁴

Fayrer's support seems to have lent considerable weight to Cornish's arguments within official circles, as the following extract from Salisbury to Lytton in May 1877 indicates:

⁹² Report of Drs. Gordon and Smith on the Monegar Choultry Camp, *SCR 1877*, pp. 205- 208.

⁹³ *SCR 1877*, p. 208.

⁹⁴ Surgeon-General Sir Joseph Fayrer, *Recollections of My Life*, Edinburgh, 1900, p. 423. Fayrer had, during the Bengal famine in 1874, also written papers for Salisbury and Mallet on famine diseases. (Ibid., p. 321).

Sir Joseph Fayrer entertains strong views (about the wage) and therein sustained Cornish against Townsend.⁹⁵

Two months later, Salisbury wrote:

Dr. Cornish cannot be a very wise person. When a doctor gets to talking about nitrogen, I know he has not much to say for himself. I should not have been disturbed by him.....if Sir J. Fayrer had not announced himself strongly impressed with similar fears.⁹⁶

Sir Robert Christison also wrote to Cornish from Edinburgh supporting his view that Temple's wage was both unscientific and dangerous.⁹⁷ Christison advised Cornish that

Mere practical experience is a dangerous guide to a dietary for a body of men....(in fact) what is called practical experience is nothing else but a body of loose observation....(which should not be trusted) but neither should scientific analysis be trusted to singly. It must be tested by practical observation, and the two methods together will supply trustworthy results.⁹⁸

Christison concluded that the dietary proposed by Sir Richard Temple was 'both insufficient in quantity, and *ill-chosen*'.⁹⁹ Such support for 'medical theory', from a Scottish doctor, presumably a very 'practical' medical man, also indicates that Cornish had enormous professional support, both within and outside India. In turn, professional and administrative support at the Provincial level made it difficult for the Imperial Government to push through Temple's wage against Cornish's, indicating that indeed the official hierarchy was a fluid one.

Medical Opinion in Britain: The British Medical Journal

⁹⁵ Letter No. 15 from Salisbury to Lytton dated May 4th 1877, Lytton Collection, MSS Eur/E218/4A. it will be remembered that Townsend,

⁹⁶ Letter from Salisbury to Lytton dated June 21, 1877, Eur MSS/E218/4A.

⁹⁷ Sir Robert Christison was a well-known chemist and toxicologist at Edinburgh University. His biography states: 'Christison, Sir Robert, first baronet (1797-1882), toxicologist and physician, was born in Edinburgh. Christison's life exemplified the heroic age of Edinburgh Victorian medicine during which he became an outstanding toxicologist, medical jurist, physician, teacher, and fierce protector of what he judged to be the best interests of Edinburgh University.' See Oxford Dictionary of National Biography Online. (<http://www.oxforddnb.com/view/article/5370>).

⁹⁸ SCR 1877, p. 196.

⁹⁹ Italics in original.

Cornish's debate with Temple gained him a mention in the *British Medical Journal* in 1877.¹⁰⁰ The BMJ lauded Cornish's use of vital statistics during the famine and classed Cornish with other pioneers of nutritional research. Clearly, administrative acceptance of medical 'theories' in questions of state intervention was not a problem restricted to Indian administrations. Further, the BMJ endorsed Cornish's use of physiological examination combined with the observation of mortality statistics. In summarizing the correspondence between Temple and Cornish, it was noted that

Whenever an argument based on scientific data is urged on a question of public health, the invariable reply is, as it is, in this particular case, that it is 'a medical theory', which "practical" men may safely discard. This was the view taken of the lime juice ration by Sir George Nares, with what result we know and Sir George Nares knows. "Practical men", however, like the commander of the Arctic Expedition and Sir Richard Temple, are not above framing theories of their own and acting on them... Sir Richard Temple is satisfied, from his hurried inspections of people on the relief works, that his dietary is sufficient; not so the Sanitary Commissioner, who does not, like Sir Richard, pass by the subject of the actual mortality of the famine stricken...¹⁰¹

Cornish's debate with Temple thus was seen as a common cause dear to the hearts of public health practitioners across the board:

We must not stop without, *in the name of his profession*, thanking the Madras Sanitary Commissioner for his courage in challenging the opinions and acts of one of the highest, ablest, and most trusted officials backed by all the influence of the Government of India.¹⁰²

Cornish's combined use of vital statistics and physiological arguments were seen as weapons ably wielded by a practitioner of public health. Moreover, Cornish was seen as having shown the way in using nutritional science and medical knowledge as tools of rational governance. So, the medical establishment seems to have seen the dispute over the wage as a 'medical' problem (not as a political one) and thus approved of Temple using a 'scientific' standard. The debate was seen as lying essentially in the

¹⁰⁰ 'The Famine Minutes of Sir Richard Temple and the Madras Sanitary Commissioners', *BMJ*, I (May 26th, 1877). The British Medical Journal was the mouthpiece of the British Medical Association, the professional body for most British physicians, formed in the mid-nineteenth century from the amalgamation of several regional medical associations.

¹⁰¹ Ibid.

¹⁰² Ibid.

lack of consensus over what constituted the correct method of arriving at this standard.

Nor must we withhold from Sir Richard Temple the praise which is his due; he might have invoked the Government to rebuke the presumption of a health officer for daring to call into question his 'theories' and the fatal acts founded on them; but instead of this, he descends into the arena and defends himself, if not without success, then at least with skill. The combatants on such grounds were unequally matched, but Sir Richard Temple must at least feel that there is no disgrace in being worsted in such an argument by so consummate a master of his subject as Mr. Cornish.¹⁰³

Cornish had quite successfully managed to win professional approval, Townsend and Harvey notwithstanding.¹⁰⁴ The British Medical Association was indignant when, the following year, 1878, Cornish was not felicitated by the Government of India for his role during the famine. The GoI awarded the title of 'Star of India' to several officers for their services to the state during the famine, but Cornish's name was not included. The BMJ mentioned the 'boldness' and 'honesty' with which Cornish resisted Temple's measures, which at one time 'threatened to destroy more people than the famine'. The anonymous author of the article declared perhaps with some flourish that Cornish's role had 'won for him the admiration of all classes of South India'. That Cornish had not been awarded the Star of India was seen as a direct result of his challenge to the 'Imperial Delegate' and the Government of India. Cornish was seen as the victim of his own boldness in challenging Temple:

It was confidently expected that Mr. Cornish's name would have appeared in the honour-list of on the Queen's birthday; but when that list appeared, his name was conspicuous by its absence. It is no secret that the Sanitary Commissioner's name was sent in by the Duke of Buckingham and his Council; but when that list was submitted to Lord Lytton and his Council, it was remembered that Mr. Cornish had had the presumption to dispute with the

¹⁰³ Ibid.

¹⁰⁴ Harvey and Townsend's criticisms of Cornish's method of arriving at the standard, however may be seen as a reflection of the uncertainty amongst the medical profession at this time regarding the connection between food, energy requirements and the means of measuring this connection. See Kenneth J. Carpenter, 'A Short History of Nutritional Science Parts 1-3', *Journal of Nutrition* 133 (2003): 638-645; Idem, *Protein and Energy: A Study of Changing Ideas in Nutrition*, Cambridge, 1994.

great delegate from Calcutta, and his name was struck out and that of another substituted.¹⁰⁵

The article continued in a tone of deep moral affront:

The Sanitary Commissioner has the approbation of his own conscience and that of the community he has served so well. Of this neither Lord Lytton nor his small-minded advisors can deprive him.¹⁰⁶

It seems quite clear that Cornish had become a ~~hero~~ for the medical profession in general, and that his debate with Temple touched chords not only amongst medical men in India but also in Britain. This was supplemented by popular and administrative disapproval both of the Temple ration and of the principles on which it was based. It is worth considering whether Cornish's rapid promotion within the Madras Medical Establishment from Sanitary Commissioner to Surgeon General (skipping four intervening ranks) in 1880 was in some ways a 'compensation' for the 'unfair treatment' he received in the matter of official honours.

It is important to keep in mind, however, that although the evidence is scanty, it is difficult to determine whether the wage was strictly enforced on all relief works. In fact, it is almost certain that this was *not* the case, as the following account indicates. In the Bellary district, Lieutenant Wilson, a Public Works engineer who was posted as a famine relief officer, was summoned to a district magistrate's court in a case involving fraud of famine relief funds. The case centred around the disappearance of an unaccounted amount of grain from Government stores. It was discovered that Wilson had not wilfully defrauded funds. Owing to his unfamiliarity with the weights and measures used by local merchants, Wilson had actually authorized the issue of

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

over 2 lb. of grain per person per day. Not surprisingly, it was found that more coolies flocked to Wilson's camp than any others in the district!¹⁰⁷ Whilst this case may indicate that in some camps, more than the prescribed ration was provided, it also indicates that strict enforcement of Provincial standards with regard to weights and measures was not possible. In some cases, in fact, it is possible that less than the prescribed wage was provided.

This case also reveals the disorganized state and the relative lack of Provincial control over the provision of famine relief. As late as March 1877, Cornish found that the scale of diet provided on relief works and in relief camps differed widely from what he prescribed as the standard. This was partly due to the fluctuation in the price of grain (on 31st January, the Government had directed that labourers would be paid on a sliding scale of wages according to the price of grain, provided that in no case would the payment fall below a 1 ½ lb. a day) , and partly due to the inability of metropolitan scientific standards to penetrate the interiors in a situation of crisis. Cornish directed in March 1877 that the rate of wages payable on relief works be standardized at 1 ½ lb. of grain and 20 oz. of cereal grain and 1 ½ oz. of *dal* for persons in relief camps.¹⁰⁸ However, as the Wilson case shows, the payment of wages on relief works and food in relief camps was by no means standard even six months later. This would lead us to conclude that although Cornish was historically significant in framing public opinion against the notion of the Temple wage *in principle*, it is difficult to ascertain what was actually carried out in the districts.

¹⁰⁷ Proceedings of the Government of Madras in the Judicial Department, dated 31st December 1878, Nos. 212-3, Government Order No. 2634, TNSA.

¹⁰⁸ Letter from Surgeon Major Cornish, Sanitary Commissioner for Madras to the Chief Secretary to Government dated Vellore, 10th March 1877, No.1, *SCR 1877*, p. 199.

Cornish and the Indian Famine Relief Fund

Cornish played a significant role in famine relief well after Temple departed from Madras. The Indian Famine Relief Fund began its operations in August 1877. As discussed earlier, the Mansion House Fund was primarily established to assist official efforts in famine relief in the face of great disapproval amongst the Government of India and Lytton in particular. Cornish was a founding member of the General Committee and continued to play a key role in its operations, both in the manner of distribution of funds and through his communications about the mortality in the famine stricken districts throughout the period of its operation, to 1879. One of Cornish's observations was that in order for women to be fully capable of going to the relief works, children and infants needed to be taken care of and fed on a suitable and adequate diet during the working day. He further observed that the mortality returns showed that infants and children suffered the brunt of the famine. Although the famine wage allowed for parents of young children to receive an extra allowance, the allowance was too meagre for the support of these children. Moreover, the disorganization and paucity of Government feeding centres for children meant that the allowance in several cases did not reach the children as their starved parents spent the entire day on the works, too busy to take the children to the feeding centres. Cornish wrote that:

It is quite clear thatgovernment outdoor relief....has not been brought home to the great bulk of the poor requiring food.....although feeding depots have been increased since February, so scattered is the area of the town that it is quite impossible for parents who may be in service to absent themselves and accompany their children to the feeding depots.¹⁰⁹

¹⁰⁹ The Madras Famine 1877, Ch. 3, p. 18, in *The Indian Famine Relief Fund 1877: Proceedings of Committees and Personal Agencies, Final Report &c.*, Madras, 1879 (Henceforth *IFRF*).

The result was that

...children in very large numbers have suffered and are suffering from the consequences of chronic starvation, and unless means can be devised to supply the children of the necessitous poor with food in excess of the parents, many must die before food prices reach their original value.¹¹⁰

Cornish therefore recommended that an appropriate manner of utilizing the money was to encourage the district and sub district committees to set up day nurseries where children were to be fed and cared for by women employed for the purpose. Cornish prescribed an adequately nourishing diet for children who would be admitted to the nurseries as follows: ¹¹¹

Fresh Brown Bread	4-8 oz.
<i>Ragi conjee</i>	1- ½ oz.
Sugar	¼-1/8 oz.
Salt	
Buttermilk	½- ¼ pint

Over the period that the Mansion House fund was in operation, several day nurseries were set up. They were mostly in Madras city, but there were several in the districts as well. Cornish's wife organized one of the first such nurseries at their residence in Teynampet in Madras city.¹¹² Cornish's involvement in the running of the nursery strengthened his view that benevolent intervention was necessary to save lives. Moreover, his observation of human behaviour amongst the families who brought children to the nursery sharply contradicted official views that the poor were only too ready to become dependent on the state- a staple tenet of classical political economy and Poor Law in England. His sympathetic view of the famine stricken is evident in the following extract:

¹¹⁰ Ibid.

¹¹¹ *IFRF* Ch. 5, p. 4. It is of course difficult to measure the effects of these day nurseries on the widespread suffering in the absence of exact numbers and more information.

¹¹² *IFRF* Ch. 5, p. 4. (Note that Teynampet is the modern name; while Cornish spelt it as Teynampett).

Cornish wrote to William Digby, the Chairman of the fund in October 1877, stating that ‘A great deal too much is said about the readiness of the poor to sponge on the bounty of Government, or private charity. Half the tales on this subject are untrue and the other half garbled or exaggerated’. ¹¹³ Remarking on the generous nature of the people despite their being starved, he continued:

Exceptional cases have been known, but the general experience of the Teynampett nursery, and I imagine of others, is that mothers, aunts, grandmothers or neighbours will bring children up to be fed, and though in want themselves, will never express by word or sign a desire to share in the help they know is meant only for young children. Big boys will bring little boys, and though lank and hungry, and casting longing eyes on the food, are only intent on seeing their charges get their allotted ration. For the past six weeks, a little girl of ten or eleven has been bringing up two sickly children twice a day, nursing them with the tenderest care and never asking for a bite or a sip on her own account. She showed no signs of starvation until the last few days, when I noticed that she was beginning to go down, and I have asked the lady in charge of the nursery to bring her on the list of those to whom one good meal a day may mean the salvation of life. ¹¹⁴

Cornish’s influence on famine relief policy: The Madras Famine Code

The Famine Commission of 1880 recommended that famine codes be formulated and set in place to provide guidance to district civil officials in apprehending the early signs of famine. Provincial Famine Codes were intended to make the conduct of famine relief more in consonance with a set of guidelines that were roughly similar across different Provinces. At the same time, the civil administration of each Province or Presidency was required to modify the all- India guidelines in consonance with local conditions. ¹¹⁵ Cornish was a Member of the Legislative Council of Madras and his imprint appears quite clearly upon the earliest Madras Famine Code of 1883. The Madras Famine code based state intervention on moral, rather than financial principles. It began with a statement of state responsibility for human life:

¹¹³ The Madras Famine 1877, Weekly Statement dated October 20, 1877, *IFRF* Ch. 5, p. 1.

¹¹⁴ Ibid.

¹¹⁵ K. Suresh Singh, *The Famine Code: Context and Continuity*, pp. 141-161.

In conducting a famine campaign it must be laid down as a first principle that the object of state intervention is to save life and that all other considerations should be subordinated to this...it is the duty of the state to take steps to avert disastrous consequences to human life which must ensue if means of subsistence are not afforded to classes affected.¹¹⁶

More importantly, medical officers were to be explicitly responsible for laying down and inspecting nutritional standards of rations in relief works and camps. The Provincial Sanitary Commissioner was 'to inspect poor houses, relief camps and works hospitals; to report on the physical condition of inmates; general health management of affected population, and to test the adequacy of the rations prescribed for labourers and those who receive gratuitous relief'.¹¹⁷

The code also gave the medical profession primacy over civil officers in deciding questions of a 'sanitary' nature. In case of disputes of opinion between district civil officers in charge of a relief work, and the Medical Officer attached to the same, regarding sanitation or the health of people on the works, the civil or Public Works officer was authorized to refer the matter in dispute through Collector, to the Surgeon General. But pending the reference, he was 'bound to act in accordance with the medical officer's opinion'.¹¹⁸ (It seems likely that there were many civil officials who would have been only too glad to hand responsibility in this area to the Medical Officials).

¹¹⁶ Madras Famine Code, 1853, p.1.

¹¹⁷ Ibid. p. 30.

¹¹⁸ Ibid. p. 32.

Conclusion

Studies of state intervention in famine have until recently seen the state as a unified entity and famine policy as the product of the actions of this entity. Other authors, notably David Hall-Matthews, have argued that the colonial state was deeply hierarchical. Yet, it would appear that this hierarchy was extremely uneasy, and the divisions over the question of intervention could make for an extremely fragile structure of governance. Individual personalities personified these divisions as well as shaped the hierarchy itself. Indeed, Cornish's 'victory' in the debate over the Temple ration indicates that perhaps this hierarchy could be frequently disrupted. In the process, what emerged with regard to famine policy was the medicalization of starvation and famine-related disease and a degree of Provincial autonomy in matters of famine relief. In this case, however, medicalization can be said to have meant the triumph of what be termed a 'social' or a 'public health' model of famine and famine related disease, which resulted in a relatively humane Provincial famine policy.

William Robert Cornish was a significant historical figure during the famine in Madras during 1876-78. He played a key role in debates between the Imperial and Provincial Governments over the moral and scientific basis of intervention, and over famine policy as embodied in the Madras Famine Code. Cornish's prominence in the Madras administrative and medical context can be explained in terms of personal characteristics of industry, talent and professional ambition and a considerable amount of administrative and professional recognition of this talent. What also emerges is that Cornish was a master of bureaucratic politics between different levels of Government. This was an essential skill for an ambitious (and not too well-connected) officer.

In turn, tensions between the Provincial and Imperial Governments over state intervention provided the administrative and political background to Cornish's success in gaining professional recognition and popular support during the famine. Cornish's professional debates with other IMS men in the decade previous to the famine indicate that he saw social and economic well-being or the lack of it as an important causal factor in health and disease. This view of disease causation was complemented by a strong belief in a benevolent, scientific and rational state intervention, which constructed the Indian labourer as a subject of paternalistic medical and sociological inquiry.

Cornish's prominence during the famine was related primarily to his successful marshalling of written scientific evidence against the 'Temple ration'. Due to Cornish's skill, the ration quickly became a symbol of misguided Imperial famine policy, winning for Cornish both professional as well as administrative support. Professional recognition of Cornish's abilities came from a variety of medical men, and related primarily to his use of vital statistics and his observation of physiological characteristics of starvation amongst the famine stricken poor of the Presidency. More importantly, Cornish's objections to Temple can be seen as exemplifying contests between non-medical administrators and medical men over firstly, the scientific status of nutritional theories, and secondly, over the uses of medical science in formulating administrative policies pertaining to the general population. At the same time, Cornish's 'victory' in the debate was largely due to popular and administrative support within Madras and within the Indian medical profession for the idea that the wage was the main cause of increased mortality. Some of Cornish's arguments were

not borne out by the future course of events. In terms of mortality, in fact, between January and April 1877, the period during which the Temple wage was tried, the death ratio fell below its levels in December 1876 and May 1877. (See Chapter 4 for a table of monthly mortality per thousand population). It is also likely that the wage was not uniformly adhered to in all relief works and camps.

Yet, this does not detract from Cornish's significance for Provincial famine relief policy in Madras. In the following chapters we will move on to examine his use of vital statistics and physiological observations to discuss in greater detail their political and medical significance for official famine policy.

Chapter 3 Vital Statistics, Famine Policy, Colonial Medicine and the State

I. Introduction

“The question of the mortality from famine is still left very much in the same doubtful state as before..... the mortality arose partly from sickness extending not only throughout the year 1877, but throughout the two previous years 1875 and 1876. The mortality arising from the famine itself cannot be exactly estimated.”

(Extracts from Proceedings of the Government of India, Famine Department, dated Simla, 8th June 1878, No. 1299).

“It is impossible to say how far cholera, fever or many other ailments may have been influenced by the sufferings of famine... through all the affected districts.”

(Extracts from letter from J.H. Garstin, Esq., Additional Secretary to Government of Madras (Famine) to the Additional Secretary to Government of India, Public Works Department (Famine), (No. 1257), dated Ootcamund, 1st June 1878.)

Vital registration was begun in the mid- 1860s in all the Provinces of British India as part of the extension of state medicine to a wider section of the civilian population. The registration of deaths at a village and town level was begun in 1866, and the registration of births in 1868. These registers formed the admittedly shaky foundation of colonial public health policies.¹ Yet, except for brief references, vital statistics have not been examined in debates about colonial medicine or the medical profession, or with reference to their place within the larger historiography about statistical knowledge, its generation, compilation and use in colonial India.

Historians have looked at vital registration and population enumeration in different ways. Historical demographers have used them in order to demonstrate patterns of life, death, health and disease among historical populations. Despite using them as source data however, most modern demographers have been aware of the deep

¹ Harrison, *Public Health in British India*, p. 82.

inaccuracies of the statistics. They have attempted to take into account the alleged inaccuracy of registration by quantifying margins of error; or discount it altogether by studying some of the Provinces or regions believed to have more complete registration.²

Others have seen statistics as part of a body of colonial knowledge, embodying direct attempts to know, mould, control and govern subject populations. This school of thought has been particularly influential, and has inspired several debates in South Asian history.³ It would appear that we can divide the historiography into three categories: pessimists, sceptics and optimists.⁴ First, there appear the pessimists: those who argue that the Imperial quest for knowledge and information about Indians was linked to the extension of control and domination of Indian society, which had far-reaching consequences for the success of an imperial project of control and domination, and for social differentiation in post-colonial India. In 1996, Bernard Cohn counted vital registration and population enumeration as amongst the 'investigative modalities of colonial rule', which sought to know and understand India and Indians in order to make possible the cultural and political domination of India by Europeans.⁵ Cohn drew on a

² See for example, T. Dyson, 'India's Historical Demography: Developments and Prospects' (pp. 1-15) and 'The Historical Demography of Berar 1881-1980' (150-196) in idem., *India's Historical Demography: Studies in Famine, Disease and Society*, 1989 idem., 'On the Demography of South Asian Famines Part I', p. 7; A. Maharatna, 'The Demography of Famines: An Indian Historical Perspective', Oxford, 1996; and T. Dyson and C. O'Grada, *Famine Demography*, Oxford, 2002.

³ On the use of statistics in England generally since the 18th century, see Headrick, *When Information Came of Age*, op. cit.

⁴ This categorization is admittedly inspired by David Washbrook's classification of views on the impact of commercialization on small farmers in South India ('The Commercialization of Agriculture in Colonial India', op. cit.)

⁵ Cohn defined an investigative modality as 'knowledge (that) enabled the British to classify, categorize and bound the vast social world that was India so that it could be controlled'. B. S. Cohn, *Colonialism and Its Forms of Knowledge: The British in India*, Princeton, 1996, pp. 5-6. An investigative modality, according to him, 'included the definition of a body of information that is needed, the procedures by which appropriate knowledge is gathered, its ordering and classification, and then how it is transformed into usable forms such as published reports, statistical returns, histories, gazetteers, legal codes and encyclopaedias'. Most investigative modalities were constructed in relation to institutions and administrative sites with fixed routines; some were transformed into 'sciences' and their practitioners

Foucauldian and Saidian framework which saw European knowledge about India as exoticizing and constructing the country as part of the technologies of dominance and hegemony. Others such as Ronald Inden, Arjun Appadurai and Nick Dirks, argued that colonial knowledge about India was not only part of a desire to know in order to govern, but was internalized by Indians and shaped Indian identity.⁶ In this, both Cohn and Appadurai saw the all-India censuses from 1871 onwards (but particularly after 1901) as embodying an Imperial attempt to construct social categories which ordered and constructed Indians according to the essentialized category of caste.⁷ The decennial censuses were the culmination of a process of quantification, enumeration and classification that had begun from the 1840's, whose objectives were to render Indian society knowable to the colonial state in order to dominate and control it. An important part of the argument constructed was that the information networks established by British Imperialism not only endured in post-colonial India, but crucially shaped the self-image and social divisions within Indian society in the twentieth century.

Then, we encounter the 'sceptics', epitomized by the work of Christopher Bayly.⁸ Bayly's work on the colonial 'information order' highlighted a number of issues in regard to the working of the colonial state and its links with power/ knowledge. Bayly's first point was that the colonial information order borrowed heavily from the Mughal state both in its classificatory schemes (especially with regard to land assessment and revenue)

became professionals. Cohn also hypothesized that what was entailed in the construction of the census operations was the creation of social categories by which India was ordered for administrative purposes.

⁶ R.B. Inden, *Imagining India*, Oxford, 1990.

⁷ Here it is pertinent to note to differences between these authors in the way in which they see the colonial knowledge as constructing Indian sociological reality. While Inden and Dirks take the extreme view that colonial knowledge invented caste, in a sense, Appadurai is prepared to grant some amount of objective reality to caste as an institution.

⁸ C. A. Bayly, *Empire and Information: Intelligence Gathering and Social Communication in India, 1780-1870*, Cambridge, 1996.

as well as in its informal networks of spies and informants. In that sense, he emphasized a thread of historical continuity which questioned claims of the ingenuity of colonial rule and its connections with previous and succeeding regimes. Secondly, although European desire to know Indian society was motivated by a desire for control and dominance, the completeness of European knowledge about India was undermined at critical points, most notably the 1857 Revolt.⁹ Thus, the colonial information order was aimed at mastering knowledge about India for the purpose of control and domination. Yet, the knowledge gained thus was incomplete and inadequate for the purposes of military or political control. Nevertheless, the changes that swept colonial administration in the 1830's and 1840's, had, according to Bayly, important consequences for the information order in colonial India. Bayly suggests that these changes- the movement towards statistical surveys away from human intelligence and the rapid diffusion of print media into north Indian society- were responded to by the 'Indian ecumene' with speed, flexibility and discretion, and thus were critical factors in shaping the growth of a new native intelligentsia.¹⁰ The British quest for 'useful knowledge' quickly gained popularity among native Indians. At the same time, the contradictory policies of economic stringency and gaining knowledge crippled the state's information gathering apparatus. Bayly also suggests that in the north Indian context, statistical information collected from 1857 onwards proved of little value in predicting popular sentiment or political events.¹¹ The new statistical movement in administration was, as Bayly points out, also very uneven in the depth of its local detail. Bayly concluded that the new information order was intended to transform the nature of the hybrid Anglo-Indian government inherited

⁹ Bayly, *Empire and Information*, p. 221.

¹⁰ Ibid, p. 212.

¹¹ Ibid, p. 220-21.

from the days of Warren Hastings by enforcing and introducing the new concept of 'useful knowledge'. However, its scope eventually stretched far beyond this Orientalist discourse, reflecting a much wider change in the international division of labour and knowledge. Further, the shift to a more routinized, abstract type of information that the statistical movement provided within administrative circles was the undoing of the colonial regime in 1857, as it gave rise to a number of sectarian influences amongst Indian society.¹² Although Bayly's work ended at 1857, he suggested that post 1860, the successful mastery of indigenous information networks, and a bureaucratic obsession with numerical, statistical and administrative information, were responses to insecurity regarding the basis of military dominance as the underpinning of colonial governance.¹³ At the same time, British knowledge about India had, by the 1870's, become more static and less in touch, so to speak, with Indian political currents than a century before.

Finally, another perspective-representing the 'optimists' - is provided by Christopher Guilmoto, who argues that the beginning of the census in 1871 represented 'a step forward in terms of a broader process of democratisation and individualisation of political control'. Guilmoto further argues that 'the census was an expression of a larger concern of the state to intervene in the well-being of its people'.¹⁴ This view seems overly optimistic in its assessment both of colonial objectives and of indigenous responses to the

¹² Ibid, p.246.

¹³ Ibid.

¹⁴ C. Guilmoto, 'The Sircar's Idle Curiosity: Critical Evaluation of Tamil Nadu's Demographic Sources 1871- 1981', MIDS Working Paper No. 85, Madras Institute of Development Studies, 1988, pp. 5-7.

census, although some other authors have also seen the census as a tool of social mobility.¹⁵

The works of Cohn, Bayly and Guilmoto can in some sense be seen as representing points on a historiographical spectrum, representing positions characteristic of different schools of thought among historians of south Asia, namely a 'subaltern studies' perspective, a 'Cambridge school' perspective and what can-admittedly somewhat cruelly- be termed as an apologist's view.¹⁶ Other scholars have developed the basic arguments advanced by them regarding the connections between knowledge, information networks and imperial control; the role played by indigenous people in shaping and using this information, and the implications that this has for understanding the interaction between 'the colonial state', 'Indian society' and knowledge/information. For example, scholars such as Ronald Inden, Arjun Appadurai and Nick Dirks, argued, developing the subaltern perspective, that colonial knowledge about India was not only part of a desire to know in order to govern, but was internalized by Indians and shaped Indian identity.¹⁷ In this, both Dirks and Appadurai saw the all-India censuses from 1871 onwards (but particularly after 1901) as embodying an Imperial attempt to construct social categories which ordered and constructed Indians according to the essentialized category of caste.¹⁸ The decennial censuses were the culmination of a process of

¹⁵ For example, see M.N. Srinivas, *Caste in Modern India and Other Essays*, 1978 (4th reprint).

¹⁶ These are, as reiterated in the Introduction, labels which encompass a wide and subtle range of scholarship, and do them only partial justice. See 'Introduction: Colonial Transitions and Indian Historiography' in S. Subrahmanyam (ed.) *Land, Politics and Trade in South Asia*, New Delhi, 2004. An older review is presented by D. Washbrook, 'Progress and Problems: South Asian Economic and Social History, c. 1720-1860', *MAS*, 22, 1 (1988): 57-96.

¹⁷ R.B. Inden, *Imagining India*, Oxford, 1990.

¹⁸ Here it is pertinent to note to differences between these authors in the way in which they see the colonial knowledge as constructing Indian sociological reality. While Inden and Dirks take the extreme view that colonial knowledge invented caste, in a sense, Appadurai is prepared to grant some amount of objective reality to caste as an institution.

quantification, enumeration and classification that had begun from the 1840's, whose objectives were to render Indian society knowable to the colonial state in order to dominate and control it. An important part of the argument constructed was that the information networks established by British imperialism not only endured in post-colonial India, but crucially shaped the self-image and social divisions within Indian society in the twentieth century.

Appadurai takes on Christopher Bayly by arguing that rather than analytically separating 'exotic' colonial knowledge and routinized, numerical colonial knowledge, one should see exoticization and enumeration as complex strands of a single colonial project. This project used numerical and statistical information in two ways: *justificatory* and *disciplinary*. The justificatory dimension referred to nested struggles between different levels of the state, where numbers were the fuel for internal debates about plausibility and relevance of various classifications and numbers attached to them. Yet, colonial numbers also had a disciplinary aspect, in that they were the means for disciplining vast numbers of subordinate officials by enforcing European conceptions of accuracy on them.¹⁹ The 'disciplinary' aspect is also taken up by Richard Smith, who argues that the introduction of official statistics in Punjab was an important element in the systematization of land revenue and that the land record produced by the subordinate native official was an important means of control of this selfsame official by superior

¹⁹ A. Appadurai, 'Number in the Colonial Imagination', in C.A. Breckenridge and P. van der Veer, *Orientalism and the Postcolonial Predicament: Perspectives on South Asia*, Philadelphia, 1993.

district officials. A strict control of the information produced by these officials freed the European Collector for the more important task of governance.²⁰

An essay by John Roselli provides a counter-perspective to Smith's argument.

Both Smith and Rosselli deal with the links between the structure of power in the colonial bureaucracy in the second third of the nineteenth century; and the information on land tenures produced by this bureaucracy. However, instead of Smith's view that systematization was a means of 'disciplining' the native village servant, Rosselli argues that the European official in the Western Provinces (later the NWP) was dependent on native village officials for information on records of land rights in the absence of means to attain a scientific precision.²¹ Thus, systematization- or the attempt to systematize- was a response to the insecurity felt by the European bureaucrat. Rosselli thus suggests that in fact Imperial control was a myth; and the contribution of Imperial knowledge to such control was of doubtful or even harmful value.

Finally, some recent work on official information supplements this view of the essential ambiguity and weakness of state information systems as a means to dominance and hegemony of a subject population. Sanjoy Bhattacharya has argued, in his analysis of the use of official information in wartime Bengal during 1939-45, that the colonial state was a complex structure involving interaction between Indian and European officials that was not just 'collusion' or 'collaboration' on the part of the former, but actively shaped administrative structures and political outcomes. While Bhattacharya does not endorse

²⁰ R.S. Smith, 'Rule- by- records and rule- by- reports: complementary aspects of the British Imperial rule of law', op. cit

²¹ John Rosselli, 'Theory and Practice in North India: the Background to the Land "Settlement" of 1833', *IESHR*, VIII, 2, (1971): 134-165.

the 'colonial project' view of the Subaltern studies school, he also suggests that the role of the 'native informant', emphasized by Bayly, was less autonomous than a pure 'Cambridge School' perspective would permit. Bhattacharya argues that 'the colonial state' cannot be seen as analytically separate from its district and village networks where Indians were actively involved, and that most previous analyses have dwelt on the Province and the Imperial Government as the unit of analysis. He suggests that despite official control over the use of wartime propaganda, what constituted propaganda was never clearly defined and there existed considerable ambiguity at different levels of the state in this regard. Despite his emphasis on lower levels of bureaucracy, however, Bhattacharya suggests that the 'native' informant was not always an autonomous or freely operating agent.²²

This chapter seeks to evaluate each of these claims and look at the connection between Imperial dominance, control and information in the specific context of the way in which a particular type of official information- vital statistics and population enumeration- were viewed and used by policymakers during the famine of 1876-78. Were vital statistics 'investigative modalities' of imperial control; or the means by which the medical profession extended its hold over the Indian population? To what extent did these attempts to obtain information represent an Imperial or a colonial project; to what extent did they succeed in their objectives; and what, if any, influence did these efforts have on long term trends in governance and state policy? Finally, can we theorize something about the historical role of famines: did events or trends during famine situations reflect

²² S. Bhattacharya, *Propaganda and Information in Eastern India 1939-45: A Necessary Weapon of War*, Surrey, 2001.

or magnify longer-term processes or were famines unusual, catastrophic historical movers in themselves?²³

II. Vital Registration and Population Counts before 1876

As Bayly has noted, the enumeration of populations was a part of Indian statesmanship from the earliest available historical periods.²⁴ However, the form and the purposes of enumeration varied according to the needs of individual regimes; and the collection of demographic information in the form that we know it today related to the particular needs and classificatory schemes of the colonial state.²⁵

Enumeration and Vital Statistics in Madras 1822 to 1860

The mid- nineteenth century saw the beginnings of state medicine and some impetus to the registration of births and deaths. Prior to this, there had been irregular attempts at counting the numbers of people in the Madras Presidency. Censuses had been conducted by the Government of Madras of different areas within the Presidency since 1822. These attempts were linked to settling the land and estimating the amount of revenue payable to the Government under the *ryotwari* system; and also to evaluating the condition of the agricultural population. In particular, the census of 1838 in four districts seems to have been motivated by the desire to gauge the loss of population during the famine of 1832-33.²⁶ However, these surveys were limited to particular districts and were far from comprehensive in their coverage.²⁷

²³ In other words, we seek to explore the relationship between event/crisis and process (Cf. Arnold, *Famine*, p. 6).

²⁴ Bayly, *Empire and Information*, pp.10-54.

²⁵ Cf. Appadurai, 'Number in the Colonial Imagination', op. cit.

²⁶ 'The Influence of Famine on Population Growth', Appendix to *SCR 1878*, Madras, 1879, p. lxxx.

²⁷ Guilmoto, 'The Sircar's Idle Curiosity', pp. 12-13.

Vital Registration 1864- 1875

A regular system of reporting births and deaths (vital events)- rather than absolute population figures alone- on a monthly basis had been instated in Madras Presidency from 1864, when the Sanitary Commissions were set up in each Presidency. This echoed developments in England, where from 1837, institutional arrangements for state medicine led to a regular system of reporting vital events to local state authorities. The British sanitary movement placed great emphasis on mortality rates as measures of the success of state intervention.²⁸ The beginning of vital registration in India was also directly linked to concerns about the state of military health and miasmatic theories of disease causation. Filth was seen as a direct cause of disease and death, and state involvement in cleansing environments as a necessary measure for the prevention of disease.

In 1859, the Royal Commission on the Sanitary State of the Army in India proclaimed the need for a public health service, and stated that military health could not be improved without taking into account civilian health to some extent.²⁹ The improvement of civilian and military health was seen as depending on two things- firstly, extensive state-sponsored 'sanitary improvements'- comprising of a host of measures intended to cleanse Indian towns and villages of filth and including drainage systems in Madras, Bombay and Calcutta, the provision of piped water supplies, the clearance of roads and bridges- and secondly, a system for the accurate registration of deaths and

²⁸ On the use of statistics in Victorian public health, see G. Rosen, *A History of Public Health*, Johns Hopkins University Press, Baltimore, 1958, Ch. VI; Eyler, 'Mortality Statistics and Victorian Health Policy: Program and Criticism', op. cit.

²⁹ The Report of the Royal Commission declared that 'While diminution of mortality in the army and improvement of its sanitary state was the primary objective of the Government., still the full improvement of its sanitary state could not be brought about by measures directed solely to the amelioration of the sanitary condition of the soldier as such', and that 'the interests of the community at large were as much concerned as those of the army; every step wisely taken towards the improvement of the public health being a step towards better civilisation and better Government'. (*Report on Sanitary Improvements in India*, IOR/ V/24/3675).

births so as to measure the influence of these improvements on the health of the civilian and military populations.³⁰ At a Provincial level, the Report of the Royal Commission led to the setting up of Sanitary Commissions in each Presidency in 1864 to look after the health of the general population and to inspect the works set up by the revenue and the military authorities, and to scrutinize returns of vital statistics sent by the collectors of districts.

Vital registration was intended, then, to be the basis of official attempts to improve military health by cleansing Indian towns and villages, and in this sense reflected Imperial priorities. The business of registering deaths was entrusted to existing administrative agencies at various levels of the colonial state. At a district and village level, the registration of deaths was delegated to the existing official agency set up for the collection of land revenue. In the Madras Presidency, where two thirds of the land was under *ryotwari* tenure, the agency was the village administration that had been set up in the first decades of the nineteenth century under the *ryotwari* system.³¹ This consisted of the village headman or *patel*, the accountant or *karnam*, who collected and recorded the revenue received at each harvest, and the *munsiff* or watchman.³² They were intrinsic to the system of benevolent despotism envisaged by Col. Munro and Read who settled Madras in the first decades of the nineteenth century. Under this system, it was assumed that the village officers responsible for settling the annual revenue would have the most

³⁰ Ibid.

³¹ In the *zamindari* areas such as the Shivaganga estate in Ramnad district and the Venkatagiri *zamindari* in North Arcot, the *zamindar's* agents collected the returns. These returns from *Zamindari* estates were notoriously inaccurate.

³² The '*karnam*' was called '*kanakapillai*' in some areas. In some of the quotes used in this chapter, '*karnam*' was spelt '*curnam*' in the original sources. In these quotes, the original spelling is retained.

intimate knowledge of daily events in the lives of the people of their village.³³ These officials were technically the servants of the village, and therefore of the people as well as the Government.³⁴ From 1866 onwards, these officials were expected to record deaths as they occurred in their villages, and forward a monthly statement of deaths through the *tahsildar* to the district Collector. At a district level, a mortuary clerk in the office of the Collector compiled the mortuary returns from each village in the district, which were then forwarded to the Sanitary Commissioner with the Government of Madras, who compiled them in the form of an Annual Report. From 1866 onwards, there was a statistical assistant in the office of the Sanitary Commissioner who tabulated the district returns.

Questions of Completeness, Reliability and Accuracy

Right from the inception of registration in 1866 till well into the 1880's, Provincial and district officials raised doubts as to the veracity of the death statistics. The perceived sources of error were of three kinds: firstly, the completeness of coverage; secondly, the reliability of the statistics, and thirdly, the categorization of disease and of age. With regard to the completeness of coverage, the anxiety related to whether every death was brought to the attention of the village or the town mortuary official by the people. Some villages comprised scattered hamlets over huge areas, and revenue officials sometimes depended on second-hand information regarding deaths and births. Moreover, within some districts, particularly North Arcot, Nellore, Ganjam, and Kistna, large portions of land were under *Zamindari* tenure. In the *Zamindari* areas, the village

³³ Nilmani Mukherjee also asserts that 'there was scarcely a single fraud of any kind which could be committed in a village either against the *Sircar* or the poorer *ryots* without the *Karnam* either being acquainted with it or taking active part in it'. (*The Ryotwari System in Madras*, p. 250.) According to Mukherjee, the dishonesty and falsity of the *Karnam*'s accounts were legendary amongst European district Collectors.

³⁴ Mukherjee, *The Ryotwari System*, p. 249.

officials were further removed from the agency of the district and Provincial administration by the interposition of the *Zamindar*. Here, the state was even more insecure than in the *ryotwari* areas about its ability to penetrate Indian society and social organization.³⁵ Even in Madras town, the Sanitary Commissioner of Madras complained of the inaccuracy of returns as follows:

The Mortuary Establishment attached to the Office of the Sanitary Commissioner, consists of one head writer and two clerks, with six men employed in collecting the reports of deaths as they occur in the different Police Divisions, and who bear the official designation of Mortuary Conicopies (*kanakapillais*) or Accountants. The system which they adopt is as follows: Each Mortuary Accountant makes a daily visit to the different Christian, Mahommedan and Hindu burial grounds lying within the division of which he is in charge. The *Vettyan* (grave digger or the burner of bodies) gives them, or more accurately, is supposed to give them numbers of persons who have been interred or burnt the day previous, with as much information as he possesses concerning the age, sex, occupation and cause of death of the deceased. It often happens that the *Vettyan*, who was on duty the day previous, is absent at the time of the Mortuary Accountant's visit; the information is then obtained second hand from some person who has been left in charge of the ground. If the *Vettyan* is unable to give the particulars connected with the deaths among Hindoos on the day following interment, he obtains it from the friends of the deceased on a subsequent day (the second or third after the actual burial or burning) of the funeral ceremony known as the 'Milk Day'. The *Vettyan*, it must here be mentioned, keeps no record or book of any sort, all the information he gives is from memory. After visiting the burial grounds, the next thing the Mortuary Accountant does is attempt to verify the statements of the *Vettyan* by the best means in his power. These are but limited. He first visits the Police Tannah (*thana*) nearest to the burial ground, and past which the funeral procession proceeds, where by an arrangement between the Mortuary Accountant and the Police, the relatives of the deceased deposit a writing, containing particulars concerning the deaths. In some instances, a pencil and slate or *cadjan* leaf is left at the tannah, upon which the friends record the information required for the Mortuary Register. If the particulars concerning the deaths of individuals agree with what the *Vettyan* has told the Mortuary Accountants, they are satisfied without further enquiry; but if discrepancies arise, they go to the house of the deceased for further information. Great difficulties occur in making this inquiry. The relations of the deceased very frequently refuse to give any information, and abuse the Mortuary Accountants. These attempts to check the info obtained on burial grounds is obviously...most unsatisfactory, and presuming that the original information obtained by the *Vettyans* is...untrustworthy, it cannot be doubted that many errors are of constant occurrence among the entries made in the Mortuary Register.³⁶

³⁵ SCR 1870, IOR/V/24/3681.

³⁶ SCR 1866, IOR/V/24/3680, p. 161-2.

Secondly, the relationship of the death registers to the actual occurrence of deaths was also doubted. Town and district officials were often unsure about whether the figures entered referred to actual deaths, or whether a subordinate simply made a guess and entered in an arbitrary figure. As a district official proclaimed with disgust over a proposal to make compulsory the registration of births and deaths in 1867:

The Collectors and their subordinates are already overburdened. This is an age of vital statistics, social statistics, agricultural statistics and statistics generally. The Collector gets an order; he sends it to the *tahsildars*, who send it to the villagers. Here it is regarded with the greatest suspicion and disgust; but the orders of superiors being emergent, the *Curnam* fills in the paper at a guess and sends it back. The returns of different villages are condensed in the *talook*; those of the *talook* in the Collector's office, and those of the 19 Collectors in the office of the Board of Revenue. How trustworthy the result is (can be guessed from the following): the last quinquennial return showed a decrease of some 1 million ploughing cattle while cultivation in every district had increased 20%....All these statistics are based on estimates only; there is nothing accurate about them. I would not have them dropped, as they accustom people to the sort of thing; but until education has multiplied a hundredfold and the law of division of labour has acted more generally, things will remain the same. The village *Munsiff*...is an utter barbarian...the village *Curnam* is for the present purpose but little better. He can read and write and cipher, but in general intelligence is scarcely more advanced. Such are the twin office bearers of a Madras parish; the manipulators of our statistics and the instruments for the introduction of our reforms.³⁷

There seemed to be no way to supervise or check the returns with regard to the veracity of deaths. At the same time, the agency was deemed to be the most suitable for the registration of deaths due to its intimate involvement with the daily lives of people.

Finally, the deepest doubts related to the categorization of diseases employed in the death returns; and the accuracy of data on age in relation to corresponding age in England. With regard to disease categories, the system of classification in force was that adopted by the Statistical Congress in Vienna in 1862.³⁸ The most common sources of confusion were

³⁷ Letter From D. F. Carmichael, Coll. Vizagapatam to Secretary to Board of Revenue, dated 13th March 1867 No. 102, Proceedings of the Madras Board of Revenue dated 27th March 1867, IOR/ P/440/36.

³⁸ *SCR 1866*, p. 162.

between various types of fevers and bowel complaints, and the confusion often arose not only at the village level. Apart from the common observation that village officials often could not distinguish between the many types of fevers in the classificatory schedules, there were also disagreements at all levels of Government between civil and medical officials over the nature and aetiology of bowel diseases and their relationship to cholera. Cholera itself was a source of concern for European Governments and a puzzle for medical officials in India and in Europe, and fevers were classified in a number of ways, making the distinction of particular types of disease difficult. (See Chapter 4 for a fuller discussion of difficulties in classification.) With regard to age, the returns were regarded as extremely inaccurate throughout this period.³⁹

The counting of births and deaths thus relied heavily on what was seen at a Provincial level as unaccountable native agency. The hereditary (and permanent) nature of village offices under the *ryotwari* system was a source of dissatisfaction to those who would make the village officials accountable to the Provincial and district administration. Yet, it was believed that to make drastic changes in administrative practice in order to achieve accuracy in vital statistics- seen as but an inferior function of these village officials- was hardly worth the effort. This is seen from the following evidence.

In 1867, the Madras Board of Revenue asked all district Collectors to give their opinions on the collection and submission of mortuary returns being made compulsory, on legislation to make the *Munsiff* (the village watchman) responsible for the registration of births, deaths and marriages; and to make the offices of the *Karnam* (the village

³⁹ See Guilmoto, 'The Sircar's Idle Curiosity', pp. 30-46, on inaccurate age returns.

accountant) and *Munsiff* impeachable instead of hereditary. (When Munro and Read settled Madras in the early 1800's, they had acted on the principle that the village officials constituted honourable and hereditary forms of local social organization which it was desirable to continue. Thus the office was passed from father to son within a village and it was not legally possible to remove the incumbent).⁴⁰

The abovementioned suggestion to make the posts of village officials impeachable and legally accountable for the collection, recording and submission of vital events had been made by the agent and manager of the Shivaganga *Zamindari* in Ramnad district. This gentleman believed that this would make the registration more accurate. The responses received from several districts were not in favour of the change because it was believed that such measures would endanger the control of the Provincial Government over the *ryotwari* areas. Clearly, the dependence of the Provincial Government on the local influence of these officials was far too great to permit of reforms intended for more 'scientific' administration and sanitary activity on the part of the state. For example, D. F. Carmichael, the Collector of the Vizagapatam district wrote:

Death registering is no part of a *Curnam*'s duties. The office of *Curnam* is of the utmost importance to the property and rights of a people. Mr. Fischer desires the power of dealing with them summarily, destroying their independence and reducing the tenure of an ancient, honourable and hereditary post to that of a ten- rupee copyist.⁴¹

The same writer was also sceptical of the tenor of the reforms proposed

⁴⁰ Washbrook, *The Emergence of Provincial Politics*, pp. 149-150. Washbrook however makes the point that the *karnam* acted in consonance with the *patel* or headman (p. 148), and that from the 1850s, it was the village headman who was a real source of local power, as Fort St. George began to attack 'administrative cliquism'. (Note also that in some villages, the village watchman or *munsiff* doubled as the headman.)

⁴¹ Proceedings of the Madras Board of Revenue 1867 dated 27th March 1867, No. 1934: Letter From D. F. Carmichael, Coll. Vizagapatam to Secretary to Board of Revenue, dated 13th March 1867 No. 102, IOR/P/440/36.

Proceeding in the same revolutionary strain, our Projector, passing over these truculent *Curnams* (often the only people in a village who can read and write), is for setting up the Village *Munsiff* as a kind of Deputy Accountant. 'Let the registration of deaths, marriages and births be rendered compulsory, and immediately as these "domestic occurrences" happen in a village, let the *Munsiff at once* report the fact to the Magistrate, European or Native, within whose jurisdiction he resides, mentioning any particulars he thinks important. These reports are to be condensed in the District Collector's office and then the statistics which all these reports will furnish might be collected by the Head of the Medical Department, who might be appointed registrar General and a monthly report be submitted to Government and published in an official Gazette in the same way as is now done in England. (Our Projector) is also in favour of a comprehensive Sanitation Act.

Those who urge that everything English should be introduced into this country (should) consider not only the obvious differences in the scale of civilization between the two countries but also inquire by what machinery and at what cost to the taxpayer any given system in England is worked.....(Can Mr. Fischer) tell us that the English Registration Act (1836), the Nuisances Removal Act (1855), the Diseases Prevention Act (1855)- found feasible in 10,000 parishes of wealthy, civilized and densely populated England is likely to prove equally so in 100,000 villages and hamlets of a territory like Madras? ⁴²

District officials were against pressurizing village officials to render accurate statistics, either of revenue or of vital events, because it was feared that such pressure would further threaten the delicate control of the Provincial Government of the workings of land revenue and rural South Indian society. Inaccurate data, it was believed, was a small price to pay for this delicate control. Despite doubts about the accuracy of the registration data, however, this data began to be used by Provincial and Imperial sanitary officials through the 1860's and 1870's in debating both the causes of disease and various public health schemes to be undertaken by the state. Vital statistics formed the basis of the sanitary activities undertaken from 1866 onwards. As the Sanitary Commissioner of Madras noted in 1867, 'although imperfect, a very fair approximation of the prevailing mortality is obtainable from the Returns collected, which are submitted to Government each year in the form of an Annual Report.'⁴³

⁴² Ibid.

⁴³ *SCR 1866*, p. 161.

III. Debates on state responsibility during the famine of 1876-78

During the famine of 1876-78, the accuracy of vital statistics became a central bone of contention between the Governments of India and Madras and their respective Sanitary Commissioners. As discussed in the foregoing chapter, William Robert Cornish played a key role in debates about timely and adequate state relief. What is more pertinent to this chapter, however, is that excess mortality as recorded in the death statistics was central to Cornish's argument; as was a theory of disease causation which saw chronic hunger as the root cause of much of this excess mortality. For Cornish, the accuracy of the rural death statistics was a principal feature of his argument for state intervention to prevent famine mortality.

Cornish used vital statistics to argue for more liberal and timely state intervention in food crises. In the previous chapter, we have argued that personal qualities and professional considerations are important in understanding his significant public role during 1877 and 1878. Here we delve in greater depth into his arguments regarding the use of vital statistics to trace a theory of causation with regard to the great mortality of those years.

Firstly, Cornish demonstrated in his reports to the Madras Government that mortality rates were greatly elevated and birth rates greatly depressed during the famine months of 1877 and 1878 in comparison with their monthly levels over a five year mean. (See Appendix 3.1: Causes of Death 1877) .Secondly, in his annual reports for 1877 and 1878, Cornish drew a series of graphs showing the close connection between the rise in

mortality rates, the decline in the birth rate and a rise in food prices in ten districts from which distress was reported. These graphs implicated high food prices- and thereby a lack of food - in the causation of the elevated mortality and depressed fecundity and fertility of these years. (See Appendix 3.2.)

In showing the effects of chronic starvation on rural mortality rates, Cornish categorized the individual districts of the Presidency into three types: first, those where district administrators had reported agrarian distress, migration and starvation in 1876 (the early famine districts); secondly, those in which distress began to be reported in 1877 (late famine districts), and thirdly, those in which distress was reported amongst starving migrants but not amongst the resident populations (non-famine districts).⁴⁴ The mortality rates for all registered causes of death were much higher in the first two categories than in the third category. (See Appendix 3.1.)

Cornish stated that starvation was difficult to detect, and easy to mis-classify in the death statistics. However, people died in greatly increased proportions from ordinary diseases, such as cholera, smallpox, fever and bowel complaints in the famine districts.⁴⁵ Clearly, this implicated lack of food and inadequate state relief as a primary cause of epidemic mortality in these districts, although social and environmental factors connected with famine migration and relief measures also played some role in exacerbating mortality. Moreover, Temple had declared in March 1877 that 'starvation was successfully

⁴⁴ It is important to note that these distinctions might not have been completely accurate. The Government of Madras in its famine census made a different set of distinctions.

⁴⁵ *SCR 1877*, pp. 74-75.

combated' all over the Presidency.⁴⁶ Cornish's declarations thus caused Lytton and Salisbury much embarrassment, because they pointed to the existence of much excess mortality, which was directly linked to famine conditions, the existence of which Temple had gone to great lengths to deny.

Finally- and this was the point where he came most into conflict with Temple and the Government of India- deaths from famine often occurred despite the ability of the state to prevent them. They occurred because state sponsored relief was not given early enough or in large enough quantities to prevent the slow degeneration of people beyond the point of salvation. In his annual report for 1877, Cornish wrote that ' Scientific and practical experience in regard to the food and dietaries of Indian populations (were) almost wholly opposed to the policy endorsed by the Government of India for famine relief....a very sad experience of the effects of inadequate food is now before Government'.⁴⁷

Cornish's analysis of rural vital statistics thus was a sharp and articulate critique of Imperial famine policy and incorporated what can arguably be called a 'starvation/ social' model rather than a 'health crisis/ disease' model of famine mortality.⁴⁸ This argument was that epidemic disease followed upon starvation, which was the root cause of increased mortality in 1877, a famine year. Increased mortality in a year of famine

⁴⁶ Letter No. 219, dated 21st February 1877, from the Additional Secretary Government of India to the Secretary, Government of Madras, Famine Correspondence 3, IOR/V/4/Session 1877/ Vol. 65.

⁴⁷ *SCR 1877*, p. 227. The prevalence of 'chronic starvation' and its irreversible effects once a certain stage was past was a prominent aspect of Cornish's discussion of the physical condition of famine labourers. (See Chapter 4 for more details).

⁴⁸ See Chapter 4 for further explanation of these terms.

was in turn a crisis that was preventable by state intervention through the provision of adequate wages for work, and some amount of gratuitous relief at an early stage in the distress.

One of the central aspects of Cornish's assessment of the effect of famine on mortality rates was that famine as a crisis itself seriously disrupted the vital registration system at the village and town level. He argued that all evidence pointed to the fact that during the months of high food prices, village servants, whose incomes were in part derived from land revenues and land itself, themselves became destitute and dependent on state sponsored relief. This meant that their duties in death registration- already a subject of much doubt as regards its accuracy- were seriously neglected. As a consequence, hundreds of thousands of deaths went unrecorded as the village officials sought work at famine relief works or left their villages in search of food and work.⁴⁹ In addition, Temple's order that village officials should be held accountable, on pain of punishment, for preventing every case of starvation that occurred in their jurisdiction would seriously influence the reporting and classification of famine deaths.⁵⁰ Thus, *all mortality rates derived from official registration data understated the total amount of mortality during these months.*

However, Cornish argued that although the mortality rates were imperfect as *absolute* measures, they could nevertheless be used as *relative* measures for comparison as the amount of error was tolerably constant from year to year. While the mortuary

⁴⁹ SCR 1877, p. 75.

⁵⁰ Minute by Sir Richard Temple, respecting passages in the Report of the Sanitary Commissioner of Madras, dated Cuddalore, the 18th April 1877, No. 218, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

registration would never show the full and exact impact of the famine on the well-being of the people, yet it would give a fair indication of its ravages simply by registering the great overall increase in mortality. Cornish wrote:

Notwithstanding all the disorganization of the village service, and family and social life, it is simply marvellous how the death registration has served to portray the intensity of the famine.⁵¹

As we have seen in the previous chapter, Cornish's observations about the Temple ration created a flutter amongst the medical profession as well as the press. By April 1877, newspapers were filled with reports of the great mortality caused by the Temple ration. (As has been mentioned in Chapter 1, an analysis of newspaper reports would have provided a valuable set of illustrations regarding this point, but has not been possible within the scope of the thesis). Cornish's publication of mortality rates further threatened the Imperial Government by exposing the miserable failure of Imperial Government to control starvation. Despite the Temple ration being discontinued in May 1877, critical public opinion continued to decry Imperial famine policy for months.

That the number and nomenclature of famine deaths had become a problem to be politically managed is evident from the following extract from a letter from Salisbury to Lytton in June 1877. Salisbury wrote:

I do not think you rate sufficiently low the importance of the attacks one or two newspapers here occasionally make on you...However, all's well that ends well... the rain has come, the Madras Government have not resigned in a body, *more people have not died than can reasonably be attributed to cholera and an unhealthy season* and George Hamilton is looking forward to his budget in very good spirits.⁵²

⁵¹ Ibid.

⁵² Letter No. 22 from Salisbury to Lytton dated June 15, 1877, Letters from the Secretary of State, Lytton Collection, MSS/Eur 218e/4A. (Italics in original).

By September 1877, there were rumours rife in Madras, Bombay and London regarding the enormous mortality caused by the Imperial policy of neglect. In the meantime, the Madras Government appealed to private charity in Bombay, Madras and London for financial assistance with famine relief, much to the displeasure of Lytton and his council.

On September 13th, Salisbury wrote to Lytton:

The Duke's Madras meeting.... was in many ways terribly inconvenient.....it in a degree committed the Madras Government to an endorsement of Cornish's romances...and however strongly convinced we might be from internal evidence that they *were* romances, we had no material (nor had anybody else) with which to contradict. It may be possible to prove that half a million have died; but it is next to impossible to prove that half a million have not died.⁵³

In October 1877, Lytton wrote anxiously to Salisbury:

Reported deaths of the half year thus exceed the reported death rate of 1875 by 16 ½ per thousand, or 227,123 cases, and they exceed the supposed normal death rate by 13/1000 or 188,945 cases. This latter number somewhat exceeds total of cholera deaths.⁵⁴

At the same time, he also adopted a defensive tone regarding the mortuary registration on which these reports were based: 'Impossible to say how much additional mortality due to famine. *Rural registration of deaths not fully trusted*'.⁵⁵

IV. The Famine Census of 1878.

Accordingly, Lytton suggested to Salisbury that a census of the famine stricken areas be undertaken in October 1877. Lytton was of the opinion that the census largely in order to counter the 'misapprehension about the mortality in Madras Presidency' in the English press.⁵⁶ Salisbury endorsed Lytton's suggestion and ordered a 'famine census' in

⁵³ Letter from Salisbury to Lytton No. 37, dated September 13, 1877, Letters to the Secretary of State, Lytton Collection, IOR/MSS Eur/E218/4B. (Italics and emphasis in original).

⁵⁴ Ibid.

⁵⁵ Ibid (Italics in original)

⁵⁶ Telegram, dated 16th October 1877, Viceroy, Simla, to SoS, London, No. 275, IOR/V/4/Session 1878/ Vol. 59.

early 1878 as part of his commission for an inquiry into the famine. (This inquiry was later to form the basis of the Report of the Famine Commission of 1880).⁵⁷

The object of the Famine Commission and of the census itself was nothing less than a 'scientific' evaluation of state relief efforts with the purported aim of formulating a set of guidelines for state intervention to prevent future crises on such a scale. However, in commissioning the census Salisbury prefaced his despatch with a deliberate note of caution regarding the tools that would be used to evaluate these efforts:

It is not easy to ascertain with precision in what cases these praiseworthy efforts were rewarded with complete success, or how far they were defeated. The evidence which has been offered on this subject is conflicting, and is evidently based much more upon estimate than accurate knowledge.⁵⁸

Salisbury further suggested that 'scientific questions', instead of clarifying, had 'coloured the extreme views' which had been expressed by officials in regard to the relief efforts of the Government.⁵⁹ Although not stated, it seems clear that he was referring to Cornish's debate with Temple. While expressing the desirability of a scientific evaluation of relief efforts, Salisbury also suggested that the basis for such a scientific evaluation did not exist. In other words, while such an evaluation was highly desirable, it was hardly possible, given the quality of existing data.

⁵⁷ See 'The Famine Code: Context and Continuity' in J. Floud and A. Rangasami, *Famine and Society*, op. cit. and P. Robb, 'The Colonial State and Constructions of Indian Identity: An Example on the Northeast Frontier in the 1880s', *MAS*, 31, 2 (1997): 245-83. Lance Brennan has a sceptical view of the actual way in which the Famine Commission's recommendations were translated into policy. He suggests that dominant personalities and career ambitions within the top rungs of the Indian Civil Service in the Government of India, rather than a realistic appreciation of the requirements of a famine policy for India, was the key factor that shaped the Famine Codes. (Brennan, 'The Development of the Indian Famine Codes', op. cit.)

⁵⁸ Copy of a Despatch from the Secretary of State for India to the Governor General of India in Council dated India Office, 10th January 1878 No. 2 (Revenue) on the subject of the recent Famine in Western and Southern India, IOR/V/4/ Session 1858, Vol. 59.

⁵⁹ Ibid.

The simultaneous appearance of epidemic diseases, especially of cholera in a visitation of unusual severity, has lent an additional and formidable element of uncertainty to the information that we possess in respect to the famine mortality of the past year, for it appears that deaths from cholera and from want are attended by symptoms sufficiently similar to mislead an untrained observer. At the same time, the datum from which all calculations of increased mortality must proceed is in a great measure wanting.⁶⁰

Commenting on the deduction of the effects of famine from registered mortality rates, he suggested that the 'recent introduction' of death registration made for imperfect knowledge regarding the number of deaths in ordinary years; and that the number of deaths in those years had been 'understated seriously'.⁶¹ In other words, the imperfection of the rural statistics in normal years made them of limited or no value in estimating the mortality that had resulted from want and inadequate relief.

Salisbury further went on to suggest that contrary to Cornish's assertion that the famine had resulted in under-registration of mortality, that registration might in fact have *improved* as a result of the instructions to village and district officials that they were to be held responsible for any starvation deaths that did occur.

Where the normal mortality is not certainly known, it is hopeless to attempt to calculate the amount of abnormal increase; and as the organization for famine relief would cause a more careful observation of mortality, it cannot be assumed that the causes of error which have vitiated the statistics of ordinary years would operate with equal force on the year of famine.⁶²

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid. Other authors such as Tim Dyson have also suggested that registration might have improved as a result of these strictures. Dyson cites Cornish on under-registration but also cites the 1881 Census report as indicating that death registration in Bombay had improved during 1876-78. A similar improvement was cited to have taken place in Punjab in 1939. (Dyson, 'On the Demography of South Asian Famines Part I', p. 10.) However, given the local influence of village officials in Madras, and the testimony of a number of district officials and independent journalists, this does not seem to have been the case in Madras during 1876-78.

Finally, Salisbury made a deliberate statement of the futility of an inquiry into famine mortality, while at the same time commissioning the famine census:

..... I am not of opinion that any useful result would be obtained by instituting a special inquiry (on the question of an abnormal increase in famine mortality), even if there was the slightest hope that trustworthy statistics could be collected as to the mortality due to famine alone.⁶³

The Method of the Famine Census

Despite this statement of futility, a partial census of some selected districts was carried out on the night of 14th March 1878.⁶⁴ Cornish assumed charge of the census undertaking and designed a sample of *talooks* where the census was to be taken. The districts where the census was undertaken were Bellary, Kurnool, Cuddapah, Nellore, Coimbatore, Salem and Chingleput (assumed to be worst affected), Kistna, Trichinopoly and Tinnevely which were seen as partially distressed, and Tanjore, which was assumed to be a non-famine district.

The basis on which these classifications were made is unclear from the sources. In his Annual Report for 1877, Cornish classified Kurnool, Bellary, Cuddapah, Nellore, Madras, North Arcot, Salem, Chingleput, Coimbatore and Madura as 'early famine districts' where scarcity and drought existed at the end of 1876 and early 1877; South Arcot, Tinnevely, Neilgherries, Kistna and Trichinopoly as 'later famine districts' where scarcity and distress developed into famine over the course of 1877; and Ganjam, Vizagapatam, Godavery, Tanjore, Malabar and South Canara as 'non-famine districts'

⁶³ Ibid.

⁶⁴ Cornish insisted that March was far too early to carry out the census, as the famine dragged on till the end of 1878. However, the Governments of Mysore and Bombay carried out their censuses even earlier, in January 1878.

whose 'resident populations' were unaffected by famine or scarcity.⁶⁵ The official correspondence indicates however that distress was reported from South Arcot (purportedly a later famine district) as early as January 1876.⁶⁶ In addition, a different set of classifications appear to have been used by the Government of Madras in its review of the famine. This document includes in its list of 'distressed districts' all the districts classified by Cornish as 'early famine districts' and 'late famine districts' as well as Tanjore and Malabar, at the end of 1876.⁶⁷

In the last four districts (Kistna, Trichinopoly, Tinnevely and Tanjore) bordering on the distressed areas, one *talook* each was chosen for the sample. No census was taken of any portion of Madura or North Arcot in which the distress was assumed to have been about equal to that of Coimbatore and Salem.⁶⁸ Thus the 19 *talooks* chosen were Gooty (Bellary), Nandikotkur (Kurnool), Madanapalli (Cuddapah) Gudur (Nellore), Palladam (Coimbatore), Ponneri (Chingleput) in the worst affected districts; Gudivada (Kistna), Museri (Trichinopoly), and Ambasundaram (Tinnevely) in the partially distressed districts; Mayaveram in Tanjore district which had hardly been affected; and all nine *talooks* of the Salem district which was held to 'fairly represent a famine district'.⁶⁹

⁶⁵ See Appendix 3.1 (Causes of Death in 1877) for sources.

⁶⁶ GoI to SoS, Letter no. 13 dated Simla, 31st July 1876, Famine Correspondence 1, IOR/V/4/Session 1877/Vol. 65

⁶⁷ *Madras Famine Review*, p. 26.

⁶⁸ Copy of a Despatch from the Secretary of State for India to the Governor General of India in Council dated India Office, 10th January 1878 No. 2 (Revenue) on the subject of the recent Famine in Western and Southern India, Famine Correspondence 4, IOR/V/4/ Session 1858, Vol. 59.

⁶⁹ *Ibid.*

The Results of the Famine Census

Table 3.1 Loss of Population 1871-1878

District	Pop- Nov 1871	Pop- Mar 1878	Difference	% difference on original pop
6 <i>talooks</i> - very distressed*	859,132	739,989	-119,143	- 13%
9 <i>talooks</i> - Salem	1,997,034	1,559,896	- 417,138	- 21%
3 <i>talooks</i> - slightly distressed**	496,702	528,574	+31,872	+6%
1 <i>talook</i> - Tanjore***	221,749	242,999	+21,250	+9%

Notes:

* Gooty *talook* (Bellary); Nandikotkur (Kurnool); Madanapalli (Cuddapah); Gudur (Nellore); Palladum (Coimbatore); Ponneri (Chingleput).

** Gudivada (Kistna); Musiri (Trichinopoly) Ambasundaram (Tinnevely).

*** Mayaveram *talook*.

The Loss of Population 1871-1878

The calculations of famine mortality were made by Cornish after the census had been taken. A key assumption made by Cornish in calculating the change in population between the two censuses was that the population had increased at a rate of 1 ½% each year since the census of 1871 till the beginning of the famine year of 1876. In the six *talooks* of the famine districts, the population of the selected subdivisions had declined from 871,061 to 739,989. The total loss of population was 131,072, or 15% on the numbers of 1871, given this assumed rate.⁷⁰

⁷⁰ Cornish stated that the loss of population was greatest in Cuddapah, and the lowest in Chingleput. However, he believed that the selected area in Chingleput did not fairly represent the entire calamity; as was also the case with Coimbatore. ('Influence of Famine on the Growth of Population', Appendix to *SCR 1878*, p. lxxxii).

In the other four *talooks*, the population had increased by 6.1% on the 1871 census.⁷¹ In Salem district, which was held to be an average and representative famine district, there was a decrease of population to the tune of 20.7% of the 1871 population. In terms of the sex and age-wise subdivision of the increase or decrease in population between 1871 and 1878, the census showed firstly, that the loss of population was greater for males than for females. Cornish attributed some of this apparent discrepancy to the observation that women were more imperfectly counted than men.⁷² Yet, this discrepancy was corroborated by evidence from the relief camps where men died in greater numbers than women. Secondly, in the famine area, children under 10 years disappeared in almost double the proportion of those above 10 years age.⁷³ (These conclusions will be dealt with in more detail in the following chapter.)

The Assumed Rate of Increase

Each of these figures was obtained on the assumption that the population grew at the rate of 1 ½ % per annum between 1871 and 1876. Cornish obtained this estimate by comparing the population totals obtained in previous censuses of parts of the Presidency in 1822, 1838, 1851-2, 1856-7, 1861-2, 1866-7 and 1871 and arriving at an annual rate of increase.⁷⁴ Cornish estimated the amount of increase between 1851 and 1871 was 9 ½ million, or 35.8% in twenty years; or a little over this figure.

Quite clearly, Cornish's estimates were in large part based on conjectural assumptions regarding the assumed annual rate of increase, derived from calculations

⁷¹ The actual increase was higher since eleven villages with a population of 9,480 had been transferred out of the boundaries of these districts in 1878. (Ibid, p. lxxxiii).

⁷² Ibid, p. lxxxiv, lxxxv.

⁷³ Ibid, lxxxvi.

⁷⁴ Ibid.

based on previous census attempts, in themselves widely acknowledged as inaccurate.⁷⁵

The Secretary of the Madras Famine Department, J.H. Garstin, in reviewing the results of the census, wrote that ‘the accuracy of registration is too open to doubt to allow of any safe opinion being formed as to the existence of and what normal increase between the census of 1871 and 1875’, albeit admitting that there had been a large increase in the number of deaths registered in 1876 and 1877.⁷⁶

The Famine Census and the Government of India

Lieutenant-General Kennedy, the head of the Public Works Department in Bombay, had been deputed in late August by the Government of India as the personal assistant to the Governor of Madras. Kennedy’s appointment came on the heels of Lytton’s visit to the famine- stricken districts of Madras in August 1877.

Lytton had felt the need for an officer to be placed in Madras who had ‘the confidence of the Supreme Government’ to advise the Governor of Madras in the discharge of famine relief matters.⁷⁷ Kennedy was chosen for his ‘admirable skill in managing the famine relief operations in Bombay’.⁷⁸ However, it was obvious that Kennedy had been deputed in a similar capacity in August 1877 as had Temple in January of that year: in order to control the expenditure of the Government of Madras on famine relief; to tighten

⁷⁵ Guilmoto, ‘*The Sircar’s Idle Curiosity*’, op. cit.

⁷⁶ Extracts from letter from J.H. Garstin, Esq., Additional Secretary to Government of Madras (Famine) to the Additional Secretary to Government of India, Public Works Department (Famine), (No. 1257), dated Ootcamund, 1st June 1878, enclosed in ‘Copies of Papers relating to the Mortality during the Late Famine in Southern India’, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

⁷⁷ Telegram, Viceroy to SoS, dated August 16, 1877, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

⁷⁸ Ibid.

administrative accountability and to soften reports about the severity of the famine that might leak out to a critical press and public in Britain.

Kennedy wrote an official memorandum on the results of the famine census, wherein he directly refuted the contention that the loss of population between the two censuses was due to mortality caused by the famine of 1876-78. Kennedy claimed that 'the population of southern India had remained unchecked as a result of peace and tranquillity for a number of years prior to the famine', and that 'no large arable areas (had) been available in late years for increased cultivation'. Under these circumstances, he argued, it was probable that 'the limits of increase of population and produce have now been reached and that the land under the rude system of cultivation prevailing now supports and for some years has supported as large a population as can draw a subsistence from it'.⁷⁹

Proceeding from this Malthusian assumption, the 'normal rate of increase', he suggested, could not have been more than 0.2%.⁸⁰ Kennedy made this suggestion on the basis of a comparison of the birth and death registers since the census of 1871 (as against Cornish, who had compared *census* figures since 1822) and thereby suggested that the figures led to an inference that in normal circumstances, the population of the 15 *talooks* in the census would have been 2,871,846 (a figure arrived at by adding to the census population of 1871 the actual difference between births and deaths to the end of 1876 and the normal

⁷⁹ 'Memorandum on the Partial Census in the Madras districts in March 1878', by Sir Michael Kennedy, contained in *Copies of Papers relating to the Mortality during the Late Famine in Southern India*, No. 46 of 1878, Government of India, Public Works Department, (Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59).

⁸⁰ Ibid.

difference between births and deaths for the 12 months of 1877 and 2 months of 1878).

Instead, the famine census had shown that the actual population of this tract was

2299885, or a shortfall of 571, 461 to be accounted for. (See Table 3.2)

Table 3.2 Michael Kennedy's Calculations of Population Loss

Census Population 1871 (15 famine <i>talooks</i>)	2836166
Actual difference between births and deaths to the end of 1876	29180
Normal Difference in births and deaths for 24 months (January 1877-December 1878)	6000
Total Population 1878	2871346
Actual Population March 1878	2299885
Difference between estimated and actual	571461

He then proceeded to argue that the bulk of this difference could be attributed to migration out of the famine districts into the non- famine districts or to foreign destinations by sea.⁸¹

The 'Migration Theory'

Despite there being no detailed figures showing emigration from the famine districts in particular, the figures from all the main ports of the Presidency between 1st Oct 1876 to 30th November 1877 was 287,482. This amounted to an increase over the average for the preceding five years of 131,339, or nearly double the five yearly figure.⁸²

The lack of detailed figures for migration and emigration notwithstanding, Kennedy used the figures from the famine census of 1878 to show the age and sex-wise distribution of the population. These were as follows:

Males of 10 years and under: 355,311

⁸¹ Ibid, p.15.

⁸² Ibid, p.16.

Females-----do-----: 351,084 (Difference of 48,000).
Males above 10 years : 772,517
Females -----do-----: 820,973 (Difference of 4,000).

While there were 4,000 less boys than girls in this population, there were 48,000 less men than women. Kennedy argued that it was obvious that men would migrate in greater numbers, while there did not seem to be any reason why men should die in greater numbers.⁸³ Therefore, he argued, 'it was only fair to conclude that whatever the number of migrants may be, the women exceed the men by at least 48,000'. From this it followed that such a large excess of females would not be possible unless a large portion of the 'missing people' had migrated rather than died. Kennedy stated that 'it was very liberal to assume that the number of migrants was 350,000, among whom the males were 33% in excess of women'.⁸⁴ Adding 350,000 to the 1878 total of 2,295,885, the number obtained was 2,649,885 leaving 221,461 persons to be accounted for.

Kennedy then turned to the birth and death returns of the 15 *talooks* since the commencement of the famine to the end of February 1878, showing an 'excess mortality' of 190,814; and a decrease of births amounting to 32,000, i.e. a total diminution in the population of 222,839. Kennedy argued that the bulk of the diminution of births was due to migration; while deaths had been due to the prevalence of cholera, fever and smallpox, leaving merely 68,290 deaths, or less than 2 ½ % of the population missing and possibly dead due to the famine. In other words, Kennedy's method of estimating the loss of

⁸³ Historical demographic research over the past quarter of a century has suggested, however, that male mortality during periods of famine is considerably greater than female mortality. See Chapter 4 for details.

⁸⁴ 'Memorandum on the Partial Census in the Madras districts in March 1878', by Sir Michael Kennedy, contained in *Copies of Papers relating to the Mortality during the Late Famine in Southern India*, No. 46 of 1878, Government of India, Public Works Department, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

population due to famine relied on three key assumptions: first, the assumption that Cornish's assumed rate of increase was too high (an assumption which was shared by other administrators); second, the assumption that a large portion of those 'missing' had in fact migrated as the number of males in the 1878 census was lower than females, particularly in adult age groups; and third, the assumption that the bulk of the excess registered deaths and negative births during the famine months was due to the prevalence of epidemic disease. The remainder of the loss was attributable to famine, which was 'greatly to be regretted' but 'considering the vast areas over which the famine extended and the helpless nature of a large portion of the population', on the whole, 'the substantial safety of the people was secured, so far as such a result was practically attainable'.⁸⁵

While Kennedy's conclusion that Cornish allowed for too high a rate of non-famine population growth appears to have had some weight, his confident assertion that the 'missing' people had migrated appears to have been whitewashing the truth. Cornish refuted the 'migration' theory in his 1878 report by pointing out that in the famine areas, the children less than ten years of age had disappeared in nearly double the proportion of people of greater ages, the ratios being 25.5% for children and 13.7% for those above ten years of age. Cornish reasoned that children under ten years of age were not more likely to have migrated in an undue proportion to other classes of the population, and therefore the greater loss amongst them was due to the combined effects of death and diminished fertility, rather than migration.⁸⁶

⁸⁵ Ibid, p.17.

⁸⁶ 'The Influence of Famine on the Growth of Population', pp. lxxxvi.

Kennedy concluded that 'considering the vast areas and lengthened periods over which the famine has extended and the helpless nature of the population, it may be said that on the whole, the substantial safety of the people was secured, so far as such a result was practically attainable'.⁸⁷

The question of how many people had died from want during the famine was never resolved, with Cornish placing the total mortality 'directly and indirectly from want' at 3 million as opposed to Kennedy's figure of 68,000. However, the debates about the use and accuracy of vital statistics during the famine of 1876-78 had important consequences for Provincial famine policy in Madras. In the aftermath of the famine, the Famine Commission's Report authorized the Provincial Governments to promulgate Famine Codes modelled on the Draft Code issued by the Imperial Government in 1880. Lance Brennan has argued that the Strachey brothers manipulated the composition of the Famine Commission in order to make sure that the Commission's report made Provincial Governments responsible financially for expenditure on famine relief in future.⁸⁸ However, in making the Provincial Governments responsible for famine relief expenditure, the Commission also authorized each Provincial Government to draw up its own code specifying the administrative, legislative and financial arrangements for preventing distress from accelerating into famine. This suggests that the key concern of the Government of India was financial expediency rather than increased Imperial control or ideological dominance.

⁸⁷ 'Memorandum on the Partial Census in the Madras Districts in March 1878', by Major-General Kennedy, in *Copies of Papers relating to the Mortality during the Late Famine in Southern India*, No. 46 of 1878, GoI- PWD, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

⁸⁸ Brennan, 'The Development of the Indian Famine Codes', op. cit.

The Madras Famine Code, first issued in 1883, when William Robert Cornish was a Member of the Madras Legislative Council, can be seen as an explicitly Provincial statement of policy. It explicitly- and perhaps defiantly- juxtaposed financial expenditure against mortality statistics as tests of state relief. In its introduction, the Madras Famine Code declared,

In such circumstances (of drought and distress) it is the duty of the state to take steps to avert disastrous consequences to human life, which must ensue if means of subsistence are not afforded to the classes affected.⁸⁹

The Code continued in a vein directly against that of the Government of India's stated instructions in 1877 (that financial considerations constrained the extent of state intervention). It juxtaposed financial expenditure against mortality statistics as tests of the efficacy of a given system of relief. Thus:

The success or failure of system of relief at such a crisis cannot be subjected to a financial test; *bills of mortality will furnish the only true criterion*. Profuse expenditure (which experience has shown does not always prevent suffering and death) is the inevitable consequence of the State being brought face to face with the calamity before arrangements have been made to meet it, whilst a scheme of relief administration carefully devised beforehand will certainly secure more satisfactory results at less outlay.⁹⁰

To conclude, the divisions, both between the Imperial and provincial Governments, and between the state and its medical services, contributed in fact to create a more humane famine policy statement in Madras than in any of the other provinces as evinced by the Famine Codes.⁹¹ It would not be going too far to say that this was an occasion when vital statistics, however imperfect, became the basis of an official

⁸⁹ *Madras Famine Code*, p. 1.

⁹⁰ *Ibid.*

⁹¹ None of the other Codes mentioned state responsibility for human lives.

statement of responsibility for human lives, juxtaposed against limiting financial expenditure as the touchstone of famine relief efforts.

Conclusion: Colonial Vital Statistics and Famine Policy in Madras Presidency.

Vital statistics were an extremely clumsy and blunt tool with which the Provincial Governments were forced to base sanitary policy from 1864 onwards. Despite optimistic claims by medical officials regarding their value in knowing patterns of disease and death amongst the general population, it is clear that from their inception, they were tied to the structure of power at the local level within the Madras Presidency (and the administrative basis of *ryotwari*), where the primary duty of the village officials was seen as administering the complicated land revenue system satisfactorily, and collecting other forms of statistics was viewed as a distraction by district and Provincial non-medical administrators. To that extent, even though the compilation and collection of vital statistics can be seen as an 'Imperial project' aimed at protecting the health of the armies and the European civilian population, and of gradually establishing a hegemonic hold over the 'general population', this project was crippled by administrative factors that influenced the accuracy of the statistics and their value as means of actually knowing the population, let alone of establishing the hegemony of the colonial state.

Secondly, the relationship between different levels of the state and its medical services was clearly not smooth when it came to interpreting and using the statistics as a basis for famine or medical policy. The sources of tension consisted largely of differences of

opinion over the financial and administrative basis of intervention in economic processes, as well as contests over the 'scientific' status both of the statistics and medical theories regarding the causation and prevention of disease, which influenced the interpretation of statistical patterns. This would enable us to question studies which uncritically see medicine as a 'tool of Imperialism', and vital statistics as one of the 'investigative modalities' of colonial rule which enabled control and domination. It would further place us in the 'sceptical' position as regards the potential of information system of the colonial state to augment its control, with an important modification. While much of colonial information was ambiguous and of doubtful value and that local networks played an important role in generating, shaping and using such information, statistics did indeed have a 'justificatory' dimension in conflicts between different levels and agencies of the Government, although this cannot be seen as representing a single colonial project.

Finally, we return to the question of whether one can see the debates during this famine as merely magnifying 'ordinary' processes, or as irrevocably changing the course of history. It appears that we can see a little bit of both, lending support to David Arnold's argument that famines were both crisis and process.⁹² The use of vital statistics in famine policy reflected the long-term conflicts between different levels and agencies of Government over the financial, administrative and moral basis of intervention. At the same time, these conflicts had important consequences for future policy. Allegations of inaccuracy of the rural statistics- a defence for Imperial non-interventionism- along with a distancing of the Imperial Government from financing famine relief led to a paradox. Knowledge which was manifestly inaccurate- and depended largely on the whims of local

⁹² Arnold, *Famine*, p. 6.

and Provincial officialdom- came to be enshrined as the cornerstone of a relatively humane Provincial famine policy, based on state intervention.

Appendix 3.1 Causes of Death 1877.

All tables reproduced from W.R. Cornish, *Fourteenth Annual Report of the Sanitary Commissioner for Madras*, Madras, 1878.

A. Deaths from principal causes compared with previous years

Years	Total Deaths	Cholera	Smallpox	Fevers	Bowel Complaints	Injuries	Other Causes
1866	600,106	200,961	23,106	110,102	-	9047	256,890
1867	372,026	33,205	27,907	112,511	-	8613	189,790
1868	390,959	8036	34,330	105,692	-	9242	233,659
1869	451,981	21,034	17,448	132,346	-	9310	271,843
1870	451,020	55,867	11,252	151,027	-	12,325	220,549
1871	444,371	17,656	20,823	192,469	38,928	15,323	159,172
1872	508,182	13,247	39,034	214,148	39,387	15,150	187,176
1873	513,232	840	51,784	222,843	36,392	14,251	187,124
1874	521,329	313	48,343	226,220	37,993	13,065	195,395
1875	641,260	94,546	24,775	252,042	37,484	12,421	219,992
1876	680,384	148,193	23,469	230,092	38,176	11,175	229,279
1877	1,556,312	357,430 (12.2)	88,321 (3.02)	469,241 (16.06)	133,366 (4.5)	16,460 (0.5)	491,494 (16.8)
1878	810,921	47,167 (1.5)	56,360 (1.9)	374,443 (13.1)	48,083 (1.4)	14,207 (0.5)	284,868 (9.0)

Diseases

I. Cholera

B. Famine districts in which famine existed at the beginning of 1877

Districts	Deaths from cholera in 1877	Ratio to Population (Deaths/1000)	Mean ratio of previous 5 years (1872-1876)
Kurnool	10,451	11.4	0.2
Bellary	30,183	18.1	0.3
Cuddapah	33,102	24.5	0.8
Nellore	19,476	14.1	0.7
Madras	6,246	16.3	0.7
North Arcot	42,145	21.8	0.9
Salem	47,633	24.2	0.9
Coimbatore	36,622	20.7	1.6
Chingleput	4,391	4.6	0.5
Madura	15,647	11.7	1.1

C. Famine districts where scarcity developed into actual famine over partial areas or the whole district during the year 1877.

Districts	Deaths from cholera 1877	Ratio to population	Mean ratio of previous 5 years
South Arcot	25,783	14.7	1.1
Tinnevely	14,214	8.3	1.1
Neilgherries	476	10.0	0.1
Kistna	12,374	8.5	0.2
Trichinopoly	15,447	12.8	1.5

C. Districts where resident populations not affected by famine although many received emigrants from famine areas

Non-Famine Districts	Deaths from Cholera 1877	Ratio to Population	Mean Ratio of previous 5 years
Ganjam	3390	2.8	0.8
Vizagapatam	6932	4.4	0.7
Godavery	7072	4.4	0.2
Tanjore	13,098	6.6	1.9
South Canara	2,900	3.1	0.1
Malabar	9957	4.4	0.3

D. Famine/ Prevalence of Cholera

Groups	Total Population	Total Cholera Deaths	Ratio per mille	Mean ratio previous five years
1 st group (early famine districts)	13,610,813	245,896	18.0	2.01
2 nd group (later famine districts)	6,147,540	68,294	11.1	1.6
3 rd group (non-famine districts)	9,451,189	43,249	4.6	1.3

II. Smallpox

A. Early famine Districts

Districts	Deaths from smallpox in 1877	Ratio to Population	Mean ratio of previous 5 years (1872-1876)
Kurnool	2077	2.2	1.0
Bellary	4902	2.9	0.9
Cuddapah	4906	3.6	0.7

Nellore	4466	3.2	0.5
Madras	6679	17.4	1.5
North Arcot	5388	2.7	1.5
Salem	11,257	5.7	1.5
Coimbatore	2366	1.3	0.7
Chingleput	5621	6.01	1.5
Madura	3161	2.3	2.2

B. Later Famine Districts

Districts	Deaths from smallpox 1877	Ratio to population	Mean ratio of previous 5 years
South Arcot	3498	1.9	1.7
Tinnevely	2933	1.7	1.7
Neilgherries	327	6.9	0.2
Kistna	2019	1.4	1.1
Trichinopoly	5629	4.6	0.7

C. Non-Famine Districts

Non-Famine Districts	Deaths from smallpox 1877	Ratio to Population	Mean Ratio of previous 5 years
Ganjam	1646	1.4	0.7
Vizagapatam	124	0.07	0.5
Godavery	888	0.5	1.3
Tanjore	11,148	5.6	1.2
South Canara	7,170	7.8	0.9
Malabar	2,116	0.9	1.1

D. Famine/Prevalence of smallpox

Groups	Total Population	Total Smallpox Deaths	Ratio per mille	Mean ratio previous five years
1 st group (early famine districts)	13,610,813	50,823	3.7	1.2
2 nd group (later famine districts)	6,147,540	14,406	2.3	1.2
3 rd group (non-famine districts)	9,451,189	23,092	2.4	1.4

III. Fever Mortality (See also table 4.4).

A. Districts in which fever mortality has not varied much from average

These 8 districts contain a population of 12,596,884 furnishing death returns in 1877.
Total deaths: 89,434. Death Ratio: 7.1 per mille.

Districts	Death ratios per mille, 1877	Mean of 5 years ending 1876
Ganjam	9.8	9.6
Vizagapatam	9.8	10.4
Godavery	8.4	9.3
Kistna	7.4	7.7
Tanjore	2.9	3.1
South Canara	6.6	5.3
Malabar	7.0	5.9
Tinnevelly	6.2	4.3

B. Districts showing excessive fever mortality in 1877

These 13 districts contain a population of 16,612,658 according to 1877 returns. Total
deaths: 379,807. Per mille death ratio: 22.9

Districts	Death Ratios per mille	Mean of 5 years ending 1876
Nellore	19.3	6.6
Madras Town	15.6	6.4
Chingleput	11.2	5.8
South Arcot	16.3	6.9
Trichinopoly	11.2	7.7
Madura	20.6	4.6
Kurnool	60.5	13.7
Cuddapah	45.6	12.6
Bellary	18.3	6.1
North Arcot	23.9	10.2
Salem	25.5	11.5
Coimbatore	12.2	6.7
Neilgherries	32.2	11.2

IV. Bowel Complaints

A. Non- Famine Districts

Non-Famine Districts	Deaths from bowel complaints 1877	Ratio per mille	Mean Ratio of previous 5 years
Ganjam	344	0.2	0.5
Vizagapatam	616	0.3	0.3
Godavery	756	0.5	0.5
Kistna	549	0.3	0.4
Tanjore	2629	1.3	1.0
South Canara	5111	5.5	3.5
Malabar	5329	2.3	2.7

B. Famine Districts

Famine Districts	Number of Deaths	Deaths per mille	Mean ratio of previous 5 years
Nellore	1,758	1.2	0.5
Madras	14,605	38.2	5.0
Chingleput	15,082	16.1	2.2
South Arcot	2,987	1.7	0.9
Trichinopoly	3,996	3.3	1.2
Madura	9,035	6.8	1.1
Tinnevelly	9,777	5.7	3.8
Kurnool	6,646	7.2	0.5
Cuddapah	7,986	5.9	0.6
Bellary	13,463	8.0	1.1
North Arcot	9,703	5.0	1.1
Salem	9,547	4.8	0.9
Coimbatore	12,871	7.3	1.6
Neilgherries	576	12.1	2.4

C. Relief camps (a large proportion of deaths are not registered in the above returns as people are in relief camps).

Districts	Registered Deaths from Bowel Complaints	Total Deaths in Relief Camps
Madras	14,605	8,228
Nellore	1,758	7,609
Chingleput	15,082	5,352
South Arcot	2,987	2,626
Madura	9,035	7,003
Tinnevely	9,777	1,344
Kurnool	6, 646	3,250
Cuddapah	7,986	10,624
Bellary	13,463	6,173
North Arcot	9,703	10,815
Salem	9,547	14,500
Coimbatore	12,871	5,469
Total	113,460	82,993

V. Injuries.

Years	Suicides	Wounding	Accidents	Snake Bite/ Wild Beasts	Total
1866	623	-	6,216	2,208	9,047
1867	615	-	5,853	2,145	8,613
1868	602	-	6,007	2,633	9,242
1869	694	-	6,057	2,559	9,310
1870	1,438	-	8,158	2,729	12,325
1871	2,370	1,093	8,473	3,387	15,323
1872	2,366	944	8,724	3,116	15,150
1873	2,077	918	8,267	2,989	12, 251
1874	1,876	828	7,762	2,599	13,065
1875	1,811	880	7,177	2,553	12,421
1876	1,715	896	6,187	2,377	11'175
1877	2,575	1,372	10,425	2,066	16,460

VI. 'Other Causes'

A. Non Famine Districts

Non- Famine Districts	Deaths from 'all other causes'	Proportion to population per mille
Ganjam	2,760	2.3
Vizagapatam	4,221	2.7
Godavery	10,336	6.5
Kistna	10,087	6.9
Tanjore	40,300	20.4
South Canara	8,997	9.8
Malabar	15,396	6.9

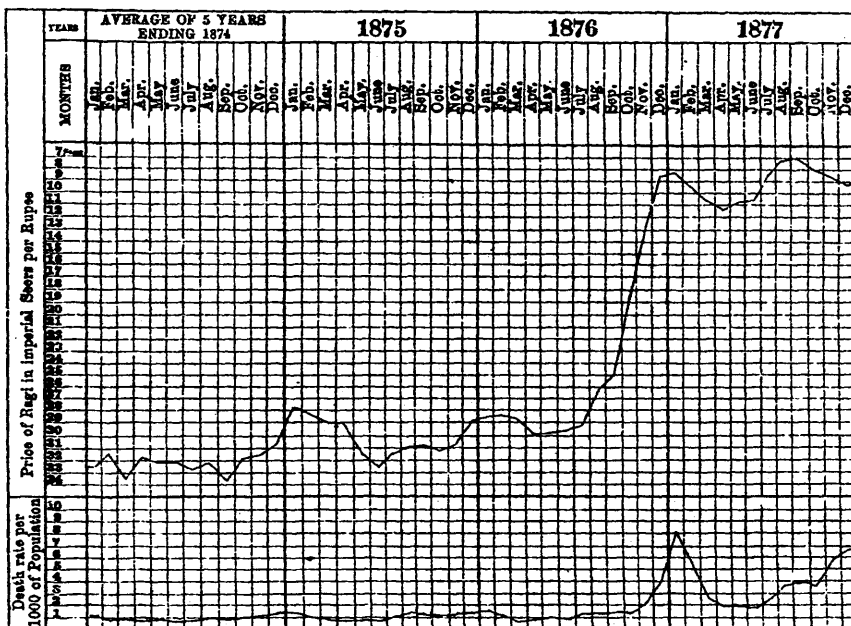
B. Famine Districts

Famine Districts	Deaths from 'all other causes'	Ratio per mille
Nellore	12,8832	9.3
Madras	11,081	28.8
Chingleput	25,161	26.9
South Arcot	34,399	19.5
Trichinopoly	27,572	22.9
Madura	23,258	17.5
Tinnevely	30,224	17.8
Kurnool	10, 763	11.7
Cuddapah	11,316	8.3
Bellary	74,250	44.5
North Arcot	54,588	28.2
Salem	57,532	29.2
Coimbatore	25,770	14.6
Neilgherries	501	10.5

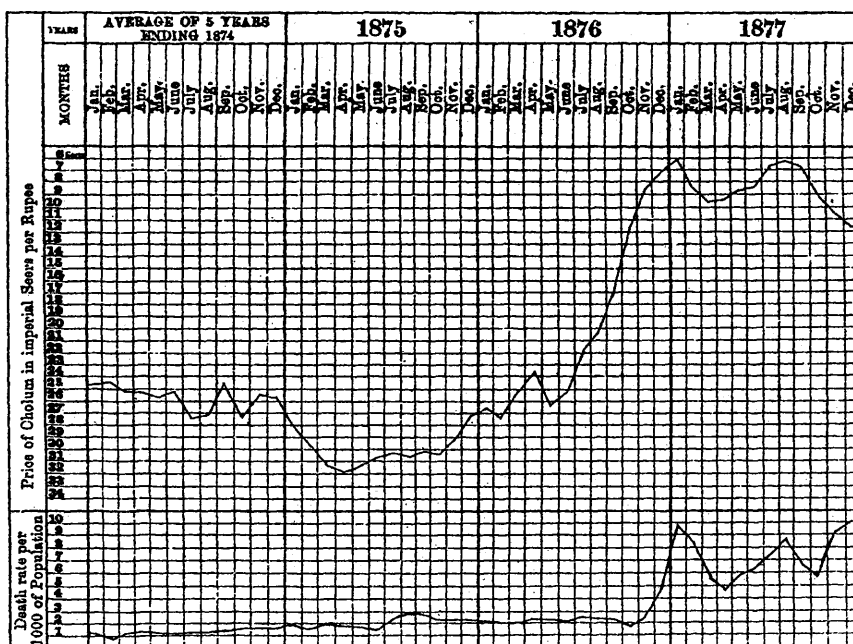
Appendix 3.2 The connection between food prices and mortality: from
The Fourteenth Annual Report of the Sanitary Commissioner for Madras
 for 1877, Madras 1878.

DIAGRAMS SHOWING THE PRICE OF THE STAPLE ARTICLE OF FOOD AND THE
 DEATH RATE PER MILLE IN THE UNDERMENTIONED DISTRICTS OF THE
 MADRAS PRESIDENCY FOR 3 YEARS ENDING 1877, COMPARED
 WITH THE AVERAGE OF 5 YEARS ENDING 1874.

NELLORE



CUDDAPAH



Chapter 4 Starvation, Disease, and Death in Madras (1876-78)

Introduction

The relationship between famines and epidemics has been a theme of considerable and continuing interest for historians and historical demographers. Several have attempted to show that historical crises of mortality hitherto attributed to epidemic disease (for example, plague) were actually crises of subsistence.¹ For many, the links between the appearance of famine and waves of epidemic mortality seem fairly straightforward. The failure of a series of monsoons led to a crisis of employment and/ or subsistence; trade was unable to supply the wants of the people; the state was unable or unwilling to intervene; this led to starvation, which then caused disease, and thereby death, particularly among the marginal and poor.²

This model has been questioned by others, who have seen famine deaths as reflecting not just failures of subsistence, but also crises of sanitation, health and social dislocation. From this viewpoint, famines killed through a complex ecology of disease that attacked not just the poor but also the rich.³ Climatic factors favoured the breeding of disease vectors and thereby shaped the course of disease and death.⁴ The failure of governments to provide adequate relief, contain migration and social unrest, protect water supplies and provide adequate sanitation in areas where relief was given exacerbated this crisis.

This chapter will investigate the epidemiology of the famine of 1876-78 and address some of these debates. Although it is difficult to generalize from a case study

¹ A. Appleby, *Famine in Tudor and Stuart England*, Liverpool, 1987. See also J. Walter and R. Schofield, 'Famine, Disease and Crisis Mortality in Early Modern Society', in *idem. Famine, Disease and the Social Order in Early Modern Society*, Cambridge, 1989, pp. 17-25; 57-73.

² This view has been particularly characteristic of nationalist readings of famine in colonial India, such as R.C. Dutt and B.M. Bhatia. (See Chapter 1 for references).

³ A. de Waal, *Famine That Kills: Darfur, Sudan 1984-1985*, Oxford, 1989, and *idem*, 'Famine Mortality: A Case Study of Darfur, Sudan 1984-5', *Population Studies*, 43 (1989): 5-24.

⁴ Whitcombe, 'Famine Mortality', *op. cit.*; Dyson, 'On the Demography of South Asian Famines Part I', *op. cit.*

of one particular famine episode, this method has the advantages of being able to delve in depth into the historical specificities of this situation. Moreover, at least five writers have used this episode in order to investigate the epidemiology of famines in nineteenth century India.⁵ This surely testifies to the importance of this particular case in the history of Indian famines; as well as the quality and richness of the epidemiological data available for it. (Tim Dyson, for example, believed that the Madras famine of 1876-78 was the first for which demographic and epidemiological data of a standard worth analysing were available).⁶

What this chapter seeks to do, then, is to revisit some of the questions that previous authors have asked in connection with famine mortality and epidemiology. How did this famine kill most of its victims? Was it through the biological impact of starvation? Was the bulk of the mortality due to the ecological and climatic sequences of the famine? Or did the dislocation of normal social relations caused by economic crisis engender a sanitary and environmental crisis in which dysfunctional personal and social behaviour, were heavily implicated? The chapter forms a foundation for the following one, which seeks to evaluate the contribution of state famine policy to social dislocation and famine mortality.

I

Famine, Disease and Mortality during 1876-78: The 'Two Phase Model'

The demography of the 1876-78 famine has been studied by several authors. In 1985, Roland Lardinois suggested that the coincidence between the subsistence crisis (as measured by the rise in prices of *ragi*) and the mortality crisis (as measured

⁵ Klein, 'When the Rains Failed', op. cit., Lardinois, 'Famine, Epidemics and Mortality in South India: A Reappraisal of the Demographic Crisis of 1876-78', op. cit; Whitcombe, 'Famine Mortality', op. cit; Dyson, 'On the Demography of South Asian Famines Part I', op. cit.

⁶ Dyson, 'On the Demography of South Asian Famines Part I', op. cit.

by the peak in mortality) was very sharp in late 1876-early 1877; and again in July-August 1877.⁷ Lardinois suggested that the lack of correspondence between grain prices and mortality rates was due to 'other causes of mortality than the dearness of grains', and that 'numerous factors favoured the unleashing and propagation of epidemics', which consisted of cholera, smallpox, malaria and measles.⁸ Yet, Lardinois concluded that 'in the background, the hike in the prices of foodstuffs and the rigidity of their fluctuations lead to high prices of grain being the decisive cause of mortality'.⁹

Other authors were not so convinced of the connection between high prices, dearth, disease and mortality. In a 1991 article on the historical demography of Indian famines, Tim Dyson charted the main generalizations he had drawn from an analysis of five of India's pre-Independence famines. His focus was on the demographic and epidemiological regularities of these famines. Dyson suggested that epidemic disease, rather than starvation, constituted the bulk of increase in deaths during famines, over a relatively short period of time. He showed that most of these deaths were classified as being due to cholera and fevers. Third, most of the mortality increase occurred not during the height of the drought and distress. Instead, it happened after the resumption of the monsoons and agricultural activities, when presumably, levels of nutrition had improved as a consequence of the resumption of field employment and lower prices. This implies that high prices- and therefore economic distress- were not directly related to the famine mortality in a simple and unproblematic manner, i.e. economic distress causing starvation deaths or famine mortality. Further, climatic rather than nutritional or social factors played a decisive role in determining the likelihood of death. Dyson further found that if cholera were removed from the monthly mortality

⁷ Lardinois, 'Famine, Epidemics and Mortality in South India', p. 456.

⁸ Ibid, pp. 456-57.

⁹ Ibid, p. 457.

figures for November 1876 to December 1877, the bulk of the increase was attributable to a steep rise in fever deaths, which accounted for 62% of the deaths *for which a cause was specified*.

There were thus two phases in Dyson's explanation of famine mortality. The first related to the environmental consequences of economic distress. This phase, marked by a steep rise in prices, contributed a relatively small increase in the number of deaths. The bulk of the 'excess deaths' during this early period were caused by cholera and dysentery. Both occurred because of the contamination of water sources and famine migration in insanitary conditions.

This phase was succeeded by a very heavy monsoon, which created conditions of atmospheric moisture which were favourable to mosquito breeding. Dyson argued that most of these deaths in the second phase were undoubtedly due to malaria. These 'malaria inspired crescendos' struck at precisely the point when the drought and social dislocation caused by the famine ended and people were returning home from relief works to resume normal agricultural activities. In explaining this apparent anomaly- that malaria deaths should increase so greatly at a point when better nutrition should in fact have led to improvements in health- Dyson suggested that the increased moisture/ vector breeding explanation was only one part of the equation. The other concerned the interaction between nutritional status in the host and the development of the disease agent. Starvation inhibited the development of the disease agent- the *plasmodium*- in the human body, and hence protected the famine stricken against disease. In this explanation, once normal feeding was resumed, the plasmodium was able to multiply and cause disease, which then caused death. This was the 're-feeding malaria' hypothesis, which requires a little more explanation.

Re-Feeding Malaria

The 're-feeding malaria' hypothesis was propounded in different versions by various observers and scientists in the latter half of the twentieth century. One of the earliest versions of this hypothesis was developed by P. Ramakrishnan, an experimental biologist, who had observed the phenomenon that undernourished rats exposed to anopheles mosquitoes often did not develop malaria as quickly as better nourished rats.¹⁰ The Bengal Famine Commission of 1945 had also noted that

Malaria not infrequently developed in patients who had rallied after a few days stay in hospital. The temperature would rise and malaria parasites would be found in the blood. This may be explained in two ways: either the parasite was unable to multiply in a starved body and revived together with its host, or during the phase of starvation, it was present as in the later febrile stage but owing to the low state of the patient, produced no febrile condition.¹¹

The re-feeding malaria hypothesis was put forth again in 1978 by the Murrays, a scientist couple who had measured the spleens of populations in malaria- endemic Sahel in the mid 1970s.¹²

Dyson focused particularly on the climatic sequences related to fever, and went on to suggest that as a general rule, the re-feeding malaria hypothesis could

¹⁰ S.P Ramakrishnan, 'The course of blood-induced infection in starved albino rats', Indian Journal of Malariology, 7,1(1953): 53-60; S.P. Ramakrishnan, Satya Prakash, A.K. Krishnaswami and Chanan Singh, 'Effects of milk diet on the course of blood-induced infection in albino rats', Indian Journal of Malariology, 7, 1(1953): 61-66; S. P. Ramakrishnan, Satya Prakash, A.K. Krishnaswami and Chanan Singh, 'Effect of Glucose, biotin, para-aminobenzoic acid and methionine in the course of blood induced infection in starving albino rats', Indian Journal of Malariology, 7, 3 (1953): 225-228 ; S.P. Ramakrishnan, 'Malaria and Nutrition with special reference to Plasmodium berghei infections in rats', Indian Journal of Malariology, 8, 4 (1954): 327-332.

¹¹ Famine Inquiry Commission, *Report on Bengal*, 1945, p. 117. The Commission observed that anaemia was prevalent in patients in famine hospitals at all stages of the famine, largely due to the combined effects of undernutrition and malaria. Yet, the commission also remarked that 'destitutes attacked by malaria often failed to respond to appropriate treatment and succumbed readily to the disease while healthy people attacked in the same way recovered after treatment in the usual way' (p. 120-122). The Commission concluded that both rainfall and high food prices were correlated with the occurrence of epidemic malaria.

¹² See M.J. Murray, A.B. Murray, N.J. Murray and M.B. Murray, 'Refeeding Malaria and Hyperferraemia', The Lancet, 305, 7908 (March 22, 1975): 635-654; M.J. Murray and A.B. Murray, 'Starvation and Re-Feeding Activation of Infection: An Ecological Necessity?' The Lancet, 309, 800 (January 15, 1977): 123-125. Enlargement of the spleen has long been used as a measure of the severity of infection.

explain the excess mortality in most of the Indian famines he studied. He thus argued that the natural ecology of disease transmission- determined primarily by climatic and parasitic factors- played the most significant part in causing famine mortality. This would imply then, that, if ways to control malaria been known and utilized at the time, most of the famine mortality would have been prevented.

Climatic Factors in Malaria Mortality

Dyson's argument was mirrored by Elizabeth Whitcombe, who suggested that there were two distinct phases in famine epidemiology- one marked by high mortality from cholera and bowel disorders, the second marked by the predominance of fevers as the main cause of deaths.¹³ Primarily a historian of colonial irrigation systems and their social impact on north India, Whitcombe's 1993 study of famine mortality in Madras during 1877-78 and Punjab 1896-7 and 1899-1900 remarked on the similarity of the epidemiological sequences of these three famine episodes in different portions of late nineteenth century India. Using data culled from the Sanitary Commissioner's reports, Whitcombe emphasized the biphasic nature of famine mortality and the predominance of a category of fevers as the single largest specified cause of deaths. She argued strongly and convincingly that deaths from fever were composed largely of malaria.¹⁴

According to Whitcombe, the paradox of famine was that as long as drought and high prices prevailed, conditions were not conducive to the transmission and spread of malaria. Drought conditions prevented the breeding of the anopheles mosquito. Further, starvation during this phase prevented malaria, ordinarily the largest killer, by acting to suppress the nutrition of the plasmodium already present in

¹³ Whitcombe, 'Famine Mortality', op. cit.

¹⁴ Ibid.

the blood. She thus endorsed the 'malaria re-feeding hypothesis'. Once the rains resumed, the conditions for epidemic malaria were set in motion. The mosquito multiplied when the rains came. Once people returned to work on their fields, levels of nutrition improved and conditions became conducive for the multiplication of the plasmodium in the blood. In addition, the movement of migrant labourers throughout the period of the famine helped spread the incidence of disease across geographical areas. Whitcombe concluded that famine mortality was caused by a combination of factors in which the ecology of disease rather than the direct consequence of starvation were important factors.

In support of her argument, Whitcombe cited Cornish's observations on the 'absence of insect life' during the first 'choleraic' phase of famine when according to Cornish, fevers were absent. After the resumption of the rains, however, Cornish noted the 'rapid proliferation of insect life' - an observation all the more remarkable because this was before Ross, Manson or Laveran's discoveries in the 1890s.¹⁵

Thus, both Dyson and Whitcombe concluded that malaria was of immense importance in the mortality patterns during famine years, with cholera and bacillary dysentery playing a secondary role. (This was in consonance with non-famine patterns). Both alluded to the likelihood that instead of hastening death, drought and a certain degree of undernourishment protected famine victims against malaria. Paradoxically, the resumption of the monsoons which might have been thought to bring relief to them instead proved deadly. Other, earlier epidemiological work also pointed to the existence of seasonal influences in the case of malaria.¹⁶

¹⁵ For a discussion on the work of these men, see J. Guilleman, 'Choosing Scientific Parsimony: Sir Ronald Ross, Alphonse Laveran and the Mosquito-Vector Hypothesis for Malaria', Journal of the History of Medicine, 57 (2002): 385-409.

¹⁶ C.A. Gill, *The Seasonal Periodicity of Malaria and the Mechanism of the Epidemic Wave*, London, 1938.

Social Dislocation, Migration and Famine Mortality

Further work on the epidemiology of famine mortality was done by David Arnold at around the same time.¹⁷ (It is worth noting that his essay relied heavily on a discussion of Cornish's observations during the 1876-78 famine, although he sought to generalize the argument for all or most nineteenth century Indian famines). Arnold applied to his study of Indian famine epidemiology John Post's argument regarding famine mortality in eighteenth century Europe.¹⁸

In Arnold's view, social, rather than nutritional/ climatic/ parasitic factors were at issue in excess mortality from famine disease. Famine mortality was thus an exaggeration of normal mortality patterns from ordinary diseases. The breakdown of 'normal' social and economic relations during famine periods resulted in dysfunctional personal and social behavioural patterns which favoured the transmission and spread of disease.¹⁹ Thus, in Arnold's explanation, social responses

¹⁷ Arnold, 'Social Crisis and Epidemic Disease in the Famines of Nineteenth Century India', op. cit.

¹⁸ J.D. Post, 'Nutritional Status and Mortality in Eighteenth Century Europe' in L.F. Newman et. al. (eds), *Hunger in History: Food, Shortage, Poverty and Deprivation*, Massachusetts, 1990. Post argued that 'epidemiological evidence and present day medical views on the interaction of nutrition and disease entities responsible for the epidemics that became rife during the early 1740s and 1770s indicate that prolonged undernutrition probably cannot principally account for the elevated incidence or higher case fatality rates in the majority of the infections identified' (p. 259). Post found that smallpox, louse-borne typhus and relapsing fevers were the main causes of elevated mortality during the food shortages of these years. Smallpox was also directly influenced by changes in 'normal' behaviour patterns during subsistence crises. Typhoid and bacillary dysentery were directly communicated through the fecal-oral route from infected people who failed to wash contaminated hands or fingernails. He similarly traced the increase in typhus and relapsing fevers to the fact that it was 'doubtful that destitute people exhausted by hunger and fatigue bothered much about washing themselves' and '(crowded) together for warmth at home and in public shelters'. Only in the case of dysentery was Post prepared to grant some causal significance to nutritional deficiency. (p. 258). Anne Hardy makes a similar point regarding the epidemiology of typhus epidemics in the sixth and seventh decades of the nineteenth century in London, wherein she suggests that personal habits and lack of cleanliness, rather than economic distress, were responsible for these outbreaks. (See A. Hardy, 'Urban famine or urban crisis? Typhus in the Victorian city' *Medical History*, 32 (1988): pp. 401-425).

¹⁹ See de Waal, *Famine that Kills*, op. cit.

to food crises played a very significant role in hugely magnifying mortality from epidemic disease.

Thus, starvation did not involve simply crossing a threshold from a situation of 'some food' to 'no food'; but rather a series of increasingly desperate measures to stay alive. The first steps were a reduction in the quality and quantity of food consumed; rice, the normal staple of the people, was substituted with *ragi* and *cholum*²⁰; people ate fewer meals and began wandering afar in search of food and work. The untouchable and agricultural labouring castes had recourse to plentiful supplies of meat in the early days of economic distress when cattle died in large numbers. However, these sources of nutrition quickly dried up and themselves might produce intestinal disorders and 'famine diarrhoea'.²¹

The consumption of 'famine foods' had further disastrous consequences. Many of the wild plants and berries consumed by those on the move were poisonous and irritated the bowels. In the early stages, drought led to the drying up of existing sources of water, and the few sources that remained were often contaminated, leading to outbreaks of cholera and dysentery, from which few towns were immune. Arnold further argued that 'contaminated water, lack of sufficient water to replace body fluids rapidly lost through diarrhoea, dysentery and cholera, and scarcity of water to maintain bodily hygiene....were as crucial as the want of food to famine mortality'.²² Arnold's account focused primarily on cholera (arguing that 'cholera had a massive impact on mortality during the famine'.²³ However, he also discussed other causes of

²⁰ Arnold's account appears to be inaccurate in the context of the Madras famine, although the general argument holds. The staple food of the bulk of the people (except the well-off) was *not* rice, but *ragi* and *cholum*. Government relief was largely provided in the form of rice imported from Burma and Bengal. Rice was widely believed by medical officers to constitute a less nutritious and satisfying meal, given the habits of the people. Thus, the normal eating habits of the people were disrupted, but in the opposite way as suggested by Arnold.

²¹ Arnold, 'Social Crisis and Epidemic Disease', p. 391.

²² Ibid, p. 392.

²³ Ibid.

death such as smallpox, malaria, plague and tuberculosis, arguing that all of them 'preyed upon the collapse of normal social relations or exploited cultural and behavioural traits that favoured the dissemination of disease'.²⁴ Amongst the manifestations of social dislocation, migration and congregation or crowding in search of work and food played a large role in disseminating disease, in Arnold's account. Migration according to Arnold, 'weakened the wanderers, helped spread disease, brought famine paupers together in vast and insanitary numbers...and made the eventual resumption of agricultural operations far more difficult'.²⁵ Cholera was the main disease associated with such migration and insanitary congregation, but other diseases also preyed upon such abnormal conditions. Smallpox, for example, preyed on the crowds of people huddled together waiting for relief in camps and kitchens. Malaria was also 'heavily implicated in mortality arising from these population movements', with 'migrants moving in and out of endemic malaria zones' acting as a 'contributing factor as malaria carriers moved back into areas where the disease had not previously been endemic'.²⁶ In addition, although there is no data for bubonic plague and tuberculosis for the 1876-78 famine, Arnold suggested that factors connected with movement of grain (and hence rat fleas) favoured the dissemination of the former, whilst the crowding of malnourished people into institutions of relief favoured the latter.²⁷

²⁴ Ibid, p. 402.

²⁵ Ibid, pp. 397-8.

²⁶ Ibid, p. 401.

²⁷ Ibid, p. 403.

II

There seems to be a consensus about the occurrence of a classic 'bi-phasic' pattern of famine mortality, whereby an initial 'dislocation/ cholera' phase was followed by a phase dominated by fevers, which appear, by their seasonality, to be malaria.²⁸ Assessment of the relative importance of different epidemiological factors in causing this mortality, however, differs. Dyson and Whitcombe favour an explanation where the 'natural/ climatic/ parasitic' ecology of malarial fevers assumed great importance, and perhaps even negated the role of acute hunger, starvation and human agency. Arnold's analysis on the other hand emphasizes the role played by dysfunctional *human* social and personal behaviour, which disrupted a 'normal' way of life and the balance between disease and rural populations in their normal social environment. For him, this displacement was the key to explaining the various conditions consequent upon famine that created conditions conducive to the generation, transmission and lethality of epidemic disease.

Does Debility and Starvation Influence Disease and Death?

In each of these accounts, it is the transmission of disease rather than debility or compromised bodily defences that play the major role in causing famine mortality. Arnold's explanation appears to be the most comprehensive of the three studies of the Madras famine. It takes into account a wider range of behavioural and social responses in analysing the epidemiology of famine mortality than does the 'climatic' theory and incorporates remarkable local detail. Yet, while Arnold hesitates to 'share

²⁸ This account of a 'classic pattern' would also appear to be based on the Bengal Famine Commission's Report of 1945. The Commission concluded that there were 2 stages of famine mortality and disease, the first characterized by starvation, with or without coincident disease. In the second stage, it was noted, epidemic disease took precedence over starvation. By this the Commission seems to have meant that acute undernutrition was at its height in the early months of the famine, although 'the provision of suitable nourishment to the patients in famine hospitals was of primary importance in treatment, although it was in the early stages...the problem of resuscitating cases of starvation by suitable therapeutic means was most acute.' (Famine Commission, *Report on Bengal*, op. cit).

Post's apparently confident conclusion that "the principal link between the shortage of food and epidemic disease was more social than nutritional", we would argue that his account tends to overemphasize the social factors more prominently than the nutritional.

However, other scholars have questioned this apparent dissociation of a physiological link between nutrition and health, starvation and disease. For example, Arup Maharatna, while cautiously endorsing the role played by environmental and sanitary factors, suggests that the debilitated physical condition of the famine victims was the primary factor in the causation of famine mortality. Maharatna suggests that the category 'fever', upon which so many authors have laid an emphasis, consists of a number of deaths from influenza and pneumonia, in addition to malaria.²⁹ Moreover, there is little evidence to suggest that levels of nutrition improved immediately as field activities resumed, making it difficult to sustain the 're-feeding' malaria hypothesis.³⁰ Similarly, Sheila Zurbrigg, in her study of epidemic malaria in Punjab over a forty years period, argues that the 're-feeding malaria' hypothesis is based on the supposition that lower levels of plasmodium in the blood as measured by the spleen index were not necessarily associated with lower risk of death; and that in fact rainfall was less of a predictor than food prices in determining the likelihood of death.³¹ In another article, Zurbrigg argues that although well-nourished persons might exhibit more severe forms of malaria infection as measured by the spleen index (the degree of enlargement of the spleen in comparison to the normal), the disease

²⁹ A. Maharatna, *The Demography of Famines: An Indian Historical Perspective*, Delhi, 1996, p. 57.

³⁰ Ibid, pp. 49-50; 58-9.

³¹ S. Zurbrigg, 'Hunger and Epidemic Malaria in Punjab (1860-1940)', *Economic and Political Weekly*, 27, 4 (1992): PE2- PE26; Idem., 'The Hungry Rarely Write History and Historians are Rarely Hungry: Reclaiming Hunger in The History of Health', Paper presented at the Centre for Health Studies, York University, 1992; Idem., 'Rethinking Public Health: Food, Hunger and Mortality Decline in Indian History', Paper Presented to the School of Social Sciences, Jawaharlal Nehru University, April 29th 1997.

was more lethal amongst the poorly nourished. Starvation thus not only failed to protect its victims from malaria, but increased the likelihood that they would die when infected even with mild forms of the disease.³²

Further, there exists considerable research on the biological effects of continued starvation indicating that starvation predisposes populations to epidemic disease. Although few authors would go as far as stating that *all* excess deaths in a famine situation were due to starvation alone, there is evidence that what is termed a 'synergy' between nutrition and infection influences the health of individuals and communities, both in situations of long term malnutrition as well as in short term situations of acute hunger.

The terms synergism and antagonism in the physiology of nutrition have been explained by N.S. Scrimshaw et al. as follows.

The combined effects of malnutrition and infection cannot be predicted from the occurrence and characteristics of either alone. When infection aggravates malnutrition or malnutrition lowers resistance to infection, the relationship between the two can be classified as *synergistic*, i.e. the simultaneous presence of malnutrition and infection results in an interaction that is more serious for the host than would be expected from the combined effect of the two working independently. An infection, through precipitating clinical malnutrition, can result in further synergism as the infection in turn becomes more severe in the malnourished host....in some special circumstances, malnutrition is more likely to discourage multiplication of the agent than to affect the resistance mechanisms of the host. In this event, the interaction between malnutrition and infection can be identified as *antagonistic*, the combined effect being less than would have been expected.³³

However, in the context of the discussion presented in the following pages, it is important to note that Scrimshaw and his associates concluded that synergism is a far more common and recurrent phenomenon than antagonism; and also that it is a misconception to assume that poor diet may be interfere with the progress of some

³² S. Zurbrigg, 'Did Starvation Protect from Malaria? Distinguishing between Severity and Lethality of Infectious Disease in Colonial India', *Social Science History*, 21, 1 (1997): 27-58.

³³ N.S. Scrimshaw, C.E. Taylor and J.E. Gordon, *Interactions of Nutrition and Infection*, Geneva, 1968, p. 16.

infections and thereby be beneficial to man. Another significant finding was that the provision of dietary supplements like vitamins and minerals could not be substituted for a diet satisfactory in bulk (carbohydrates and proteins). They found that genetic factors could not account for differences in human resistance to the same extent as adequate diet, and finally concluded that *a satisfactory diet had established value as an effective part of the clinical management of infectious disease*.³⁴

One cannot entirely write out from the historical record the role played by climatic, sanitary and contagious factors in causing deaths from malaria, smallpox and bowel infections. Yet, it appears that climatic and sanitary factors carried out their deadly work upon the ground prepared by starvation and compromise of the body's defences. In the chain of causation, the importance of this *predisposing cause* of mortality cannot be underestimated.³⁵ Moreover, the views of contemporary medical men on the causation of famine disease need to be taken into account in analysing cause of death data, as do an understanding of the difficulty in using current-day death categories to describe or 'fit' nineteenth century data. We will argue in the following essay that each of these studies has in fact neglected a category which accounts for a

³⁴ Ibid., p. 266, italics mine. The issue of synergism in history has also been addressed by Anne Carmichael and Carl E. Taylor in two separate essays in a collection of essays by R.I. Rotberg and T.K. Rabb. (See A.G. Carmichael, 'Infection, Hidden Hunger and History', pp. 51-67 and C.E. Taylor, 'Synergy Among Mass Infections, Famines and Poverty' in R.I. Rotberg and T.K. Rabb, *Hunger and History: The Impact of Changing Food Production and Consumption Patterns on Society*, Cambridge, 1983). Carmichael suggests that we need to look at the relationship not just between mortality and nutrition but also on the domino effect of infectious disease on resistance, i.e. a synergism between disease and disease as the seat of a vicious cycle rather than between nutritional status and disease. We would agree with Carmichael to some extent but would suggest that the synergism between disease and disease does need to be looked at from the point of view of the social classes amongst whom it occurs. This, we suspect would make it difficult to separate a disease-disease synergism from a nutrition-disease synergism, both historically as well as scientifically, unless one has access to detailed studies of food intake over a long period of time. On the other hand, we would agree with Taylor's point that social conditions and cultural factors need to be brought into the analysis of the relationship between nutrition and infection.

³⁵ See Chapter 2 for an explanation of the term 'predisposing causes'.

significant one third of famine mortality, the inclusion of which strengthens the case for a nutritional/ physiological explanation of famine mortality in 1876-78.

III

The Figures: Famine and Disease

Table 4.1: Deaths by cause 1871- 1878

Years	Total Deaths	Cholera	Smallpox	Fevers	Bowel Complaints*	Injuries	Other Causes
1871	444,371	17,656 (3.9%)	20,823 (4.6%)	192,469 (43.3%)	38,928 (8.9%)	15,323 (3.4%)	159,172 (35.8%)
1872	508,182	13,247 (2.6%)	39,034 (7.68%)	214,148 (42.1%)	39,387 (7.75%)	15,150 (3%)	187,176 (36.8%)
1873	513,232	840 (0.16%)	51,784 (10.08)	222,843 (43.4%)	36,392 (7.09%)	14,251 (2.77%)	187,124 (36.4%)
1874	521,329	313 (0.06%)	48,343 (9.27%)	226,220 (43.3%)	37,993 (7.28%)	13,065 (2.5%)	195,395 (37.4%)
1875	641,260	94,546 (14.7%)	24,775 (3.86%)	252,042 (39.3%)	37,484 (5.84%)	12,421 (1.93%)	219,992 (34.3%)
1876	680,384	148,193 (21.7%)	23,469 (3.4%)	230,092 (33.8%)	38,176 (5.61%)	11,175 (1.64%)	229,279 (33.6%)
1877	1,556,312	357,430 (22.9%)	88,321 (5.67%)	469,241 (30.1%)	133,366 (8.5%)	16,460 (1.05%)	491,494 (31.5%)
1878	810,921	47,157 (5.8%)	56,360 (6.9%)	374,443 (46.1%)	48,083 (5.93%)	15,007 (1.85%)	269,861 (33.2%)

Source: Annual Reports of the Sanitary Commissioner of Madras (1871-1878). (Title Varies)

**This is the first year that this category was introduced into the returns.*

We present above in table 4.1 the mortality returns for the years 1871-78, including the three main famine years- 1876, 1877 and 1878. Distress began to be reported to the Provincial Government from two districts in early 1876; and four districts around the middle of 1876. By October 1876, eleven districts reported distress which was threatening to turn into famine. However, the worst year of famine was 1877.

From the above table we may deduce the following. First, the famine years 1877 and 1878 saw record numbers of deaths in all categories, although these

numbers had been rising since 1875. The largest number and proportion of deaths in 1877 and 1878 were registered under the categories 'other causes', 'fevers' and 'cholera'. In the first year of famine, 'other causes' dominated the returns and caused a higher proportion of deaths than did fever. In 1878, 'fevers' overtook 'other causes' in terms of deaths.

Table 4.2 shows the monthly distribution of deaths by cause. We deal with each of the registered causes in terms of their contribution to the total mortality in the non-famine years. In addition, we examine the seasonality of each cause.

Fevers

Fevers accounted for the largest proportion of deaths *from a specified cause* during both famine years, as in other years. The classic pattern of mortality noted by Dyson, Maharatna and Whitcombe, whereby the initial phases of drought were marked by a decline in the proportion of fever mortality, was visible during 1876, to some extent. Thus, despite the existence of high prices and reports of starvation in late 1876 and throughout 1877, deaths from this category started to rise dramatically only from June 1877, when the monthly number of registered deaths rose from 25,000 in May to 31,000. From July 1877 onwards, deaths from fever soared. Prices reached their maximum in September 1877. The number of deaths rose again sharply to 65,000 in November and peaked in December that year at 71,000. At the same time, the proportion of deaths attributed to fever declined from 39% in 1875 to 33% in 1876 to 30% in 1877.

In 1878, fevers accounted for a steep 46% and this increase was concentrated in the first three months of the year. Through 1878, fevers were the single largest

Table 4.2 Monthly Distribution of Deaths by Cause 1876-78

Causes	Jan-76	Feb-76	Mar-76	Apr-76	May-76	Jun-76	Jul-76	Aug-76
Cholera	14607	11683	8299	10834	11463	14681	18641	10363
Smallpox	2038	2889	3517	2460	1750	1462	1398	1244
Fever	<i>21118</i>	<i>18898</i>	<i>16660</i>	<i>16166</i>	<i>17036</i>	<i>17953</i>	<i>19778</i>	<i>18687</i>
BC	3563	2966	2367	2582	2950	3355	3802	3430
OC	19705	18065	15763	16271	17566	18368	20963	20339
Total Mort	61962	55432	47537	49244	51696	56750	65513	54994

	Sep-76	Oct-76	Nov-76	Dec-76	Jan'77	Feb'77	Mar'77	Apr'77
Cholera	5265	3280	7894	31183	58712	51211	43753	31005
Smallpox	1192	1150	1551	2812	4989	6863	9653	8837
Fever	<i>17959</i>	<i>18216</i>	<i>22671</i>	<i>24950</i>	<i>21556</i>	<i>18713</i>	<i>21801</i>	<i>21404</i>
BC	2931	2827	3170	4233	6087	4994	4841	4274
OC	19387	18649	20314	23918	23479	21564	22232	22241
Total Mort	47665	45053	56511	88027	116195	104717	103652	89133

	May'77	Jun-77	Jul-77	Aug'77	Sep-77	Oct-77	Nov-77	Dec-77
Cholera	37139	25921	27353	31737	24501	10390	8416	7292
Smallpox	6849	6014	6324	6798	7392	8302	8034	8266
Fever	<i>25670</i>	<i>31418</i>	<i>44366</i>	<i>49034</i>	<i>49085</i>	<i>49226</i>	<i>65683</i>	<i>71275</i>
BC	5400	7677	17670	22129	19826	16155	13180	11173
OC	27656	36115	53634	62863	65818	56177	51708	47973
Total Mort	104086	108517	150719	173933	167994	141622	148393	147351

	Jan'78	Feb'78	Mar'78	Apr'78	May'78	Jun-78	July'78	Aug-78
Cholera	4439	1985	2981	2726	4160	5368	8343	7525
Smallpox	7200	7546	8693	7524	6221	4681	3873	3051
Fever	<i>54,363</i>	<i>34,373</i>	<i>30,769</i>	<i>23,914</i>	<i>21,695</i>	<i>22,147</i>	<i>26,429</i>	<i>28,209</i>
BC	7989	4855	3929	3055	2867	3185	3788	4623
OC	35002	23292	20509	17316	17834	18724	20302	25359
Total Mort	110243	73301	68131	55785	54027	55355	63985	70017

	Sep-78	Oct-78	Nov-78	Dec-78
Cholera	5432	1659	983	1556
Smallpox	2558	2024	1376	1613
Fever	<i>29,433</i>	<i>31,605</i>	<i>32,142</i>	<i>39,364</i>
BC	4643	3538	2945	2666
OC	24536	22424	20834	21656
Total Mort	67852	62590	59530	68105

cause of deaths. At the same time, they never reached the levels of November and December 1877 in terms of numbers.

Other Causes

The category in which the maximum numbers of deaths were registered during the main famine year 1878 is a category called 'other causes'. It is important to note that none of the authors mentioned above take this category into account in their analysis. Lardinois, Dyson and Arnold simply do not refer to it, while Whitcombe terms these deaths as 'defectively registered'!¹ 'Other causes' was responsible for the largest absolute number and proportion of deaths in the main famine year 1877.

The monthly figures for deaths registered under this category are not given. But it is possible to reach a fair estimate in the following manner. The deaths from cholera, smallpox, fevers and bowel complaints are subtracted from the total number of deaths for each month. The remaining figure then represents the combined monthly total for 'other causes' and 'injuries'. An estimate of the monthly number of deaths from injuries is obtained by dividing the yearly total for injuries by 12 and arriving at a monthly average. This average is then subtracted from the monthly combined total for injuries and other causes. The remaining figure represents the monthly total of deaths from 'other causes'. Although this method will tend to smooth out the monthly or seasonal variations in deaths from injuries by using a flat average, we can justify its use on the grounds that the number of deaths from injuries is a very small proportion of the total (between 11,000 and 17,000 per year for each of the three famine years, or between 1.05 and 1.85% of all deaths). This category would not disturb the monthly variation in the combined total of 'other causes' and 'injuries' to a significant extent).

¹ Whitcombe, 'Famine Mortality', p. 1173.

Thus 'other causes' and 'fevers' constituted the majority of deaths throughout the famine years, in common with non-famine years, 'Fevers' as a category of deaths overtook 'other causes' in terms of absolute numbers only in November and December 1877 and January 1878, and thereafter throughout 1878, as noted above. These two categories, therefore, accounted for between half and three fourths of all deaths in every year from 1871. In 1877, these causes account for 61% and in 1878, this rose to over three fourths of all deaths, due to the increase in fever deaths.

Deaths under the category 'other causes' fell slightly from their 1876 levels in early 1877, then started to rise from May 1877. They rose dramatically and dominated the death returns in May, June, July, August and September 1877, then began to decline gradually and reach early-1876 levels by May 1878. However, the number of deaths attributed to this category increased again in July and August 1878, decreased slightly in September, October and November 1878, and then rose sharply in December 1878.

Cholera

Cholera deaths peaked in January 1877, although small rises are seen again in May and August 1877, as seen in Graph G4.1. Cornish and other observers pointed to the occurrence of a cholera epidemic in 1875 and 1876.² This epidemic continued into the early months of 1877, and swelled mortality figures. After 'other causes' and 'fevers', cholera constituted the third largest cause of deaths in 1877 at 23%. In 1878, this proportion fell to 5.6% of all deaths. Thereafter, deaths from cholera declined steadily, despite a small rise in August 1877. In 1878, the Presidency reported relatively few deaths from this cause.

² *SCR 1877*, p. 85.

Smallpox

Smallpox deaths in 1877 reached a level unheard of in the history of death registration in the Presidency, at 88,321. In 1878, the absolute number of deaths attributed to smallpox declined from this crescendo, but the proportion of the total deaths attributed to smallpox rose from a level of 3.86% in 1875 to 7.06% in 1878. Smallpox exhibited distinct seasonal patterns. This indicates that the increase was caused by several factors peculiar to the famine situation- particularly the massing of people on relief works and camps, and by famine migration (thereby validating Arnold's argument to some extent). However, there also appear to have been seasonal factors which played a role in the virulence and transmission of the disease, much as in non-famine years.³ The greatest number of deaths from smallpox in 1877 occurred in March and April, but deaths from this cause increased again in September and October 1877 onwards, with another rise in March 1878.

Bowel Complaints

The category 'bowel complaints' accounted for between 5 and 9% in every year between 1871 and 1878. This category was introduced into the returns in 1871 to differentiate between cholera and other diseases whose symptoms also included fluxes of the bowels. They therefore referred in the European mind particularly to 'dysentery and diarrhoea', both of which seem to have been linked to each other. In 1877, bowel complaints caused 8.5% of all deaths, a considerable increase from its pre-famine proportions of 1875 and 1876. Deaths from bowel complaints peaked in the monsoon months of July, August and September 1877, then decline from October 1877. Despite a slight increase in July, August and September 1878, they came down

³ *SCR 1877*, p. 137. Cornish however remarked that in 1877, the seasonal variations were less marked than usual: although the maximum mortality occurred in March as in other years, the epidemic did not decline as quickly as in other years.

to pre- 1876 levels by end-1878. This category, then, had a clear correspondence with the monsoon months, in common with 'other causes' and fevers.

Injuries

Finally the category 'injuries' also increased sharply in 1877 over the previous year. The number of deaths registered as due to injuries in 1877 was the highest in the decade. At the same time, it must be remembered that the *proportion* of deaths attributed to injuries of all sorts fell to a low this year, as other causes of death simply overwhelmed it. Since monthly figures for this category are not available, it is not possible to trace the variations in mortality from this cause.

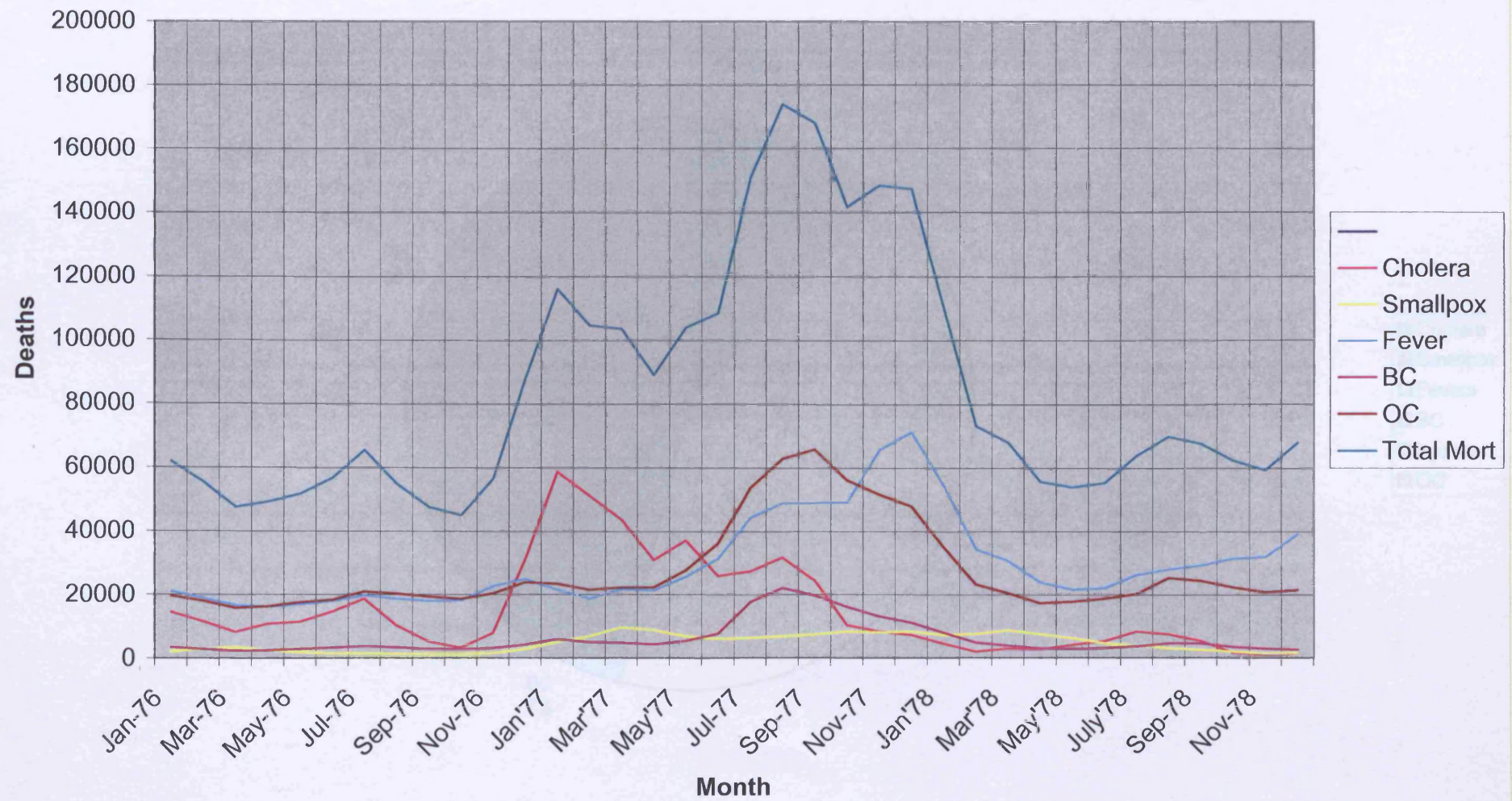
IV. Phases of Famine Mortality

This summary of the relative quantities of deaths from different disease categories leads us to ask the following questions. Firstly, does the data support the existence of two main phases of famine mortality, the first dominated by cholera, starvation and bowel disease, and the second dominated by fevers? Secondly, what was the relationship of different disease categories to the general death rate, and what factors account for the movements of different disease categories?

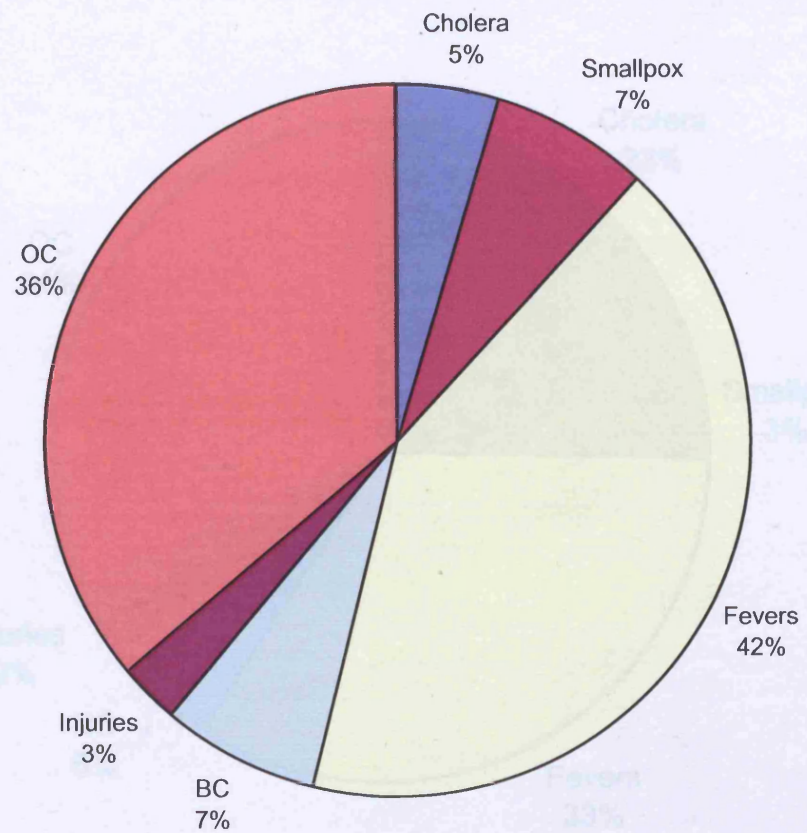
The Chronology of Famine Mortality

Graph G 4.1 enables us to suggest some answers to these questions as well as to raise some fresh ones. This graph is useful because it shows the movements of different categories under which deaths were registered over a two- year period. We are also able to analyse the relationship and contribution of different causes of death to the general death rate over a 2 year period. There appear to have been four, not two phases in mortality between January 1876 and December 1878, during each of which

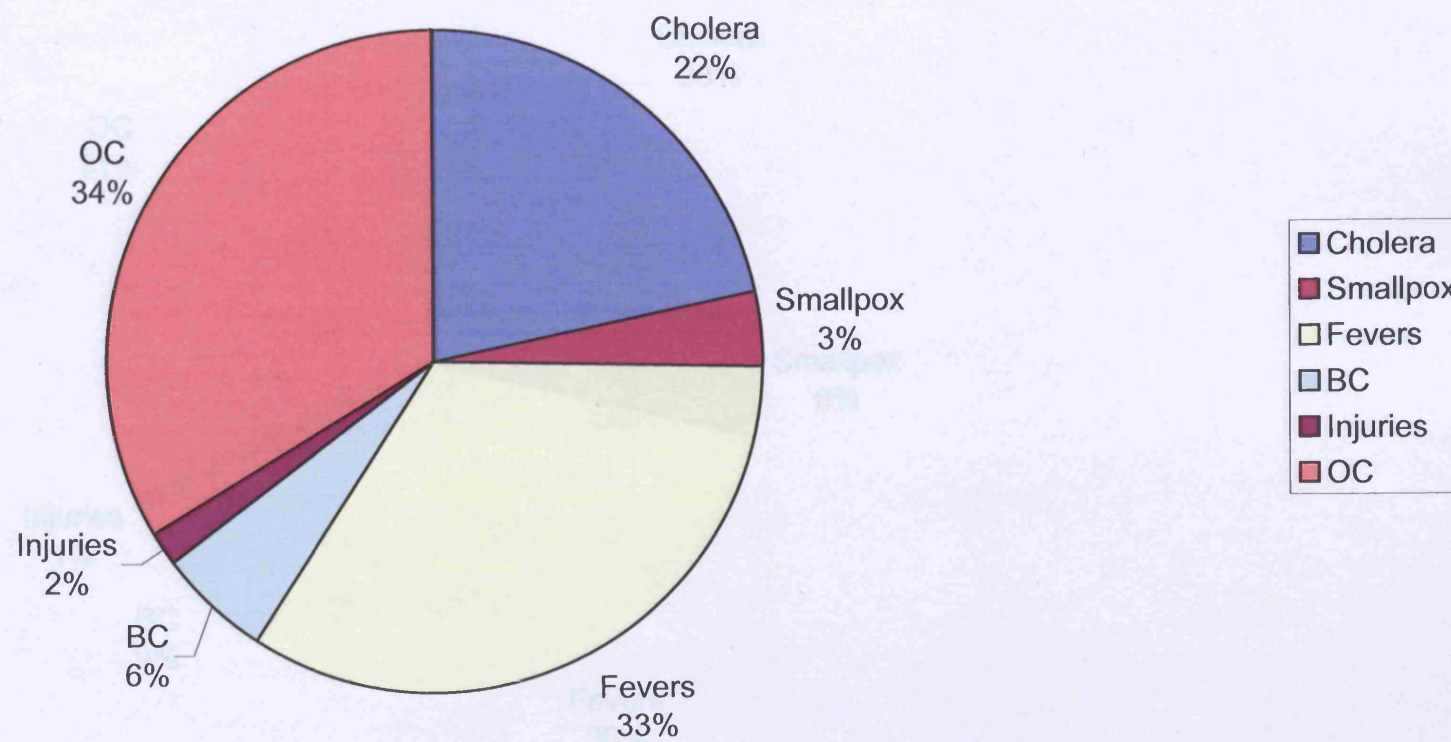
Graph G4.1 Monthly Movement of Deaths 1876-78



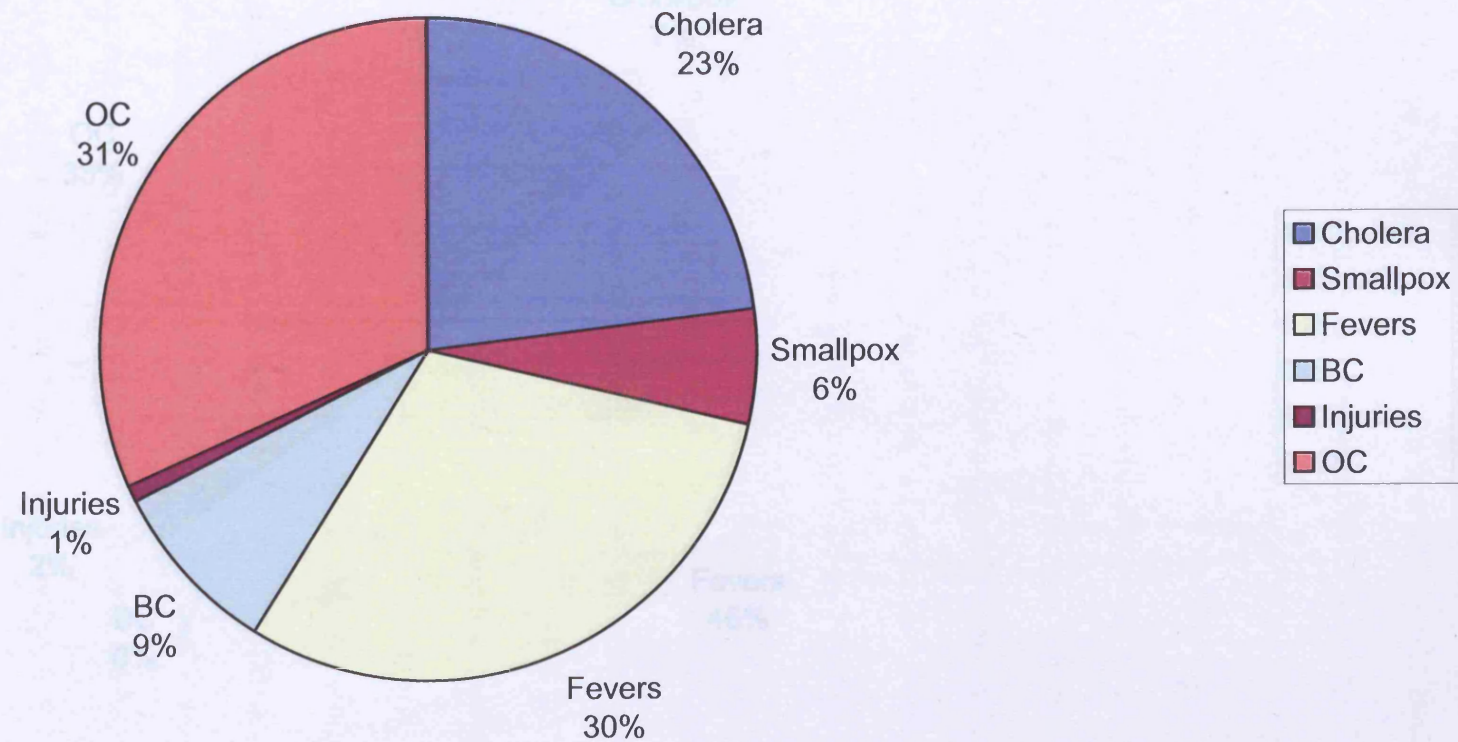
Average Distribution of Deaths 1871-75



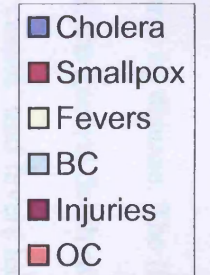
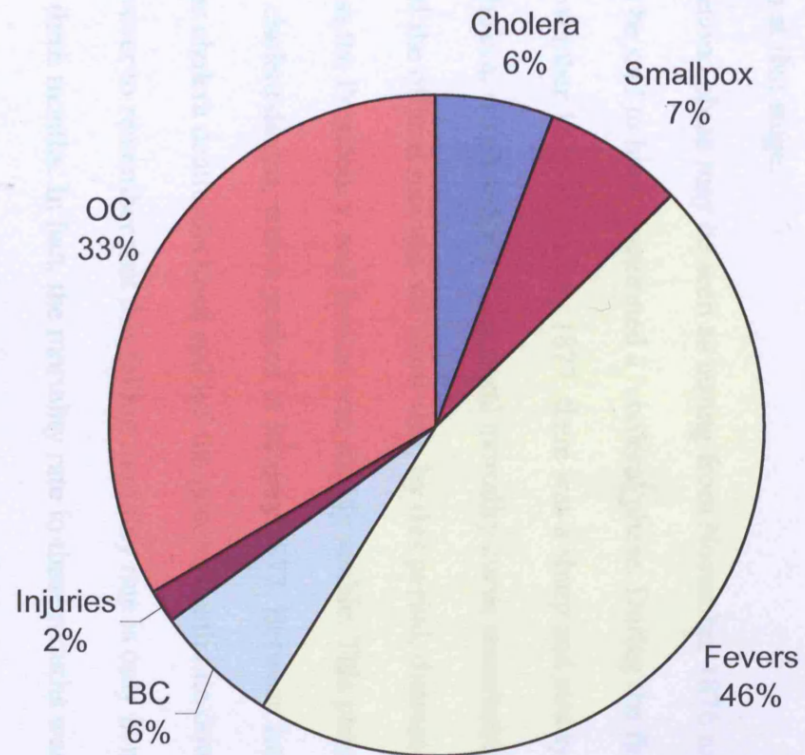
Distribution of Deaths by cause 1876



Distribution of Deaths by Cause 1877



Distribution of Deaths by Cause 1878



the death rate exhibited distinct patterns by disease. The first phase lasted from March to November 1876. During this phase, the general death rate saw a fairly minor peak which occurred in July 1876. 'Other causes' and fevers led the increase in death rates pretty evenly in this phase, with cholera slightly behind. Between July and October 1876, the total number of deaths fell to their March levels, mirrored by the fall in cholera deaths. However, the total number of deaths from fever and other causes remained fairly steady. Whether this early period can be included in our analysis of famine mortality is a debatable question, but we must note that the harvests had been poor in the Ceded districts even in 1875, and thus there must have been some suffering even at that stage.

The second phase may be seen as lasting from November 1876 to April/ May 1877, and can be said to have constituted a 'cholera' phase. During the first half of this phase, November 1876 to January 1877, there was a sharp and steady increase in deaths from cholera, which shaped the general mortality curve remarkably. From our examination of the official records, we know that, by this period, distress had begun to be felt across the Presidency, and famine was clearly visible. This phase was dominated by cholera deaths, which peaked in January 1877. Between January and April 1877, the cholera deaths declined and led the general death rate downwards. It is important however to remember that this falling mortality rate is only in relation to the preceding three months. In fact, the mortality rate in these months was very much higher than the same season in previous years, as seen in Table 4.3.

From this falling mortality rate at the end of this second phase, we are led into the third phase of famine mortality, which covers the period April/ May to October/

Table 4.3 Mortality in Famine Districts December 1876 and January 1877

Districts	Cput	Nellore	N Arcot	Kurnool	Cuddapah	Bellary
Pop 1871	938184	1376811	2015278	914432	1351194	1668006
Av. 5 yrs endng Dec 1875	1892	2007	3445	1420	2336	2585
Av. 5 yrs ending Jan 1875	1404	1794	3493	1371	1933	2253
December 1876	2865	5641	6006	11862	6612	7440
January 1877	6094	11142	13686	6253	13361	9361
Mort/1000 5 yrs	21.08	16.6	21.9	18.3	18.9	17.4
Mort/1000 Jan 1877	57.2	73.7	58.7	118.8	88.7	60.4

Source: Letter from Dr. Cornish to the Chief Secretary to Government, dated 6th April 1877.
(No. 144, IOR/V/4/Session 1877/Vol. 65)

November 1877. This phase was the most lethal in the entire course of the famine and there was a huge increase in the general death rate. It was dominated by 'other causes', which, along with 'fevers' began to increase from March 1877. Deaths from 'other causes' led the increase in the general death rate in this phase, while the connection between cholera and the general death rate lost strength dramatically from the beginning of this period. Note also that death from 'bowel complaints'- numerically a relatively minor cause of death- mirrored the general death rate in shape to a great extent at this stage. Thereafter, the general death rate fell slightly in September.

The fourth phase of famine mortality began from November 1877. At this point, deaths from fever, which had been increasing from April/ May 1877, overtook 'other causes'. The general death rate was led into another peak in December 1877, caused primarily by the sharp increase in fever deaths. The highest absolute number of deaths from a single cause in any month occurred in December 1877, and was attributed to fever. Yet, the peak in the general death rate which occurred as a result of this increase in fever deaths was smaller than that of the preceding phase. This means that the earlier during the third phase was far more lethal in relative terms. The swelling of the death rate from *all* causes contributed to the August 1877 peak in the general death rate, while the later fever peak was neutralized to some extent by falling death rates in other categories. From this point onwards, the total death rate declined, although there is another minor peak in August 1878, which is again largely due to fevers. Fevers dominated the general death rate throughout 1878.

The phases in famine mortality can thus be summarized as: (1) March 1876- November 1876: This phase, which may be included in the famine period with some doubts, saw a minor peak in July 1876, and was led by other causes, fever and

cholera. (2) November 1876 to April/ May 1877: This phase may be said to constitute a 'cholera' phase. It saw a dramatic rise in deaths from November 1876 which peaks in January 1877, and this was dominated by cholera. From January 1877 to April 1877, cholera began to decline, and though death rates for these months was well-elevated over preceding years, the absolute number of people dying declined. This decline in cholera deaths led the general death rate downwards. (3) April/ May to October/ November 1877: This, the third phase, was undoubtedly that of greatest suffering, with a very steep increase in the general death rate. 'Other causes' dominated this increase, rising from end-April and peaking in August 1877. Interestingly, the shape of the death curve from 'bowel complaints' although much smaller than 'other causes' is similar to it at this stage. Both 'other causes' and 'bowel complaints' mirror the general death rate curve in shape. Between September and October 1877, the general death rate declined from its August levels, but was still high. (4) November 1877 to December 1878: This was the fourth 'fever' phase of famine mortality. Deaths from fever had been increasing in importance from April/ May 1877, overtaking 'other causes' in November 1877. The general death rate rose in response from end November 1877. Fever mortality peaked in December 1877. This was the highest number of deaths from any single cause in the course of the three famine years. However, this peak did not affect the general mortality trend to the extent that 'other causes' did in the preceding phase. This seems to have been because deaths in all other disease categories were declining.

V

The previous section established the existence of four phases in famine mortality rather than the two suggested by Dyson and Whitcombe. Further, we also pointed to

the importance of a category of death causes either not considered by any of the authors who have analysed the mortality trends for this famine, i.e. 'other causes'. The preceding discussion as well as the graph presented above clearly illustrates the importance of this category, both in terms of absolute numbers and in terms of the main registered cause of death in the most lethal phase of famine mortality. We now move on to suggest a hypothesis to explain these patterns of disease and famine mortality.

Interpreting Categories of Death-Causes

We need first of all to examine the categories under which death was registered. There are several things to be considered. First, is it possible to deduce what the category 'other causes' - shown to be the category in which the maximum number of deaths were registered in 1877, and particularly in the third and most lethal phase of famine, consisted of? Secondly, did the category 'fevers' refer undoubtedly to malaria as we know it today and what evidence do we have in this regard? Thirdly, how did famine conditions influence the other categories of death causes- cholera, bowel complaints, smallpox and injuries? Fourthly, can we possibly conclude whether infection or debility played the most important role in causing famine mortality? Finally, is there any evidence to suggest that administrative and medical actions influenced the course of disease and death; and if so, how?

'Other Causes'

In the main famine year, 1877, the category 'other causes' accounted, as we have seen, for the largest proportion of all deaths, 31.5%. Cornish's evidence on this category seems to point to the possibility that a large proportion of this category was constituted by what he termed 'famine diseases' and starvation deaths. Cornish estimated that in the seven non-famine districts, the death ratio was 8.5 per thousand;

while the fourteen famine districts returned 21.8 per thousand population. He suggested that a large proportion of these would more aptly be classified as starvation deaths, despite the uncertainty surrounding the actual identity of these causes.¹

Cornish pointed out that there were marked differences in the way in which the administration classified death causes in different districts. Thus, in the Ceded districts comprising Bellary, Kurnool and Cuddapah, all of which were geographically contiguous and devastated by famine, Bellary returned a very high proportion of deaths from 'other causes' and a relatively modest number of deaths from fever. Kurnool and Cuddapah returned a very high proportion of deaths from fever, but a small proportion from 'other causes.' However, these differences pointed Cornish to the suspicion that both these categories were organically linked to clinical manifestations of starvation. Further, he apprehended that the standing order that no person was to be permitted to die from want of food would prevent the entry of starvation deaths in the returns, and that 'the great bulk of the famine mortality has been included under 'cholera', 'fevers', 'bowel complaints' and the general heading 'all other causes'.²

...The exact truth in regard to the effect of diminished food supplies on a population cannot be shown in the death registration tables....the diseases of innutrition, however well-known to persons of medical training, cannot be specified by uneducated village servants and the fear of getting into trouble with the authorities would further have the effect of making these servants record mortality as due to 'old age', 'fever', or any other head of classification, rather than to the proper heading 'chronic starvation'.³

Cornish therefore suggested that the bulk of the mortality was due to the effects of chronic starvation on the human body; that the death registration seriously misjudged

¹ *SCR 1877*, p. 146.

² *Ibid.* See Chapter 1, pp. 90-91 of this thesis regarding this order and its influence on the accuracy of the death returns.

³ *Ibid.*, p. 147.

and understated its effects; and that several deaths primarily traceable to starvation.

However, does other evidence support this supposition?

Going back to Table 4.1, it appears that the heading 'all other causes' accounted for between 31 and 37.5% of deaths in *all* years, not just famine years. To attribute the totality of the deaths under this heading to starvation or its effects would be erroneous, for we would have to believe that a third of the registered population were starving to death every year from 1871 onwards. This clearly is difficult to believe. It remains an interesting anomaly that, in every year, when nearly a third of all deaths were attributed to this category, no medical official at the Presidency felt the need to explain this large proportion. It was only in 1877 that Cornish made a special note of it, indicating that we need to weigh the evidence carefully before attributing it in its entirety to starvation.

It seems reasonable therefore to conclude that there was simply a large amount of disease and death in ordinary years that colonial medical men had no idea about and which we therefore have few clues to. We are faced with the difficulty that despite its significant presence in the death returns both in famine and non-famine years, we know very little about what actually constituted deaths from 'other causes'. Cornish himself expressed his ignorance, as 'details of diseases included under "all other causes" were seen only by the mortuary clerk in the offices of each of the nineteen district Collectors'.⁴ It clearly contained deaths from old age and debility amongst the destitute, even in ordinary years, and possibly all other diseases not clearly recognized or identified by village officials. It was only in 1877 that Cornish made a special note of it, indicating that the original purpose of these statistics was the monitoring of

⁴ *SCR 1877*, p. 146.

infectious diseases, particularly cholera, and that other conditions not of importance to the state could not easily be encompassed by them. This again points us to the conclusion that the death statistics were themselves very rough-hewn tools to work with.

Despite this, however, it still appears reasonable to suspect that starvation deaths constituted a significant portion of the great increase in deaths registered under this category in 1877. We have some evidence from a study conducted by Alexander Porter, Principal of the Madras College, on the bodies of famine victims in Royapettah Hospital during the famine months of 1876 to 1878. Here it is worth remembering that this was a sample which was analysed by medical professionals in Madras city, not by untrained village servants. Porter wrote:

Many cases were admitted with great emaciation and weakness but suffering from no appreciable disease. These were generally returned under debility, privation or atrophy....they are all grouped under 'other causes'.⁵

It might also have contained deaths from old age and venereal diseases, although this is a conjecture. Finally, we know nominally of the existence of various diseases which were explained not in European terms, but had a distinct identity in native vocabulary. For example, district officials reported great panic amongst people due to the outbreak of a disease called '*soorukumari*', in 1877, which medical officials sought to dismiss as cases of fever or cholera, or at worst, native imagination.⁶ All such inexplicable or ambiguous cases would have been included in this category.

Although it is hard to explain the presence of 'other causes' in non-famine years, we would suggest that it might credibly be argued that Cornish's reading of this

⁵ A. Porter, *Diseases of the Madras Famine*, Madras, 1889, p. 104.

⁶ *Soorukumari* was said to be characterized only by a 'twinge of pain somewhere near the foot which rises up towards the trunk'. It was reported to have attacked over 3000 people in Madras in July 1876. The Surgeon General of the Indian Medical Department dismissed these reports: 'The whole thing is a panic.' (Proceedings of the Government of Madras in the Public Department dated 2nd August 1876, Nos. 5-6, G.O. No. 860, TNSA).

category- as indicating the existence of starvation and its effects on susceptibility to infection- holds some water.

Can we separate famine mortality into starvation/ disease? : A critique of the two-phase model

As the preceding paragraphs make clear, 'other causes' constituted the largest proportion of deaths in the worst phase of famine. Both Porter and Cornish suggested that this category contained a large proportion of starvation or starvation-induced deaths. It is, therefore, doubtful whether famine mortality can indeed be divided into two clear and distinct phases of 'starvation/cholera/ diarrhoea' and 'disease/malaria'. The sharp rise in fever deaths that took place in November and December 1877 and throughout 1878 was far less than the peak attributed to 'other causes' which accounted for the maximum number of deaths between April and August 1877, and indeed through 1877, the worst year of the famine.

Further, starvation and emaciation were being reported even in the third and fourth quarters of 1877, a phase which would properly have fallen into the 'epidemic malaria phase' under the two-phase schema. In September 1877, district officials in Bellary reported that 'the coolies here are all in a bad way and have fallen off in condition very much during the past month; especially the young men...have recently become mere skeletons of human beings.' The Deputy Collector of the District reported a 'great deterioration in the physique of the people at large'; that 'several had sold their huts and all household things and even their cumblies and cloths for annas and pice

and are now left without anything except hunger and starvation'.⁷ If those on relief works were in bad shape, people on money and food doles in villages or in relief camps were even worse off.⁸

What seems to have been happening was that as the famine continued, people gradually fell from various stages of subsistence into various stages of starvation. In this sense, Arnold's characterization of responses to famine as a series of increasingly desperate strategies to stay alive is appropriate. In the early phases, as Cornish noted, cattle mortality as well as distress sales of cattle by small farmers and sharecroppers meant that the meat-eating castes (who were usually poor untouchables of Pariah, Palli or Vanniyar caste) had a source of nutrition which enabled them to survive.⁹ However, this source did not last long, and as Arnold has noted, this paradoxically meant that they were disqualified from the relief works.¹⁰ As the famine wore on, small landowners and menial government servants fell into destitution. Petty Government servants had begun to receive, from November 1876, an additional allowance to supplement their meagre income.¹¹ The slightly better off *ryots* began to migrate, sell jewellery, utensils and other belongings. By the middle of 1877, a

⁷ Letter from J.H. Master, Esq., Collector of Bellary, to C.A. Galton, Esq., Acting Secretary to the Board of Revenue, dated Kudlighi, 20th August 1877, No. 670, Proceedings of the Madras Board of Revenue for September 1877, TNSA.

⁸ Early on in the famine, Cornish noted that 'the most marked effects of the famine were to be sought among people of this class' (i.e. those who came to receive food or money doles in the camps) 'rather than those who had strength to work on relief gangs.' He also found that 'for the first effects of (the reduced wage scale) we must look to the old and infirm and the young children, that is the dependents of labourers who are incapable of earning a living for themselves....these classes are not to be seen on the relief works.' (Proceedings of the Government of Madras in the Public Department dated 9th March 1877, Nos. 31-34, TNSA).

⁹ SCR 1877, p. 220.

¹⁰ Arnold, 'Famine in Peasant Consciousness and Peasant Action', p. 95; *ibid*, 'Social Crisis and Epidemic Disease', p. 391.

¹¹ Superintendents and Deputy Inspectors General as well as jail servants were granted an increased 'batta' from November and December 1876 onwards. This indicates the range of persons who must have felt the pinch of increased prices. Prisoners in police custody were also given an increased allowance from December 1876. Proceedings of the Government of Madras in the Judicial Department dated 20th November 1876 (Nos. 100-101); 12th December 1876 (No. 261), 28th December 1876 (Nos. 172-174).

number of previously prosperous persons were destitute. The sheer scale of the famine suggests that it affected a very wide section of south Indian society.

Non-official and semi-official reports also suggest that starvation was occurring long after July 1877, and that state machinery was relatively useless in dealing with it. For example, a famine relief officer of the Chingleput district begged the Indian Famine Relief Committee (a semi-private organization which appealed for assistance from private persons in England and in British colonies) for assistance in September 1877, stating that 'every day, scores of new applicants who are unmistakeably famine-stricken pass through our registration, and we find it our painful duty to send these back unrelieved'.¹²

As late as January and February 1878, reports of starvation were coming in from the districts. A Protestant priest in the Bellary district requested funds from the Mansion House Relief Committee in January 1878, mentioning that 'a poor old woman died of misery before my door. I gave her food and money but the relief came too late'.¹³ In the North Arcot district, in the middle of February 1878, a man was apprehended and sent in to the Ranipet dispensary for committing an act of cannibalism. (He was found by the police eating the remains of a poorly interred corpse in the dry river bed of the Palar river). However, the case resulted in a difference of opinion between district revenue and medical officials. That he was sent to the dispensary and not prison was due to the fact that district revenue officials saw him as being mentally unsound rather than of criminal intent. The medical officer in charge of the dispensary, an American missionary priest called Dr. Scudder, however,

¹² Letter from C. Devaraja Mudliyar, Special Famine Officer, Chingleput district, dated 27th September 1877, Proceedings of the Indian Famine Charitable Fund, Chapter 3, p. 6, TNSA.

¹³ Letter from Rev. A. Kroll to the General Famine Relief Fund, dated 9th January 1878, Proceedings of the Indian Famine Charitable Relief Fund, Chapter 16, p. 30, TNSA.

reported that the man was neither criminal nor a habitual lunatic; he was simply starving. Dr Scudder wrote:

‘(the man) when brought to the dispensary was extremely emaciated and himself declared that he committed this act because he was suffering from hunger and was faint from want of food.... for these reasons I connected the word famine with his name, and *though he is subject to periodic attacks of insanity, I still have no doubt that starvation was the immediate cause of his act.*¹⁴

What this would suggest is that quite late in the famine, an indeterminate number of people were in fact hanging on to life by a mere thread, or gradually descending down the line of hunger. Therefore it is not quite so easy to implicate contagious or infectious diseases in these latter phases *without reference to debility and starvation*. Alexander Porter noted that in all the autopsies he had seen in the post mortem room, ‘the most notable feature was emaciation.’ Fully 86% of men and 83% of women whose bodies he saw between November 1876 and May 1878 had wasted to the point where they had reached two thirds of their normal weight.¹⁵ This would indicate that starvation was a slow and painful process, and that its ravages were not restricted to the first phase of the famine.

Fever deaths, Malarious Fevers and Malaria: Theories of Disease causation and Descriptions of Symptoms

Returning to the ‘malaria hypothesis’, we also need to examine the way in which fever deaths were classified. Did fever in fact mean malaria as we understand it today?

The evidence suggests that ‘fevers’ was a generic term used to describe very many syndromes, and similarly ‘malaria’ had different connotations from what we would understand of malaria today. In 1870, Cornish wrote: ‘As regards the registration of

¹⁴ Proceedings of the GoM in the Judicial Department, dated 28th March 1878, G.O. No.657, TNSA.

¹⁵ Porter, *Diseases of the Madras Famine*, p. 201.

deaths under the head of 'fevers,' no attempt is made to classify the various diseases which cause mortality....the prevailing form of fever is the malarious remittent or intermittent (possibly in proportion to the degree of malarial poisoning)'.¹⁶ This quote might lead us to believe that indeed the 'malarious fever' which Cornish refers to here was the malaria we know today, with its symptoms of splenic enlargement, and distinct 'hot' and 'cold' phases of fever.

In fact, the correspondence between the term 'fever' and malaria as we know it today appears not to have been quite so watertight. The term 'malarial fevers' was used to represent a class of diseases supposed to be caused by malarial poisoning, i.e. exposure to bad air. It did not always refer to a specific disease entity as we understand it today. Malarial poisoning was thought to cause disease both indirectly and directly through exposure to contaminated or poisonous air, on the one hand, and through the exhalations of decayed vegetable matter, on the other. Malarial poisoning could then manifest itself in a range of symptoms and disease conditions, caused both directly through exposure to bad air, and indirectly through This is evident from the following quote:.

The extent to which....malarial fevers prevail is very great, and there are considerable variations in the intensity of fever prevalence in the various districts. The actual deaths registered as due to fevers during the year are about thirty per cent of the whole mortality and in this registration, for obvious reasons, no attempt has been made to show the mortality actually due to malarial poisoning in the form of anaemia, dropsy and bowel complaints. Were the deaths from these indirect effects of malarial poisoning added to those which are the direct product of malaria, the proportion one year with another, probably would not fall very short of fifty per cent of the whole.¹⁷

'Malarial fevers' in this context incorporated a theory of disease causation, in which a range of symptoms and conditions were seen to be caused by changes in the environment. Ideas of disease in the 1870s seem to have incorporated theories of

¹⁶ *SCR 1870*, p. 107.

¹⁷ *Ibid.*

disease causation as well as descriptions of symptoms. In India, as in England, fevers were described in a variety of ways according to their pattern of symptoms, their perceived root cause, and their contagiousness.¹⁸

Cornish did remark that people were more liable to suffer from fever, 'not during the time of greatest famine pressure, but after the rainfall following on prolonged drought had set free malarious exhalations, and in many of the famine districts, after the worst pressure of famine had been relieved'.¹⁹ In addition, 'all classes of the people, even the European officials, felt the malarious influences'; 'in Kurnool and Cuddapah public business nearly collapsed owing to the subordinate officials being stricken down with fever'.²⁰ This might suggest that fever struck indiscriminately; and that there was no connection with starvation and debility.²¹ This certainly seems to be the conclusion drawn from the Sanitary Commissioner's Annual Report of 1877 by Elizabeth Whitcombe, who wrote that 'all classes of the population were vulnerable'.²² Cornish also wrote that 'malarious fevers following on famine are just as much natural phenomena as the enormous development of insectivorous life after prolonged drought', lending support to the argument that malaria following on the unusual climatic and ecological sequences of famine was unrelated to the economic and social disruption caused by famine.

Yet, in the same report, Cornish also remarked that this fever, 'an ordinary malarious ague' occasioned 'very little mortality with the strong and well-to-do, but

¹⁸ The interested reader is referred to Margaret Pelling's classic work on how disease categories were linked with programmes of sanitary reform. (M. Pelling, *Cholera, Fever and English Medicine 1825-1865*, Oxford, 1978).

¹⁹ *SCR 1877*, p. 141.

²⁰ *SCR 1877*, p. xxviii.

²¹ *Ibid.*

²² Whitcombe, 'Famine Mortality', p. 1173. Whitcombe has referenced this quote erroneously as being located in Cornish's 1878 report, when in fact it is cited in his 1877 report.

with the 'weakly and half-starved victims of famine, it was very fatal.'²³ Cornish

further reiterated:

The relation of the fever mortality to the famine appears to be this, that a vast number of people had been so debilitated by want that they had no reserve or vital force to enable them to withstand a disease which, in ordinary years, is not very fatal in proportion to the number of sufferers. The feeble health and depraved condition of the body amongst the poor, induced by long privation, were undoubtedly the circumstances predisposing to the large mortality from fever.²⁴

Cornish also stated that in his opinion, 'it (seemed) very probable that that in the famine area, many deaths were ascribed to "fever" which would more appropriately have been registered as being due to privation', indicating once more the fluidity and ambiguity of cause of death statistics, and underlying theories of causation.²⁵ This evidence would tend to support the argument made by Sheila Zurbrigg that in interpreting the effects of disease, there is an important distinction to be made between infection as shown by the exhibition of symptoms of disease and lethality as expressed in mortality.²⁶

Evidence from the Royapettah Hospital Famine Relief Sheds

Medical officials were well aware of the greater lethality of disease amongst the poor and famine stricken, even if they did not have the discoveries of Koch, Manson and Ross in the 1870s. Alexander Porter's investigations between November 1877 and July 1878 indicate very strongly that 'fever' referred to a variety of

²³ SCR 1877, p. 142.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Zurbrigg, 'Did Starvation Protect from Malaria?' op. cit. See also Maharatna, *The Demography of Famines*, p. 83. Maharatna suggests that poor and starved people were much more susceptible to death from malaria during Indian famines. See Maharatna's more recent essay: 'Famines and Epidemics: An Indian Historical Perspective', in T. Dyson and C. O'Grada, *Famine Demography: Perspectives from the Past and Present*, Oxford, 2002. In his more recent work, Maharatna convincingly argues that framing the debate in terms of a dichotomy between public health and nutrition, or between a 'health crisis model' and a 'starvation model' is essentially a false dichotomy. (Maharatna, 'Famines and Epidemics', p. 137).

syndromes and conditions. Porter believed that pneumonia caused a vast proportion of deaths attributed to fever in the districts.

I have no doubt that many of these (fever deaths reported by Cornish) were deaths from pneumonia, present in a large proportion of famine sick; in fact in the post mortem room pneumonia in a more or less advanced stage was found in one case in every four.²⁷

In Porter's sample, the fevers observed were of short duration, and had a lower death rate in comparison with the bowel fluxes. Porter mentioned the existence of cases of ague, febricula, 'simple continued fever' and sunstroke, all of which were classified under fever deaths.²⁸ Cornish concurred with Porter when he stated that most fevers were simple agues, except that they were far more lethal to a famine stricken population.²⁹ 'Fever' was mentioned as a *cause of death* in only seven out of 459 autopsies, indicating that it was classified differently by the village registrars and by medical official. On the other hand, fever was mentioned as a *symptom* in numerous cases where the cause of death was recorded as fever, pyaemia, phthisis pulmonalis, acute pneumonia, and hepatic abscess. One might suspect that particularly in the districts, the distinction between fever as a symptom, and fever as a primary cause of death was blurred.

At the same time, this is not to suggest that we have no commonalities with past societies in experiencing some of the same disease conditions and symptoms, i.e. the supposition that past societies did not experience malaria as we do today and in similar conditions. For example, in cases where splenic enlargement was mentioned

²⁷ Porter, *Diseases of the Madras Famine*, p. 131.

²⁸ See also Kohei Wakimura, 'Famines, Epidemics and Mortality in Northern India, 1870-1921' in P. Robb, Kaoru Sugihara and Haruka Yanagisawa, *Local Agrarian Societies in Colonial India: Japanese Perspectives*, New Delhi, 1997. Wakimura, while noting that fever was the most important cause of death during and immediately after the famine of 1877-78, states that hunger weakened the poor (p. 290).

²⁹ *SCR 1877*, p. 141. It is worth mentioning that a major inquiry into the nature of fever took place in Bombay at the Grant Medical College during 1877. The inquiry was sparked off by a controversy over whether the fever prevalent in Bombay had anything to do with the want prevailing. See H. Vandyke Carter, *Spirillum Fever: synonyms famine or relapsing fever, as seen in western India*, London 1882.

as a concurrent phenomenon along with malarious fever, it is quite likely that this is the malaria that we know. Undoubtedly, famine stricken populations in the 1870s must have experienced malaria in ways similar to those experienced today, and possibly malaria caused as much devastation on a regular basis as it does today in the developing world. One would need to guard against taking the category 'fevers' to signify malaria *alone*, particularly when the district death returns are used.

It is thus difficult to state with certainty that fevers referred primarily to malaria as we understand it after the work of Ross, Laveran and Manson. Moreover, even where fevers were linked to climatic conditions and splenic enlargement, the likelihood of death was much higher among the starving.

Regional Differentials in Fever Mortality

Even if the incidence of 'fever' had a strong climatic element (this association between climate and fever mortality is particularly marked during 1878, which falls into our fourth phase of famine mortality), it is by no means clear that climatic or parasitic changes alone were the most important factor. We return to Cornish's reports to examine the distribution of fever deaths. While noting the strong seasonal movement of the mortality, Cornish showed that fevers were most fatal in the districts worst hit by famine in 1877.³⁰

³⁰ SCR 1877, p. 140.

Table 4.4 Fever Mortality in 1877³¹A. Districts in which fever mortality has not varied much from average

Districts	Death ratios per mille, 1877	Mean of 5 years ending 1876
Ganjam	9.8	9.6
Vizagapatam	9.8	10.4
Godavery	8.4	9.3
Kistna	7.4	7.7
Tanjore	2.9	3.1
South Canara	6.6	5.3
Malabar	7.0	5.9
Tinnevely	6.2	4.3

B. Districts showing excessive fever mortality in 1877

Districts	Death Ratios per mille	Mean of 5 years ending 1876
Nellore	19.3	6.6
Madras Town	15.6	6.4
Chingleput	11.2	5.8
South Arcot	16.3	6.9
Trichinopoly	11.2	7.7
Madura	20.6	4.6
Kurnool	60.5	13.7
Cuddapah	45.6	12.6
Bellary	18.3	6.1
North Arcot	23.9	10.2
Salem	25.5	11.5
Coimbatore	12.2	6.7
Neilgherries	32.2	11.2

This picture would be considerably sharpened by an examination of the correlation between variations in mortality, food prices and rainfall by district. Yet, Table 4.4 does provide a picture that implicates starvation in the mortality caused by fever, as all the districts showing excessive fever mortality were districts where famine had hit hard. Interestingly, if the 'migration' thesis propounded by Arnold were to hold, we

³¹ SCR 1877, pp. 143-44.

would expect that the 'non-famine' districts would experience equal or nearly equal death ratios as compared to the famine districts, as migrants from these districts would have wandered into the non-famine districts and introduced new strains of disease. Instead, the famine stricken districts experience vastly inflated death ratios in comparison to the previous five years. (This is, of course allowing for imperfections in the classification of districts as such).

The evidence from this famine, considered along with other nineteenth century famines and the Bengal famine of 1943, does implicate the role of 'fever' in famine deaths. It is also possible to suggest that this category must have included a number of malaria deaths, which had a strong climatic or seasonal element. However, to argue from there that the climatic factors were the *main cause* of mortality in famine years seems to push this argument too far. The mistake, it appears, lies mainly in four areas: first, an overestimation of the contribution of fevers to the total number of deaths (particularly in connection with 'other causes'; second, an assumption of a simple division of phases of famine mortality into starvation/ infectious disease, when in fact starvation continued to be reported well after the middle of 1877; third, the identity of fever deaths and their correspondence with malaria; and fourth in the confusion between infection and the likelihood of death: the latter being far higher for victims of starvation.

Sanitary and Contagious Factors in the Spread of Disease during Famine

We turn now to consider the role of sanitary and contagious factors in the transmission of disease during the famine. The main categories of disease for which these factors are claimed include smallpox, cholera and bowel complaints.³²

Smallpox

As we have noted, the total number of deaths from smallpox increased significantly in 1877 and remained high in 1878. Smallpox is generally distinct because of its recognizable symptoms and its extreme contagiousness. In the returns, it begins to rise from November 1876, when the first wave of migrants begin to crowd into urban centres in search of relief. Cornish noted:

The condition of the population was such as to be eminently favourable to the spread of a contagious disease like smallpox. Many thousands of the labouring classes wandered away from their homes to the nearest towns or markets or to relief works and camps, so that the people got herded together in large crowds, and at night, every resting place affording shelter was dangerously overcrowded.³³

Understandably, faced with the choice of smallpox or starvation, people chose smallpox over the risk of starving to death. Cornish again remarked:

I have seen a man, his body almost nude, and covered from head to foot with smallpox pustules, elbowing his way through a crowd at the distribution of food....in the earlier days of relief camps, it was a common sight to witness women and children in stages of smallpox sitting close by others free of the disease, awaiting the distribution of food.³⁴

The mortality statistics for smallpox are interesting in that they show the clearest linkage of all disease categories with migration and with the establishment of relief camps. The mortality from this disease thus supports most strongly the 'social

³² It is worth noting here that nineteenth century medical theories ascribed a role for sanitary and contagious factors in the causation of fevers. However, to go into these debates and theories would deflect us from the main focus of this chapter. See Pelling, *Cholera, Fever and English Medicine*.

³³ *SCR 1877*, p. 137.

³⁴ *Ibid.*

dislocation' thesis. Thus, despite the fact that famine only partially affected some districts- termed 'non-famine' districts where the effects of famine showed itself primarily amongst migrant populations in 1877- these experienced a rise in the death ratio from a mean of 1.4 over the previous five years to 2.4 per thousand population in 1877. At the same time, the death ratio for the famine districts rose even higher, from a five year mean of 1.2 to an average death ratio of 3.0. (We would need to consider a range of factors, such as how far people actually went to get relief, where smallpox was prevalent, etc., in order to deal with this fully. This is regrettably not possible in the scope of this thesis).

Graph G4.1 shows us the seasonal movements in deaths from smallpox during the famine. In terms of seasonality, smallpox mortality rises from December 1876 and peaks in March 1877. There is another (minor) peak in December 1877, and yet another in March 1878. What is also notable about the smallpox death curve is how it forms something of a plateau between March 1877 to March 1878, over which period the death rate from this disease is roughly even. This might be explained by noting that in the early stages of famine and crowding to relief centres, the mortality from the disease was very high. Once the measures for famine relief were more stable, the deaths remain high but even.

We may thus conclude that the smallpox was least affected in biological terms by starvation. Instead, the social disruption caused by famine- migration of the starving poor to cities, relief works and centres of relief, the provision of relief in crowded centres, and the inability of compelling segregation- were primary factors in its transmission and in the great mortality from this disease in 1877 and 1878.

Cholera and Bowel Complaints

We next move on to cholera and bowel complaints. There are good reasons for considering these diseases together. 'Cholera' was a disease that had been known and feared since the early nineteenth century by European administrators. Its characteristic symptoms included abdominal cramps, loss of body fluids through characteristic 'rice water' diarrhoeaic bowel discharges, a drop in body temperature, clammy skin, and great thirst. A variety of theories were propounded as to the causes and transmission of the disease. In 1877, the disease was well-recognized, but still hardly understood.³⁵

Cholera and Politics

Cholera was the most politicized of all diseases during the famine. This was for several reasons, firstly the larger historical context of cholera epidemics. From the 1830s onwards, epidemics of cholera became the focus of conflicting medical theories of transmission and international debates over quarantine. This concern resurfaced periodically during further international epidemics and conferences in 1848, 1866 and 1877. However, as several authors have shown, both in India and in Europe, quarantine was imposed infrequently and unevenly due to commercial considerations, medical disagreements over the causes and transmission of cholera, and administrative inefficiency.³⁶ Another reason for administrative concern was the devastation caused by cholera epidemics to the European military forces.³⁷ In India,

³⁵ For example, in 1876, there was a detailed inquiry into the causes of an epidemic of cholera in Kanakampatty village in Salem district. This became the subject of dispute between the Acting Sanitary Commissioner with the Government of Madras and the Army Sanitary Commission with the Government of India over the mode of transmission of the disease, with the former asserting that cholera was spread by the use of contaminated water, and imported into the village by persons from outside. The latter insisted that the epidemic had nothing to do with polluted water, and that the proof offered by the Acting Sanitary Commissioner was 'defective'. (Surgeon-Major Cornish, 'On an Outbreak of Cholera in an Indian Village', *The Practitioner: A Journal of Therapeutics and Public Health*, XXIV (January to June), 1880.

³⁶ Harrison, *Public Health in British India*, Chapter 3.

³⁷ See R. Ramasubban, 'Imperial Health in British India' op. cit.

despite the statistical importance of fevers and other causes, cholera appears to have been the prime force behind the administrative changes of the 1860s, particularly the setting up of the Sanitary Commissions in 1866. Throughout the 1860s and 1870s, cholera occupies the maximum number of pages in sanitary reports, primarily for these reasons.

However, in the immediate context of the famine, there was a far more compelling reason for administrative concern with cholera. Early in the famine, at the height of the Temple-Cornish controversy over the adequacy of famine wages, Cornish pointed out the remarkable similarity of symptoms of cholera, bowel complaints and starvation.

Famine Diarrhoea

For a moment, we must digress, therefore, into the history of famine. On the 1st of February 1877, while inspecting relief camps in Madras, Cornish noted the presence of 'diarrhoea of a very severe type' amongst patients in the hospital attached to the relief camp. Of these, Cornish wrote, 'I fear that in the majority of these cases, it will not be possible to save life.'³⁸ He stated that, 'the deaths from cholera and smallpox..... (were) insignificant in comparison with the mortality due to long privation and want of the necessaries of life.' In further inspections around the city a week later, Cornish saw more cases of this diarrhoea and termed it 'famine diarrhoea.' He stated that 'famine-diarrhoea is liable to be mistaken for epidemic cholera. Mistakes of this kind are not made in hospital or relief-camp returns, but they are made by the reporters of Municipal registration'.³⁹ An officer accompanying Temple on his tours of inspection noted of the relief camps in and around Madras:

At each of the camps which Sir Richard Temple inspected were a considerable number of women and children in an emaciated and miserable condition. In the relief hospitals were

³⁸ *SCR 1877*, p. 187.

³⁹ *SCR 1877*, p. 180.

being treated some hundreds who were suffering from diarrhoea, brought on or aggravated by want of food. The death rate among these poor people was very high; and to some of them the relief came too late. There were some, but not many, cases of cholera; but the great many fatal cases were caused by diarrhoea which was called by the medical officers "famine diarrhoea" and was identifiable as the same complaint that was so fatal in the Rajpootana famine hospitals during the year 1869.⁴⁰

Famine diarrhoea was, in Cornish's opinion, 'the main cause of death and the gravest feature in the business'.⁴¹ It was commonest amongst the young and the old.

(These age groups lost the most people as ascertained by the 1881 census of Madras).⁴²

He described the symptoms of famine diarrhoea in great detail on the 18th of February 1877:

...The bodies are worn away to skin and bone. All the tissues that can readily be consumed have disappeared. The sick lie on the ground, in extreme weakness, curled up like a ball, the thighs drawn up against the abdomen, the head bending forward on the chest, and the arms folded close against the body. The surface of the body appears to be below the normal temperature, and the pulse is weak and barely to be felt. The motions are mostly of a dysenteric character, and if they do not contain blood, the bright green tint of the matters passed, betoken *blood* in an *altered* condition. In these cases I apprehend that the fatal termination is really due to ulceration of the large intestine.⁴³

Famine Diarrhoea and Chronic Starvation

Cornish saw famine diarrhoea as the fatal pathological manifestation of chronic starvation. Cornish identified two types of starvation- acute and chronic- and emphasized the great difference between them in several of his letters to the Government of India, and in his annual reports. 'Acute starvation' referred to 'the accidental deprivation or withholding of all nourishment for a short period' such as occurred in shipwrecked sailors.⁴⁴ This form of 'rapid starvation', according to

⁴⁰ Memorandum XXV dated Chittoor, 30th January 1877 by Mr. Bernard, Secretary to Sir Richard Temple, on the condition and prospects of the Chingleput District, Famine Correspondence 2, IOR/V/4/Session 1877/Vol. 65.

⁴¹ *SCR 1877*, p. 188.

⁴² See Lardinois, 'Famine, Epidemics and Mortality in South India', p. 460.

⁴³ *SCR 1877*, p. 188.

⁴⁴ Cornish, 'The Sanitary and Medical Aspects of Famine', p. iv.

Cornish, could be easily remedied by good and adequate food and some medical treatment.⁴⁵ However, chronic starvation, where people subsisted on insufficient food for months together, was far more insidious and dangerous as it was frequently irreversible. Thus, long use of 'poor and insufficient nutriment' led to a 'gradual deterioration of health'.⁴⁶ Chronic starvation was of particular relevance to public health officials, whose duty it was to 'bring home to the comprehension of famine administrators that chronic starvation (was) one of the most terrible disasters that (could) happen to a population'.⁴⁷ Chronic starvation led to anaemia (paleness), wasting, emaciation, scurvy, dropsy (swelling), alterations in skin and hair, arrest of growth and development, and stunting of the reproductive functions. When these physiological changes progressed further, the most common symptom was 'intractable diarrhoea', which was 'merely a stage in the long process of degeneration and wasting'.⁴⁸

Famine diarrhoea began 'gradually, without pain or uneasiness', and only after a certain amount of emaciation and wasting. Its symptoms were stools full of mucous, mixed with blood, or blood that had undergone pathological change to a bright green tint, which stained the stools.⁴⁹

Famine Diarrhoea and Cholera

'Famine diarrhoea' and cholera were frequently confused, even by the medical eye. At a relief camp in February 1877, Cornish noted that 'there is no cholera in this

⁴⁵ *SCR 1877*, p. 180.

⁴⁶ *SCR 1877*, p. 188.

⁴⁷ Cornish, 'The Sanitary and Medical Aspects of Famine', p. iv.

⁴⁸ *Ibid.*, p. xxxii.

⁴⁹ *Ibid.*

camp, but the mortality is large from famine diarrhoea'.⁵⁰ An officer visiting a relief camp in Salem district in April 1877 noted that a large proportion of the children were emaciated beyond the reach of any intervention, and could not digest the food that was given, regardless of the type of grain:

Most of these little things had been two or three months in the relief camp, and had not picked up at all. Side by side with them were fat, happy little creatures who got no larger allowance than the thin ones. The explanation given by the Relief Officer and the Native doctor is that some of the children came into the camp in very bad condition, and they cannot assimilate the rice and broth. The Native doctor said that these poor little things passed their food in an undigested state, they had been tried with ragi, with rice and cholum, and some of them had been treated in hospital with sago, but nothing would bring them around. Among the adults too, were some people who had been in the camp for months, and yet were still very emaciated.⁵¹

Cornish wrote that 'famine diarrhoea is liable to be mistaken for epidemic cholera' in February 1877, when inspecting relief camps in Madras town.⁵² The same month, Surgeon B.R. Thompson reported extensively on famine diarrhoea in the relief camps of Madras town.

Thompson's report claimed that famine diarrhoea, although similar to cholera in symptoms, could be distinguished by trained medical men who were familiar with its symptoms. Of the 1372 patients in the Monegar Choultry Relief Camp Hospital in January and February 1877, all were treated for famine diarrhoea and dysentery rather than cholera.

'I had learnt clearly to distinguish one disease from the other and was thus able when cholera broke out subsequently to separate persons suffering from these diseases when they were brought in... Not a single case of cholera occurred among the inmates of any of the camps...'⁵³

⁵⁰ SCR 1877, p. 188.

⁵¹ Memorandum by C.E. Bernard on relief affairs in the worst part of Salem district in April 1877 dated Morapet, 16th April 1877, Famine Correspondence 3, IOR/V/4/session 1877/Vol. 65.

⁵² 'Remedial Measures to be adopted in Connection with the High Death Rate in Madras Town due to Cholera', Proceedings of the Government of Madras in the Public Department Nos. 68-69, dated 13th February 1877, TNSA.

⁵³ Surgeon B. R. Thompson, 'A Report on the Diarrhoea in the Famine Relief Camps at Madras', in *Madras Town Famine Relief Report* by Col. W.S. Drever, Commissioner of Police, dated 20th February 1877, Madras, Government Press, TNSA.

Second, Thompson also stated that early treatment was of the utmost significance in preventing deaths from famine diarrhoea: 'like cholera, Famine Diarrhoea has a manageable stage...if it occurs when the patient has not long suffered from want of food, and the functions of digestion and assimilation are not seriously injured'.⁵⁴ (This seems to indicate that medical officials were themselves unsure of how to detect or define the point at which chronic starvation had progressed beyond hope).

Yet another medical official, Surgeon Lancaster reported to Cornish in July 1877,

In the camp, diarrhoea is very common among the children...the stools are loose...and perfectly *green*...it stains cloth deeply and may be seen staining the ground. *It is fearfully fatal*; when I see it I always think the case hopeless.⁵⁵

That the character of famine-related disease was a matter of great significance to the Imperial Government is evident from the following extract, written by Salisbury to Lytton in May 1877:

The point of dispute is....whether the deaths from disease which seem to be taking place in great numbers are not to be looked on rather as famine deaths than as ordinary mortalitythat distress has had some share in swelling the (mortality) rate few will dispute but it is possible that inanition may constitute the main cause without the special character of the disease itself being lost.⁵⁶

In September 1877, Cornish wrote that 'cholera is very imperfectly registered...similarly, deaths from bowel complaints are not representative of the entire amount of fatal diarrhoea and dysentery.....less than one tenth of the deaths can be ascribed to anything other than starvation diseases'.⁵⁷ Other medical officials in the famine districts also noted common errors of diagnosis on the part of village

⁵⁴ Ibid.

⁵⁵ Cornish, 'The Sanitary and Medical Aspects of Famine', p. xxxv.

⁵⁶ Letter No. 15 from Salisbury to Lytton dated May 4th 1877, Letters from the Secretary of State, Lytton Collection, IOR/MSS Eur/ E218/4A.

⁵⁷ Proceedings of the Government of Madras in the Public Department, dated September 14th, 1877, No. 32-34, TNSA.

officials. Dr. Gray from Chingleput district mentioned, 'Cases of irritative dysentery and diarrhoea (are) being put down as cholera'.⁵⁸ Another medical official in Cuddapah wrote that 'some coolies supposed to have cholera...were all cases of famine-diarrhoea'.⁵⁹ In Nellore district, a journalist interviewing the *tahsildar* of the Gudur taluk reported that the *tahsildar* professed ignorance that anyone in the *talook* was suffering from starvation. When the journalist asked if the weekly mortuary returns did not open his eyes, the *tahsildar* answered that they 'did not and could not, for in the event of an emaciated corpse being picked up, the village *munsiff*, whose duty it was to report cases would not attribute the death to starvation but would say cholera, or dysentery, "or some usual disease" '.⁶⁰

It appears that the early rise in cholera mortality must have taken into account a large number of deaths which would more correctly have been put down to starvation. In other words, the symptoms of starvation- emaciation, wasting and famine diarrhoea- were often mistaken by untrained relief officials as cholera, while starvation itself was not seen as constituting a diseased condition.

This leads one to ask whether the rise in cholera deaths in the early part of the famine was *solely* due to misrepresentation of starvation deaths. This conclusion is probably to push the case too far. Cholera mortality is remarkable for its great variations throughout the famine months, as it is in its variations between different years, famine and non-famine. While its predilection for the poor and malnourished was well-recognized, so was the danger to those who were better off.⁶¹ Thompson

⁵⁸ Cornish, 'The Sanitary and Medical Aspects of Famine', p. xxvi.

⁵⁹ Ibid.

⁶⁰ Digby, *The Famine Campaign*, p. 103-4. Cornish also reported that the mortality returns from Nellore appeared to seriously underestimate the number of deaths.

⁶¹ A number of writers have argued that because cholera was seen as a disease of the poor from which the rich had no immunity, cholera was a classic disease of class conflict. See F. Delaporte, *Disease and*

noted a sudden increase in cholera deaths in December 1876 and January 1877 in Madras town. He also stated that the early cases of cholera in late 1876 were less severe and fatal than those in January and February 1877. He attributed this partly to 'scarcity of food' but also to 'the failure of water supply'.⁶²

Cholera, Famine and Sanitation

An epidemic of cholera had been raging in parts of Madras Presidency prior to the onset of famine in 1876. There were, moreover, other reasons for the great increase in cholera deaths during the latter half of 1876 and early 1877. These reasons implicated more than defective registration and compromise of bodily defences. Primary amongst these was the use of polluted water for drinking, as usual sources of water supply dried up during the early part of the drought and famine. In Cuddapah district in 1877:

Attacks were not confined to the poor; several wealthy merchants and their families suffered, and the disease very suddenly appeared in almost every part of the town. At this time, owing to the drought, most of the drinking water was taken from a public well fed by springs from the bed of the river, or from holes in the river bed. These sources were liable to constant pollution.⁶³

Similar reports of pollution of water supply came from Madras town, where 'the reservoir for supplying the town of Madras ran so low that the water had to be pumped into the delivery channel....and was very much the consistency of green pea soup, offensive to smell and taste'.⁶⁴

Civilization: The Cholera in Paris, 1832. London, 1986. See also R.J. Evans, *Death in Hamburg: Society and Politics in the Cholera Years 1830-1910*, London, 1987.

⁶² Surgeon B. R. Thompson, 'A Report on the Diarrhoea in the Famine Relief Camps at Madras', in *Madras Town Famine Relief Report by Col. W.S. Drever, Commissioner of Police, dated 20th February 1877*, Madras, Government Press, TNSA.

⁶³ SCR 1877, p. 118.

⁶⁴ SCR 1877, p. 103.

The Consumption of ‘Unwholesome Food’

Additionally, the consumption of damaged grain and ‘famine foods’- leaves, berries and fruits that were otherwise considered inedible- played a role in exacerbating the mortality attributed to cholera and bowel complaints:

The scarcity of grain...caused the poorer classes to resort to extraordinary means of filling their stomachs. They ate the fibrous pith of the aloe stalk wherever it was to be had. Fruits of the Indian fig, prickly pear, margosa, and leaves of many jungle trees- some nutritious and digestible, and others having probably only a mechanical action in distending the stomach.⁶⁵

To summarize, a large number of cholera deaths were in fact cases of ‘famine diarrhoea’, a symptom and manifestation of fatal and long-continued starvation. Yet, other factors were also involved in the early rise in cholera mortality. Polluted water supplies and the consumption of indigestible foods were some of these. Further, the lack of sanitary arrangements in the early relief camps and works seems to have created conditions in which cholera was easily transmitted and spread.

The Etymology of ‘Bowel Complaints’ and its translation into the vernacular

‘Bowel complaints’ was a category introduced in the death returns in 1875 by the Indian Medical Department to refer to diseases other than cholera which presented symptoms of morbid bowel discharges. The registration of deaths under this category was problematic because ‘bowel complaints’ was not easily translated into Tamil as ‘dysentery and diarrhoea’, which it signified for the European physician. For him, the term ‘bowel complaints’ conjured up all the symptoms that he wanted it to, and most likely it was translated literally into Tamil.

For the village official, it was a puzzle. The translation worked out as ‘vaithuvalli’ or ‘vairu noy’, which was interpreted as ‘bellyache’ or stomach pain. The term for

⁶⁵ SCR 1877, p. 87.

cholera is 'vaangi bedi' which literally means 'vomiting and diarrhoea'. Diarrhoea was translated as 'bedi', while dysentery was translated as 'cheethu bedi', translated as 'diarrhoea with mucous.' These conditions were therefore identified not as disease entities, but in terms of a set of symptoms, for the village official. It is imaginable that a native official might have been able to ascertain the differences in symptoms at the time of death by questioning relatives (i.e. whether someone had vomiting and diarrhoea, diarrhoea alone, and whether the diarrhoea had mucous or not). However, he was likely to have been puzzled when trying to assign the death to a category which literally translated into something which did not have any reference to these symptoms (bellyache). Hence this category contained, Cornish and other medical officials believed, fewer deaths than its due share.⁶⁶ This also points to the deep ambiguity in the categorization of cause of death statistics, with conflicts between indigenous understandings of diseases as symptomatic and European categories as based on clinical entities.

European medical officials also found that their diagnosis of a disease, including its aetiology, was often disregarded by European revenue officials. Thus, in 1875, the Collector of the Malabar district had a dispute with the civil surgeon of the district over whether 'choleraic diarrhoea' could be entered as a cause of death. The civil surgeon was more inclined to believe that the symptoms in the cases referred to were not those of true cholera, but should be registered as 'bowel complaints'. When referred to the Government of Madras and the Government of India, the latter ruled that in future, in all such cases where deaths from diseases resembling cholera were reported, the cause of death would be registered as 'cholera', thus eliminating the

⁶⁶ The translations for this piece of evidence have been worked out through personal knowledge and conversations with people. Clinical distinctions between diarrhoea and dysentery reveal some amount of ambiguity. In Porter's study, the difference was said to lie in the fact that 'dysentery' implicated that part of the gut supplied by the nerves of defecation', i.e. the large intestine. Diarrhoea was believed to be less correlated with the appearance of lesions in the intestines.

finer distinctions wished for by medical officials.⁶⁷ This leads one to suspect, as did Cornish, that a great many deaths from cholera were in fact not true cholera, especially in the famine years.

Bowel Complaints and Famine Diarrhoea

Deaths from bowel complaints in the famine years probably owed some portion of their great increase to the consumption of contaminated or poisonous food and foul water. Yet, the rise in this category of deaths was closely linked to starvation, particularly during August 1877, the worst peak of famine mortality. The death ratio from bowel complaints in Madras city, where migrants flooded in throughout the famine period, was 38.2 per thousand as against a five year mean of 5.0 in 1877.

Cornish noted that

in our famine relief camps and hospitals, the most common termination of life was bowel flux, either dysenteric in character or diarrhoeal...of the 82,993 persons known to have died in camps, three fourths of the whole number had some bowel affliction...indeed a healthy evacuation was the exception, and fluxes the rule, in all who had undergone a certain degree of starvation. ...Diarrhoea and dropsy of the whole body are the usual endings of four fifths of the famine stricken, but in many cases the texture of the mucous membrane of the bowels is not only wasted but inflamed and ulcerated as in chronic dysentery.⁶⁸

Famine Diarrhoea and the Pathology of Starvation

Cornish's hypothesis that chronic starvation and physiological damage underlay deaths from bowel complaints was confirmed by other medical investigations done during the famine. Surgeon D. D. Cunningham, Special Assistant to the Sanitary Commissioner with the Government of India, reporting on the Madras relief camps,

⁶⁷ Proceedings of the Government of Madras in the Public Department dated January 7th 1878, Nos. 21-22, G.O. No. 32, TNSA.

⁶⁸ *SCR* 1877, p. 143.

validated Cornish's thesis regarding the existence of morbid conditions caused by starvation. Cunningham's report captured the paradox of starvation deaths: in the majority of cases, the final termination of life occurred when famine diarrhoea led to complications such as dysentery and pneumonia, which were then seen as 'causing' the deaths:

Morbid conditions exist which may with propriety be termed 'famine diarrhoea' and 'famine dysentery' as the case may be. These are without doubt cases in which the symptoms of disease observed during life can be referred to no other origin save morbid changes and degenerations dependent on malnutrition. Many other cases occurring among the inmates of relief camps are however complicated by the supervention of other diseases such as acute diarrhoea, dysentery, pneumonia, & c., and although in the majority of such cases the conditions leading to true 'famine diarrhoea' may be distinctly detected, and in some cases the complications may be directly ascribed to their agency, yet the fatal termination is caused, or at all events, accelerated by the complications.⁶⁹

Cunningham's investigations confirmed a correlation between starvation in life and a change in the character of tissues in post mortem examinations.

The pathological changes essentially characteristic of 'famine diarrhoea and dysentery' consist in a softening and subsequent atrophy of the mucous membrane of the intestinal canal, apparently due to a process of fatty degeneration of the tissues, and apparently leading to the destruction of the apparatus provided for the absorption of nutritive material. That such a process is sufficient to account for the phenomena of the disease observed during life, is manifest. The disintegration of the intestinal mucous membrane fully accounts for the disordered state of the alimentary functions. The pathological appearances also account for the failure of curative measures, improved diet, medicines, &c., in the treatment of the disease.⁷⁰

Cunningham concurred in Cornish's warning that the process whereby bodily structures were damaged by starvation over a long period of time, was irreversible:

Where once the complex structures of the intestinal mucous membrane have been so seriously affected by degenerative changes dependent on insufficient nutriment, they cannot be renewed and no diet, however careful and generous it may be can be of any avail when once the means by which alone it can be appropriated to the necessities of the body, have been destroyed.⁷¹

⁶⁹ From Surgeon D. D. Cunningham, Special Assistant to the Sanitary Commissioner with the Government of India, to Surgeon Major S. C. Townsend, Officiating Sanitary Commissioner with the Government of India, dated Calcutta, 18th June 1877 (Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59).

⁷⁰ Ibid.

⁷¹ Ibid.

Cunningham, Cornish and other medical officials in Madras thus saw 'famine diarrhoea' and 'famine dysentery' as the results of delayed, inadequate and inappropriate feeding in famine relief camps. Cunningham published a paper in 1879 wherein he stated that

That symptoms of intestinal irritation should set in under such circumstances is only what might be expected, and that these symptoms should have been especially liable to occur in people shortly after admission into relief camps is readily explicable. While they were outside and actually suffering from extreme privation, the primary destruction of tissue was no doubt advancing, but the amount of nutritive material ingested was correspondingly reduced....On admission into camp a larger amount of food was supplied; the digestive and absorptive apparatus which had formerly sufficed was now relatively greatly reduced, and the surplus food- elements became mere sources of irritation.⁷²

Further, it appears quite clear that Temple's 'experiment' was the focus of their ire.

Cunningham continued:

All the phenomena observed in the present series of investigations point to the absolute necessity of great caution in regard to dietetic experiments, dietetic systems of punishment, & c. They shew it is not safe to push such procedures in the belief that, as long as no active evil results present themselves, we can at any time pull up and restore things to their normal state.⁷³

Post mortem studies of famine victims at the Royapettah Hospital Famine Relief Camp in Madras city also named 'alvine fluxes' as the cause of death in 347 out of 459 autopsies.⁷⁴ Cornish noted that 'in the camps, a large number of people have 'diarrhoea' which simply means that the food given to them is passing away without affording nutrition to the body.'⁷⁵ Similarly, the reports of civil hospitals and dispensaries in the Presidency also showed a high proportion of deaths from diarrhoea, dysentery, and anaemia in 1877.⁷⁶ More modern studies have also

⁷² D.D. Cunningham, *On Certain Effects of Starvation on Vegetable and Animal Tissues*, Calcutta, 1879, p. 46.

⁷³ Ibid.

⁷⁴ Porter, *Diseases of the Madras Famine*, p.3.

⁷⁵ 'Remedial Measures Ordered to be Adopted in Connection with the High Death Rate in Madras Town Due to Cholera'.

⁷⁶ *Report on the Civil Dispensaries and Hospitals of the Madras Presidency for 1877-78*, Madras, 1879.

mentioned the presence of ‘famine diarrhoea’ as a physiological manifestation of starvation, and not as an infective condition or a result of indigestion. For example, W. R. Aykroyd mentions that ‘in starvation the intestinal walls lose substance like the rest of the body, leading to the common and very serious condition often called “famine diarrhoea”’.⁷⁷ Aykroyd also emphasizes that ‘infective organisms have rarely been isolated in famine diarrhoea; the condition is primarily due to wastage and ulceration of the intestinal walls. Clearly famine diarrhoea is essentially the same condition as the diarrhoea often occurring in marasmic infants.’⁷⁸ Similarly, J.P.W. Rivers writes that ‘in severely starved subjects.....gut function is disturbed so that feeding may be associated with severe diarrhoea and food passes through the gut undigested’.⁷⁹ Rivers mentions that ‘secondary dehydration as a result of diarrhoea is a...likely cause of death’.⁸⁰ In addition, N.S. Scrimshaw mentions severe diarrhoea ‘secondary to deteriorative changes in the digestive system’ as a ‘portend of death’.⁸¹

In regard to bowel complaints then, it appears that starvation played an important physiological role in weakening bodily defences and in disorienting the digestive functions, not just in the early phase of the famine, but well into 1878. This would mean that we need to give starvation a primary role in causing famine mortality, despite making an allowance for a certain proportion of these deaths being brought on by ‘social dislocation’: the consumption of polluted water and food, and the transmission of disease within badly organized and crowded camps and relief works.

⁷⁷ W.R. Aykroyd, ‘Definition of Different Degrees of Starvation’, in G. Blix, Y. Hofvander and B. Vahlquist, *Famine: A Symposium Dealing with Nutrition and Relief Operations in Times of Disaster*, Uppsala, 1971.

⁷⁸ Ibid.

⁷⁹ J.P.W. Rivers, ‘The Nutritional Biology of Famine’, in G.A. Harrison, *Famine*, Oxford, 1988, p. 78.

⁸⁰ Ibid, p. 62.

⁸¹ N.S. Scrimshaw, ‘The Phenomenon of Famine’, *Annual Review of Nutrition*, 7 (1987): 1-21, p. 7.

The physiological aspects of famine diarrhoea as a result of chronic and irreversible starvation need to be appreciated to a greater extent than existing studies have done.

Injuries, Accidents and Famine Conditions

The category 'injuries' has not been included in this analysis, as it is supposed that deaths under this category cannot be grouped along with starvation and epidemic disease. Also, monthly deaths from this cause are not available or calculable. (See above under 'Other Causes' for a description of how monthly totals are derived). However, it is clear that the social and economic disruptions caused by the famine contributed largely to increase the number of deaths in 1877 and 1878. In 1877, the number of deaths from injuries amount to the highest ever recorded since 1866. The number of suicides increases greatly due to the mental depression caused by famine.⁸² That starvation affects the mental and emotional frame of mind is expected. The great increase in deaths from wounds and accidents however needs further explanation. In 1877, deaths from injuries and wounds in Madras city alone amounted to 1066, nearly a tenth of the entire number of deaths from this cause. This was due to the great increase in the grain traffic in the port town. Once again we refer to Cornish:

Nearly all the rice brought by sea was removed to the railway goods station, nearly two miles distant, by carts drawn by men, and very frequently the wheels of heavily laden carts caught the naked heels of the pullers. This crushing of the heels generally led to great sloughing and constitutional disturbance, and frequently tetanus supervened.⁸³

In the absence of information from other areas in the Presidency, it is difficult to say whether this feature of the famine led to similar injuries in other parts of the Presidency. However, it is worth noting that in 1878, deaths from ulceration and

⁸² The increase in suicides and depression had been noted in earlier Indian famines as well. The main question for administrators in the 1870s seemed to be the connection between mental depression and physical health during famines. See J. C. Geddes, *Administrative Experience Recorded in Former Famines*, Calcutta 1874, pp. 187-88.

⁸³ *SCR 1877*, p. 145.

sloughing of wounds were reported widely and ascribed to debility.⁸⁴ Chronic starvation thus impaired the body's ability to heal wounds.

Who dies? Starvation, Socioeconomic Indices and Famine Mortality

A final note about who died during the famine qualifies our thesis about there being a fundamental connection between starvation as a physiological phenomenon and its influence on famine disease and mortality. In his essay on famine in Darfur, Alex de Waal concluded that socio-economic indicators were poor indices of who died during the famine.⁸⁵ De Waal suggested that the lack of correspondence between pre-famine indicators of wealth and status, and famine mortality led very strongly to the conclusion that social class and economic indices were in themselves not adequate to explain famine mortality.

Was this the case in Madras Presidency in 1877 and 1878? All reports of population loss in Madras Presidency suggest that socioeconomic indicators are indeed accurate predictors of who died during the famine. Here, it is important to note that in Madras, caste and occupation were very closely intertwined. In Alexander Porter's sample of 459 victims from the Famine Relief Sheds of the Royapettah Hospital, the great majority were agricultural labourers from the Pariah and Palli castes, as well as several weavers and potters. Government hospital surveys need to be treated with caution because they are influenced by cultural and social factors governing hospital usage, as well as the keenness of medical officials to inflate numbers.⁸⁶ These, we have suggested in the Introduction, would play quite a significant role in shaping the number of patients recorded. It is, however, quite

⁸⁴ It was reported in 1878 that fatal abscesses and gangrenous ulcerations were unusually prevalent amongst the poor (*SCR 1878*, p. 135). This was also the case during the second year of famine in Bengal in 1943-44.

⁸⁵ *Famine That Kills*, p. 182.

⁸⁶ It appears that Government hospitals were resorted to largely by the poor in Madras. See Proceedings of the Government of Madras in the Public Department No. 79 dated 21st January 1879, G.O. No. 41, TNSA.

reasonable, however, to suggest that in this context, unlike in Darfur in 1984, landownership and caste- both strong predictors or indices of social and economic status in nineteenth century Madras- greatly determined the chances of life or death during the famine of 1876-78.⁸⁷

Census data also confirm this view- regarding the close correspondence between caste, entitlement to food, and famine mortality.⁸⁸ Tables 4.5 and 4.6 show the changes in different groups among the Hindu population between the Censuses of 1871 and 1881. From this we can see that in terms of *absolute* losses of population, Pariahs, Vanniyans and Idaiyars (the first two were untouchable labouring castes, the latter were shepherds) lost the most numbers between the two Censuses. In terms of proportion, however, a set of anomalies present themselves. Shembadavans (a washerman caste) lost the most in terms of proportion, the next worst group was the Shetties, a large, heterogeneous and largely urban trading caste. Small traders probably faced the destruction of their businesses once depression and starvation set in among the local population. After the Shetties, the Satanis, a mixed caste group with heterogeneous occupational interests, suffered extensively. Next in order were Idaiyars, a shepherd caste, whose livelihoods were destroyed by the drought and famine. These data appear to reflect the extent of economic devastation; the complexity of the rural and urban occupational structure ; and the disruption of the environment. The famine upset the rural and urban economy to such a great extent that trade suffered extensively. However, it is interesting that washermen suffered to

⁸⁷ See D. Kumar, *Land and Caste in South India: Agricultural Labour in the Madras Presidency during the Nineteenth Century*, New Delhi, 1963.

⁸⁸ Census officers attributed the change in population between 1871 and 1881 largely to the effects of the famine. The Census Report of 1881 states that 'the mark which that calamity (the famine) made upon the population was so deep that it stains every column of these returns, and compels allusion on every page of the succeeding chapters....it may be said without exaggeration that this Report is quite as much a record of the Famine effect on the population, as it is a review of the Census' (*Imperial Census of 1881: Operations and Results in the Presidency of Madras Vol I*, Madras 1883, p. 9).

such a great extent and could indicate that, in addition to unemployment and high food prices, the pollution of water supplies led to more deaths from cholera and bowel diseases. It could also mean that the demand for their services declined considerably as the famine spread its tentacles.

Interestingly, all the caste groups which gained numbers in terms of proportion were urban based, except for the Shanars, a toddy tapping caste who converted in large numbers to Christianity during the famine. Among the groups which lost numbers, the Shetties and Satanies were largely urban. The Shembadavans (washermen) were both urban and rural, as were the Kaikalars or weavers. The other groups in this category however were overwhelmingly rural. The Census of 1881 noted:

Not only was relief sooner at hand in the towns but the work of relief created employment in the towns. There was work, perhaps not for goldsmiths, but for carpenters and blacksmiths. Men had to be shaved and their clothes had to be washed, and although 'the sky of brass and the soil of iron' trebled the price of food for the barber, as for the pariah, it did not deprive him of the possibility of earning his ordinary wage, and he did this in the towns, where food, if dear, was still procurable.⁸⁹

If socio-economic indices were significant in explaining differentials in famine mortality by caste, we would also need to account for the apparent female survival advantage during periods of famine.⁹⁰ Different theories have been propounded to explain this advantage. Some authors have argued that social disadvantages faced by women were outweighed by biological advantages.⁹¹ Others have suggested that 'famine amenorrhea' or diminished fertility was a conscious strategy employed by

⁸⁹ *Imperial Census of 1881: Operations and Results in the Presidency of Madras Vol I*, Madras 1883, p. 115.

⁹⁰ Dyson, 'On The Demography of South Asian Famines Part I'; B. Mohanty, 'Orissa Famine of 1866: Demographic and Economic Consequences', *Economic and Political Weekly*, January 2-9, 1993.

⁹¹ M.B. McAlpin, *Subject to Famine: Food Crises and Economic Change in Western India, 1860-1920*, Princeton University Press, Princeton, 1983, Chapter 3 (especially pp. 56-64).

women, which protected them from childbearing, normally a source of danger.⁹² Still others have argued that migration exposed adult males to the risk of disease and exhaustion to a greater degree than it did females.⁹³

Although several factors need to be considered in explaining the gender differential in survival, we would suggest that socio-economic factors governing sex differentials in access to official famine relief could have played a role in conjunction with innate biological factors and differentials in exposure to disease pathogens. It appears that while women were paid less than men on many relief works, they also outnumbered men in the number of applicants seeking relief, both in camps and on works, in Madras. For example, N. Murugesam Moodelliar, Deputy Collector of Bellary mentioned that 'the female coolies outnumber the males beyond all proportion'.⁹⁴ In Kurnool, it was reported that 'the great majority on works.....seemed to be women and children'.⁹⁵

David Arnold also mentions that 'women and children were well-represented amongst those seeking work and food' and that '*ryots* preferred to send their wives and children to bear the brunt of the disgrace- and the hard work incident to it rather than go themselves'.⁹⁶ If the higher proportion of women on relief works was a constant phenomenon across the Presidency, it would enable us to critically evaluate

⁹² P. Greenough, 'Inhibited Conception and Women's Agency', *Health Transition Review*, 2, 1 (1992): 101-105; J.C. Caldwell et. al., 'A Note on Conscious Planning', *Health Transition Review*, 2, 1 (1992): 105-106; T. Dyson 'Famine Reactions', *Health Transition Review*, 2, 1 (1992): 107-113.

⁹³ Dyson, 'On the Demography of South Asian Famines Part I', p. 25; Mohanty, 'Orissa Famine of 1866' p. 57. See also B. Mohanty, 'Migration, famines and sex ratio in Orissa division between 1881 and 1921'. The 1911 Census of India in reviewing the evidence presented during different famines also supported the 'migration' theory. (*Census of India 1911*, Appendix to Chapter VI, 'Relative Mortality of Males and Females in Famine Years').

⁹⁴ Letter from N. Murugesam Moodelliar, Deputy Collector, to J.H. Master, Esq., Collector of Bellary, dated Kottoor, 18th April 1877, No. 250, *SCR 1877*, p. 220.

⁹⁵ Memoranda by Mr. C.E. Bernard, Nos. V and VI, dated 16th January 1877, on the condition and prospects of Kurnool district, based on Sir R. Temple's Conference with the Local Officers on 14th and 15th January 1877, Famine Correspondence 2, IOR/V/4/Session 1877/Vol. 65.

⁹⁶ Arnold, 'Famine in Peasant Consciousness and Peasant Action', pp. 108-9.

the thesis that male migration was the most plausible explanation of the sex differential. In order to answer this question fully, however, questions regarding the intra-family distribution of food also need to be taken into account.⁹⁷ Quite clearly, the famine hit the very young and the very old the hardest, although amongst the adult population, the loss was much greater amongst adult men as compared to adult women.⁹⁸ These questions require investigation which is beyond the scope of this thesis.

Conclusion

By any account, the famine of 1876-78 was an enormous crisis, social, nutritional, ecological and sanitary. In tracing the causes of famine mortality, we have argued that it is difficult to separate out with any precision the effects of disease from those of starvation in causing famine deaths, particularly because of the way in which death statistics were collected. It appears from the data reviewed that to divide famine mortality into two clearly defined phases, the first constituting starvation, and the second constituting infectious disease spread largely through climatic, contagious and parasitic factors as we understand them today, is inadequate, given the underlying background of nutritional stress that occurred throughout the two main famine years.

Starvation deaths and disease appear to have been a direct consequence of economic distress, which in turn appears to have been exacerbated by poorly organized systems of relief. Starvation and emaciation occurred throughout the two so-called phases of famine mortality. In addition, we find that when all categories

⁹⁷ B. Harris, 'The Intrafamily Distribution of Hunger in South Asia', in J. Dreze and A. Sen (ed): *The Political Economy of Hunger Vol. I*, Oxford, 1990; R. Bairagi, 'Food Crisis, Nutrition and Female Children', *Population and Development Review*, 12, 7 (June 1986); L. Sami, 'Gender Differentials in Famine Mortality: Madras (1876-78) and Punjab (1896-97)', *Economic and Political Weekly*, June 29th, 2002. For an overview of the literature on sex differentials in famine mortality, see K. Macintyre, 'Famine and The Female Mortality Advantage', in Dyson and O'Grada, *Famine Demography*, op. cit.

⁹⁸ See Lardinois, 'Famine, Epidemics and Mortality in South India', p. 460.

under which deaths were registered are taken into account, we have four instead of two phases of famine mortality. The first phase was marked by a sharp increase in cholera, fever and deaths from 'other causes'; the second by an increase in cholera deaths; the third by an increase dominated by 'other causes' and the fourth by an increase in fever deaths. The third and most lethal phase was the phase in which 'other causes' led the general death rate, and was, we argue, mostly composed of diseases directly consequent upon starvation.

It is difficult to implicate malaria as the sole or even the most important cause of death through which the famine killed its victims. The data indicate that 'fevers' were classified in different ways; that there was great disagreement both in nomenclature and in classifying fevers as symptoms or causes of death. Even amongst trained medical men, the nomenclature and aetiology of fever deaths was uncertain. Moreover, fever was most fatal amongst starved famine migrants, despite the fact that all classes fell ill. It also appears from the evidence that continued slow starvation caused a protracted and unbelievably slow ending for the victims of famine, and fever was just one of several clinical manifestations of starvation, under which the cause of death was registered. In addition, the sharp differences between the 'famine' and 'non-famine' districts in regard to fever mortality indicates that the 'migration' thesis- that migrants introduced new strains of malaria into districts where they migrated- needs to be examined cautiously.

We have argued that despite some of the famine mortality from cholera, bowel complaints and 'other causes' being attributable to 'social dislocation' and its effects- consumption of contaminated food and water, as well as inedible foods, and the close proximity of migrants in relief camps and works with poor facilities for hygiene- a large proportion of mortality from these three causes can be seen as the result of

‘famine diarrhoea’ - a non-infective, physiological manifestation of chronic starvation.

The spread of contagious diseases such as smallpox through close contact in camps, jails and on relief works played some- but a relatively small- role in shaping the huge wave of death during the famine years.

There appears to have been a strong correlation between differentials in social status- as measured by caste and occupation- and famine mortality. Both contemporary accounts and census data indicate that mortality was directly linked with caste and occupation. The towns were better provided for in terms of relief as well as sanitation and prevention of infection, and offered more chances of employment than the rural districts. Yet, some urban groups such as traders and washermen lost a large proportion of their population. However the worst affected during the famine were the poor and untouchable rural groups such as the *Pariahs*, *Pallis* and *Vanniyars*. This indicates that while climatic and ecological factors, social dislocation and transmission of epidemic disease might have had some role, it is to failures of entitlement and disorganized relief systems that we must largely turn for an explanation of famine mortality.

Table 4.5 Increase or Decrease of Numbers by Caste 1871-1881

Caste	1871		1881		Inc/Dec
	No.	Prop/ H Pop	No.	Prop/Total H pop	
Brahmans	1095553	3.76	1122070	3.94	26517
Kshatriyas	182402	0.64	193550	0.68	7148
Shetties	720474	2.47	640047	2.25	-80427
Vellalars	7814042	26.8	7767463	27.25	-46579
Idaiyars	1755197	6.02	1580000	5.54	-175197
Kammalars	787960	2.71	849901	2.98	61941
Kanakkan	107483	0.37	102472	0.36	-5011
Kaikalar	1068873	3.66	979062	3.44	-89811
Vanniyar	3933359	13.48	3751093	13.16	-182266
Kushavan	253878	0.87	263975	0.93	10097
Satani	700833	2.4	625455	2.2	-75378
Shembadavan	1012284	3.47	873448	3.07	-138836
Shanan	1606023	5.51	1621111	5.69	15088
Ambattan	342987	1.18	348390	1.22	5403
Vannan	525951	1.8	528535	1.84	2584
Pariahs	4629672	15.88	4439253	15.58	-190419
Others/NS	2619836	8.98	2811841	9.87	192005
Total	29,160,807	100	28947666	100	-663141

Table 4.6 Proportionate Increases and Decreases by Caste Decreases

	No	%
Pariahs	190419	-4.11
Vanniyans	182266	-4.63
Idaiyars	175197	-9.98
Shembadavan	138836	-13.72
Kaikalars	89811	-8.4
Shetties	80427	-11.16
Satani	75378	-10.76
Vellalars	46579	-0.66
Kanakkan	5011	-4.66

Increases

Kammalars	61941	7.86
Brahmans	26517	2.42
Shanans	15088	0.94
Kushavans	10097	3.98
Kshatriyas	7148	3.83
Ambattan	5403	1.58
Vannan	2584	0.49
Other/NS	192005	7.33

p. 115, 1881 Census report

Chapter 5 Administrative, Social and Medical Responses to Famine

The preceding chapter traced the epidemiology of the famine of 1876-78, examining the links between starvation, social crisis, epidemic disease and mortality. This chapter seeks to extend these questions, focusing on the epidemiological consequences of administrative, social and medical responses to subsistence crises.

We draw upon and critically evaluate arguments made by some authors, already discussed partially in the preceding chapter. John Post argues that governments which prevented the movement of people during the famines of the 1740s and the 1770s succeeded in containing famine mortality to a far greater extent than those which simply attempted to prevent starvation by distributing food to famine sufferers. For Post, the primary causal factor in the relationship between climbing food prices and rising incidence of fevers and dysentery was that harvest shortfalls inevitably led to unemployment, migration, vagrancy and crime. These 'social upheavals' spread epidemic disease amongst mobile populations, as well as among those huddled together for relief facilities without adequate sanitary facilities. Marginal public welfare systems were put under severe pressure, and administrations which were successful in preventing social upheaval and population movements were better able to contain excess mortality than those which focused primarily on the prevention of hunger through food distribution systems.¹ Administrative sanitary and medical responses to food crises were, then, critical factors in exacerbating or limiting the social and epidemiological consequences of such crises.

¹ John D. Post, 'The Mortality Crises of the Early 1770s and European Demographic Trends', *JIH*, 21, 1 (Summer 1990): 29-62; *Idem*, 'Nutritional Status and Mortality in Eighteenth Century Europe' in L.F. Newman et al. (eds.), *Hunger in History: Food Shortage, Poverty and Deprivation*, Massachusetts, 1990.

Historians of south Asian history have also expressed the view that state famine policy, consciously or inadvertently, created environmental and epidemiological disasters. Elizabeth Whitcombe, for example, suggests that state encouraged migration as a way out of what was seen as a Malthusian imbalance, and in doing so, exacerbated famine mortality through the spread of epidemic disease amongst people on the move.² Ira Klein also argues that the application of *laissez faire* famine policy was the direct cause of a much higher mortality than would otherwise have occurred as a consequence of harvest failure. Klein writes:

The uncompromisingly Malthusian policy of completely subjugating famine relief to high priority development projects, and of employing only trained, sturdy labour....totally disorganized the supplementary measures meant for the 'helpless'. Since few qualified for relief on the works, huge mobs overwhelmed the few relief kitchens, expanding the network of death.....the most important flaws in the Western famine theory was that it ignored the environmental circumstances that induced disease among the malnourished, and conflicted with the socio-economic realities which dictated survival in the village community.³

Finally David Arnold, building on the arguments put forth by Post and Klein, suggests that administrative responses to subsistence crises in nineteenth century India had a series of dysfunctional epidemiological consequences. He argues that official famine policy facilitated the spread of epidemic disease during famine periods in a number of ways.⁴ Mobile famine-stricken populations spread epidemic disease to the army, prisons and plantations during periods of famine. However, the epidemiological threat posed by famine migrants forced colonial medical attention- otherwise focused on the health and wellbeing of European military and civil officials and select labouring

² Whitcombe, 'Famine Mortality', p. 1170.

³ Klein, 'When the Rains Failed', p. 196, 197-8.

⁴ Arnold, 'Social Crisis and Epidemic Disease', op. cit.

populations- towards the health of people outside these 'enclaves'.⁵ In other words, the diseases brought upon by dysfunctional administrative and social responses had a positive role to play in increasing the depth and extent of medical intervention for the general population.

These authors further concur that the conditions and terms on which official famine relief was given were in themselves responsible for the spread of epidemic disease during subsistence crises. Thus, if relief works had been organized close to the homes of the famine stricken, and labourers did not have to travel large distances, much epidemic disease would have been prevented.⁶ Both Klein and Arnold also argue that the conditions under which institutional relief was given by the state encouraged the spread of epidemic disease through overcrowding and poor sanitation facilities. The state refused to respect the caste taboos of people in regard to feeding houses and made acceptance of cooked food- always a great defilement to people of caste, particularly amongst *ryots* or landowners- a condition for receiving relief. This meant that large numbers of high caste poor were denied relief, while colonial institutions such as relief camps and prisons were insanitary breeding grounds for many of the diseases that ultimately killed people.⁷

This chapter examines these arguments in the context of the Madras famine of 1876-78. It focuses on the extent to which 'dysfunctional' administrative and social responses to subsistence crises *created* epidemiological disasters.

⁵ Arnold, 'Social Crisis and Epidemic Disease', p. 404.

⁶ However, it is unclear from both these accounts whether they refer to the spread of disease amongst famine stricken people alone, or the areas through which they travelled in general.

⁷ Klein, 'When the Rains Failed', p. 198; Arnold, 'Social Crisis and Epidemic Disease', p. 394.

What follows is a critical review of some aspects of these responses. The first pertains to the extent to which population movements were a direct result of famine *policy*.

The second pertains to the size and direction of such movements during periods of famine, and its likely epidemiological consequences, a theme which we addressed briefly in the previous chapter. Next, the chapter examines the role played by colonial penal, medical and famine relief institutions in facilitating the spread of contagious epidemic diseases by crowding large numbers of migrant people together. Finally, it looks at medical responses to famine. How did state medicine explain and address the mass mortality during subsistence crises? And why were medical men like Cornish so concerned with the observation, description and recording of starvation and famine diseases?

These questions may be seen more as a set of observations to be explored in further research, rather than firm and definitive statements. However, these observations have important links with arguments presented in the preceding two chapters regarding the epidemiology of famine.

Migration and State Famine Policy

Both Whitcombe and Arnold argue that the state encouraged emigration as a famine policy, based on the theory that overpopulation was the cause of famine. This in turn facilitated the spread of epidemic disease. Whitcombe writes that

Government policy encouraged migration to towns where food grains were stockpiled by private trade, at the behest of official policy, and to the public works and relief camps.⁸

⁸ Whitcombe, 'Famine Mortality', p. 1170.

Similarly, Arnold states

In the 1860s and 1870s migration was often actively encouraged by the state as a way of ameliorating the problem of local shortages and moving available or imported food supplies to the people who needed them most.⁹

However, there is some evidence which suggests that Imperial 'migration policy' was perhaps based more on manipulation than on a belief in its value as a strategy against overpopulation. The Government of India was keen on forcing people to emigrate from famine stricken territories because it was believed that such force would push people the other way: towards the relief works. In other words, it was less a commitment to a belief in its value as a strategy against *overpopulation* or food crises, and more a desperate means of forcing people on to large famine relief works.

Salisbury wrote to the Duke of Buckingham in February 1877 that

There is great danger that we shall demoralize the people, also, if we fix the idea in their minds that Government will always provide against want.....we require to apply the principle of the New Poor Law- the work house screw in some other form....a good deal might be made of Emigration. The people hate it so absolutely that they will work their hardest rather than submit to it. But of course minute calculations are required as to how far the transport of labourers to other places...can really be made to pay.¹⁰

This suggests that the Imperial Government held emigration and deportation out as a threat in order to force people to relief works, rather than as a real 'policy' against overpopulation. Thus, regardless of the *effects* of migration, it appears to be simplistic to argue that it constituted a conscious official strategy.

Further, there also appears to have been disagreement between different levels of the state over the consequences of migration in times of famine, and there was apprehension over its epidemiological and physical effects. The main instance of official encouragement to migration in Madras consists of the work on the

⁹ Arnold, 'Social Crisis and Epidemic Disease', p. 397-8.

¹⁰ Brumpton, *A Selection*, p. 246.

Buckingham Canal. In February 1877, Temple recommended that people from Nellore and the Ceded districts be induced to work on the East Coast Canal (also called the Buckingham Canal) near Nellore, which, he believed, would employ thousands of labourers on a profitable, well-organized large relief work. When relief seekers were less than enthusiastic about leaving their districts to go to the canal, Temple suggested that they be denied relief unless they agreed to be drafted on to the works.¹¹ This forcible emigration was tried unsuccessfully for three months from early February 1877, and then abandoned in May 1877 as opposition was so great, both among Madras civil servants and amongst the people.¹² (While there were reports of cholera along the canal, these appear to have been controlled fairly early on).¹³

On the other hand, evidence suggests that some officials were apprehensive about the movement of people *into* Madras. Migration from Mysore, a Princely state in which the suffering from the famine was even worse than in Madras, was actively discouraged on the grounds that the 'constant and unregulated movement hither and thither of large masses of people already weakened by insufficient or inferior food, in times of scarcity and of great sickness, is highly undesirable, and cannot but entail much additional suffering as well as increased risk of spreading disease'.¹⁴

¹¹ Minute by Sir Richard Temple about drafting off relief labourers from the neighbouring districts to the East Coast Navigation Canal dated Nellore, 28th February 1877, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

¹² Ibid.

¹³ In the Nellore district, where the Buckingham Canal was being constructed, it was reported that 'there was a good deal of cholera in January 1877, but under properly supervised sanitary arrangements the health of the labourers during the worst famine months was very fair' (SCR 1877, p. 99).

¹⁴ No. 767 dated Fort St. George, 1st March 1877, from the Chief Secretary to the Government of Madras to the Chief Commissioner of Mysore, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

Apparently, then, Provincial administrators were aware that people would get exhausted and sick on the move. They sensed that this could exacerbate the spread of disease amongst the starving, and were keen to avoid such movements, particularly when it came to the subjects of a foreign state. This implies therefore that official attitudes towards the famine stricken varied; and were contradictory, confused and disorganized.

The Size and Direction of Migratory Movements During Famine

The second thing to note is that although migration was probably quite extensive, we have very little firm evidence regarding the size or direction of migratory movements and how these influenced famine mortality. Arnold mentions that the Famine Commission of 1880 recognized three kinds of migration: migration with cattle in search of pasture; migration in search of food and employment; and the 'aimless wandering' of the destitute. He also cites Cornish as stating that 'mortality among male migrants was twenty per cent higher than women who stayed at home'. Arnold suggests that such migration inevitably had adverse epidemiological effects.¹⁵ Whitcombe mentions that people followed 'routes long established by seasonal migration: from Nellore, Chingleput and North Arcot in the direction of Madras; from North Nellore and Kurnool to the Kistna delta; from Salem and Trichinopoly to Tanjore; from Coimbatore to Trichinopoly and Malabar'.¹⁶ Emigration from Madras to Ceylon was enormous during the famine. Between 1st October 1876 and 30th November 1877, the number of people leaving the ports of Madras for Ceylon, Burma and other distant places was 2,287,482, or nearly double the average for the preceding five years. Of this figure, an estimated 350,000 belonged to the famine districts.¹⁷ Yet,

¹⁵ Arnold, 'Social Crisis and Epidemic Disease', p. 398.

¹⁶ Whitcombe, 'Famine Mortality', p. 1169-70.

¹⁷ 'Memorandum on the Partial Census in the Madras districts in March 1878', by Sir Michael Kennedy, contained in *Copies of Papers relating to the Mortality during the Late Famine in Southern*

we would hesitate to give migration *in itself* as much significance as previous authors have done in the causation of famine mortality.

The main epidemic diseases which Arnold and Whitcombe associate with famine migration are smallpox, malaria and cholera. We have already dealt with fever and smallpox in some detail in the previous chapter, and seek to address the connection between cholera and migration here.

In arguing that migration influenced cholera mortality through means other than starvation, Arnold shows that Tanjore, a purportedly 'non-famine' district, had a heavy mortality from cholera every year between 1871 and 1880; and that the percentage of total deaths attributed to cholera in Tanjore was in fact higher than that in Kurnool, in the epicentre of the famine, in 1877 and 1878. In other words, cholera caused a higher proportion of the total deaths in Tanjore (a non-famine district which saw great numbers of migrants in 1876-78) than in Kurnool (a famine district where there was great suffering, starvation and out-migration).

Arnold's table is reproduced as Table 5.1 below. Arnold argues that population movements inevitably had adverse epidemiological effects, and that 'with its water channels and migrant labour, Thanjavur was always cholera-prone....and the influx of thousands of famine migrants made it, like Kurnool, a place of heavy mortality'.¹⁸

India, No. 46 of 1878, Government of India, Public Works Department, Famine Correspondence 4, IOR/V/4/Session 1878/Vol. 59.

¹⁸ Arnold, 'Social Crisis and Epidemic Disease', p. 399.

**Table 5.1 Cholera Mortality in Thanjavur (Tanjore) and Kurnool districts
(1871- 1880).**

1871	1872	1873	1874	1875	1876	1877	1878	1879	1880
Thanjavur (Tanjore)									
(a) Cholera deaths									
945	120	54	33	18,125	8,015	13,098	2,744	897	23
(b) Cholera deaths as a % of all deaths									
2.3	0.3	0.1	0.1	29.8	15.8	17.7	4.9	2.1	0.1
Kurnool									
(a) Cholera deaths									
18	129	-	-	886	11,758	10,451	1,896	-	-
(b) Cholera deaths as a % of all deaths									
0.1	0.8	-	-	4.1	31.1	12.2	4.3	-	-

Source: Arnold, 'Social Crisis and Epidemic Disease', p. 399.

The data in the table above indicate that a large proportion of the total deaths were attributed to cholera in a non-famine district, in non-famine years; but also in a famine year. Further, in a famine year, the percentage of deaths attributed to cholera could often be higher in a prosperous, non-famine district which saw considerable in-migration than in a famine district. While the general point holds, there are some qualifying factors that would need to be considered. First- leaving aside the ambiguities in registering and identifying cholera in different districts, and differentiating it from 'other causes' and 'bowel complaints' during the famine- it is

also worthwhile to look at the death *rate* instead of the percentage of all deaths attributed to cholera. During the main famine year 1877, the mortality rate (expressed as the number of deaths from cholera for every thousand of the registered population, as against Arnold's figure which shows the percentage of total deaths ascribed to cholera) was much higher in Kurnool (at 11.4 deaths per thousand population) and the other 'famine districts' than in Tanjore (at 6.6 per thousand population) and the other 'non-famine districts. (See Appendix 3.1). What this means is that cholera killed a much larger *proportion* of the *people* in Kurnool in 1877 than it did in Tanjore, despite the in-migration of famine stricken people into the latter. Thus, there were 10,451 deaths registered in Kurnool in 1877 out of a total population of 914232 (i.e. cholera killed 1.1% of the population) while in Tanjore there were 13,098 deaths out of a total population of 1972820 (i.e. cholera killed 0.66% of the population).¹⁹ In other words, cholera was twice as fatal in the famine district of Kurnool as it was in Tanjore in 1877, despite the high *number* of cholera deaths in the latter. This would mean that in 1877, despite the water channels of Tanjore and the massive in-migration, the population was in a better condition to withstand the ravages of cholera than was the population of poor, drought-ridden Kurnool.

Also, there is some evidence that migration during the famine years was not as far-flung as we might believe, although the numbers might have been large. The Census of 1881 found that almost ninety six per cent of people in the Madras Presidency lived in the districts they were born in:

Whatever may have been the case at the end of the famine, the census of 1881 found the people fairly well at home. There is no more sign of migration from the Famine to the Non-famine districts than of the reverse movement- not so much, in fact.²⁰

¹⁹ Source: *SCR 1877*, Appendix II (Vital Statistics of the General Population), Tables II and VI.

²⁰ *Census of Madras 1881*, p. 130.

We would of course need to be cautious about interpreting a single piece of evidence, and also take into account the fact that the census was taken nearly three years after the famine, indicating that migration was short-term and occurred within a district, usually to neighbouring towns; or that most migrants died *en route*; or that most migrants returned to their home districts.²¹ While movement of populations might have had demographic and epidemiological consequences over the long term, it might well be the case that famine migration was short-lived and of limited epidemiological or demographic consequence. Clearly, these questions are material for further inquiry, and would enable us to evaluate critically the suggestion that famine mortality was in part a result to the exposure of weakened migrants to 'new disease environments' and that the movement of famine stricken populations facilitated the introduction of new disease strains into the regions where they went.²²

To summarize, migration was undoubtedly a common social response to unemployment and the threat of starvation. While population movements during famine mirrored patterns of seasonal migration, it is by no means clear that it was 'encouraged' except in a very general way and in isolated instances by the state. Even then, there were conflicting opinions between different levels of Government over its purpose and value. We would therefore caution against overestimating its significance as conscious 'state policy'. Further, we would suggest that the epidemiological and demographic importance of migration during a period of famine needs to be carefully investigated further, taking into consideration the duration and direction of population

²¹ On mortality among famine migrants, see R. Shlomowitz and L. Brennan, 'Mortality and Migrant Labour in Assam, 1865-1921', *IESHR*, 27 (1990): 85-110.

²² Shlomowitz and Brennan, 'Mortality and Migrant Labour', op. cit.; Arnold, 'Social Crisis and Epidemic Disease', op. cit.

movements, and a number of other factors including sanitation, wages, and physiological conditions.

State Institutions and the Spread of Epidemic Disease

An important aspect of state intervention and of governance in peace time was the maintenance of medical and penal institutions opened and run by the Provincial and local administrations. These institutions were points of contact for the state and the indigenous population, and inevitably reflected social crises both in terms of numbers as well as in the condition of the population therein. In addition, some institutions- relief works and camps- were opened specifically to address such crises. Were state institutions, as some authors have argued, 'death traps' in that conditions within them hastened the spread of disease among inmates? ²³ Did institutional confinement itself spell death for thousands of famine stricken people; or did it instead protect them by providing them with a healthy environment and adequate wages?

We examine this question by looking at three different types of institutions: relief camps, prisons and hospitals.

Relief Works, Camps and Sanitation

In the early stages of famine, relief camps and works were started haphazardly, without any trace of sanitary provisions or cleanliness. This appears to have contributed to the rise in cholera mortality from the end of 1876 to the middle of 1877:

As soon as the food dearth began, the lower classes of villagers left their homes, making for the chief food markets or centres of Government relief. The influx of applicants for

²³ Klein, 'When the Rains Failed', op. cit; Arnold, 'Social Crisis and Epidemic Disease', op. cit.

work or relief was so great that district officials were utterly unable to cope with the proper organization of relief measures. The people everywhere were massed under unwholesome conditions, crowded in their daily tasks and crowded in their sheltering places at night.²⁴

Relief on works and in camps appears to have been more quickly and efficiently organized in large towns as compared to the rural districts, although the great influx of starving people to towns inflated death rates greatly. In Madras town, Cornish reported to the Madras Government in February 1877 that mortality on a large scale would be best prevented by feeding the poor to prevent them falling into a condition of debility, and supplementing this with measures to control the spread of epidemic disease among the ill-fed population. The Madras Government acted quickly on this suggestion, and a Special Health Establishment funded jointly by the Madras Municipality and the Provincial Government was appointed to inspect dwellings and neighbourhoods across the city from February 1877 to December 1877. Starving people were removed to relief camps and kitchens, cases of smallpox and cholera were removed to infectious disease hospitals, vaccinations were performed and dwellings were cleansed. The Special Health establishment was funded by the Madras Municipality and the Madras Government.²⁵

Sanitary arrangements-particularly the provision of pure water supplies, for relief camps and relief works- seem to have been important in curbing some of the death and disease from cholera and bowel complaints in several rural and urban areas. At the same time, innumerable deaths occurred outside the purview of state institutions- on roads and highways, in ditches, and riverbeds. The disposal of the dead created a sanitary problem of massive proportions. A civil servant, Mr. Oldham, described a

²⁴ *SCR 1877*, p. 86-7.

²⁵ *SCR 1877*, pp. 179, 183-86.

road in the Adoni *talook* of Bellary as covered with the dead and dying so that it 'resembled a battlefield'.²⁶ Bodies were disposed of in the dry beds of rivers across the Presidency. A large proportion of people died on roads, in ditches, and on jungle paths throughout 1877.²⁷ A journalist visiting Gudur *talook* in Nellore district in March 1877 reported: 'The burial of the dead is shamefully neglected'.²⁸

In February 1877, Cornish petitioned the Government of Madras to legislate for 'suppressing the practice of disposing dead bodies in the dry sandy beds of rivers.' Cornish suggested that cremation was a more sanitary method of disposal, and lamented the fact that 'it was customary only with certain castes'. Understandably, the Government of Madras was averse to pressing this matter, especially at a time when 'our poor are famine-stricken and disheartened'. Quite clearly, the Government feared that interference of this sort in 'caste feeling and domestic sympathy' would incite anger. In the end, a typically bureaucratic solution was devised. A circular was sent to district magistrates to the effect that they were to 'impress upon local officials the necessity of seeing that corpses are properly interred and do not cause any nuisance or injury to the health of the people'.²⁹

The great predominance of famine diarrhoea, which was a symptom of irreversible starvation and destruction of tissue, ensured, however, that such arrangements were of limited value in their application. Sanitation was a charge on Local Fund Boards and Municipalities, and these bodies had formulated their budget for 1876-7 and 1877-78 without anticipating the occurrence of famine and the consequent outlay on famine relief. This meant that during these years, their budget

²⁶ SCR 1877, p. 121.

²⁷ SCR 1877, p. 75.

²⁸ Digby, *The Famine Campaign*, p. 102.

²⁹ Cornish reported that the majority of the Hindus and all the Mohammedans buried their dead. (Proceedings of the Government of Madras in the Public Department dated 5th April 1877, Nos. 25-26, TNSA).

was stretched to the utmost, and very often general works of sanitation were neglected. Several of the Municipalities reported that want of funds had impeded any sanitary or conservancy works, while in others, these consisted largely of those works which could be carried out as famine relief works- for example, minor repairs to roads and clearing of prickly pear.³⁰

Thus, urban administrations appear to have responded to famine both as a nutritional and epidemiological crisis, and taken steps to address both. However, such measures appear not to have had much success, largely due to the inadequacy of rural relief measures and to the unevenness of those undertaken by the smaller municipalities and local fund boards. The death rate of the municipal towns was stated to be 'exceedingly high': in Madras, the death ratio was 118 per thousand population; in Kurnool town, it was 118 per mille; in Erode in Salem district, it was 252 per thousand; in Nellore, it was 99 per thousand (here, a margin must be given for under registration); and in Tuticorin it was 131 per thousand.³¹ Interestingly, the towns showed the same death ratio for cholera as the rural districts (12.2 per thousand) but a much higher death ratio for smallpox, bowel complaints and injuries, while the fever death ratio was nearly double in the rural districts as compared to the towns.³²

Thus, particularly in the early part of the famine, local administrations appeared to have been overwhelmed by the scale of distress, and there were significant regional imbalances in the provision of famine relief in camps and works. This contributed to high death rates in urban areas and limited the utility of institutional relief measures.

³⁰ *SCR 1877*, pp. 160-178.

³¹ *SCR 1877*, p. 84.

³² *SCR 1877*, pp. 83-4.

Cooked Food, Commensality and the Provision of Gratuitous Relief in Camps

It has been argued by David Arnold and Ira Klein that the Government refused to respect cultural taboos in relation to caste in managing gratuitous relief measures.³³ They suggest that people of the same caste, particularly among the respectable *ryots*, were not allowed to sit together and eat, apart from other castes. Further, the consumption of cooked food- which would not be accepted by people of upper caste or 'respectable' households- was made a condition for receiving state assistance. This led to great mortality amongst these individuals and families, who died rather than lose their status and religious objections. Thus, Arnold writes:

British officials tended to exploit caste-Hindus' cultural objections to the receipt of cooked food by making it a precondition for state relief. The argument was that if Indians were sufficiently desperate for food they would set aside their religious scruples; if they did not, the reasoning ran, they were not genuinely in need.³⁴

The evidence suggests that the practice of making the provision of relief contingent upon the disregard of cultural taboos, while followed in some locations across India during famine situations (especially in the North west Provinces and Orissa in 1861 and 1866 respectively) was not uniformly adhered to. In 1866, in Madras, relief was provided in the form of cooked food for the very poor and untouchable households as well as raw food for those whom caste scruples forbade the partaking of cooked

³³ Klein, 'When the Rains Failed', p. 198; Arnold, 'Social Crisis and Epidemic Disease', p. 394. Arnold draws mainly on Klein's evidence to substantiate this point, and Klein's evidence relates mostly to famine relief in Mysore.

³⁴ Arnold, 'Social Crisis and Epidemic Disease', p. 394.

food.³⁵ This appears to have been the case during 1876-78 as well. The Government of India decreed on February 1st 1877 that

There are exceptional cases which require exceptional treatment, such as the class of respectable women who cannot appear in public, and for whom labour tests are inappropriate; and men who from caste prejudice would rather die than take employment on relief works. In these cases, it may be necessary to give relief without the application of tests for need.³⁶

Even such hardcore supporters of non-interventionism as Richard Temple made concessions when it came to questions of providing raw food for those who refused to eat cooked food on grounds of caste taboos. On March 12, 1877, Temple argued for the need to make concessions to caste and family feeling in relief camps and kitchens, instead of giving relief solely and strictly in the form of cooked food, enforcing the intermingling of castes, and separating families. He wrote:

Inmates might be allowed to cook their own food either for themselves or for self-arranged gangs, and they might be allowed to eat their food apart and free from observation. ..the sheds might be set apart for the principal castes; in such cases the casteless or very low caste people would in such cases have sufficient shed accommodation for themselves.³⁷

In most relief camps, the people appear to have been segregated according to caste. For example, Cornish described the system in the Cuddapah relief camps: 'The people sat in rows according to their castes waiting the arrival of food'.³⁸ Thus, it appears that the government did not uniformly force people to go against their cultural taboos as a precondition of relief. There appears to have been great unevenness in the conditions for the provision of relief in different areas.

³⁵ Dalyell, *Memorandum*, p. 109.

³⁶ From the Additional Secretary to GoI, Department of Revenue, Agriculture and Commerce, to Secretary to Gob, PWD, dated Calcutta February 2nd 1877, No. 42 of Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

³⁷ Minute by Sir Richard Temple regarding relief camps and gratuitous relief in the Ceded districts, dated March 12, 1877, Famine Correspondence 3, IOR/V/4/Session 1877/Vol. 65.

³⁸ *SCR 1877*, p. 198.

However, the type of food provided by the Government of Madras could worsen the symptoms of chronic starvation. Dr. H.M. Scudder, the American mission doctor, wrote to the Mansion House Committee asking for a grant to purchase 'a little sago or arrowroot' for his mission dressers to feed dysentery patients. According to Scudder, these were often the means of saving life, while the coarse rice and other grains provided by the Government only 'aggravated the disease'.³⁹ This indicates that the scarcity of digestible grains and difficulties in procurement might have limited the effectiveness of official famine relief.

Prisons, Hospitals, Overcrowding and Disease

If relief camps and works were poorly organized, inadequate and not always conducive to the prevention of starvation or the maintenance of sanitation facilities, did conditions in other state institutions facilitate epidemiologically dysfunctional social responses?

A common observation made by nineteenth century administrators was that 'the strength of prisoner (population)' was 'an index of distress among the population'.⁴⁰

David Arnold also suggests that high crime levels resulted in enlarged prison populations, which led to increased levels of mortality.⁴¹

In 1877, there certainly was an enormous increase in the number of prisoners confined in the gaols of Madras. In Bellary central gaol, in ordinary times, 400 prisoners could

³⁹ Letter from Dr. H. M. Scudder to the Honorary Secretary to the Madras Famine Relief Committee [sic.], dated 20th September 1877, Proceedings of the Indian Famine Charitable Relief Fund, Chapter 3, Madras: 1878, TNSA.

⁴⁰ Dr. G.S. Sutherland in *Report of the Indian Jail Conference*, Calcutta 1877, quoted in Arnold, 'Social Crisis and Epidemic Disease', p. 396.

⁴¹ Arnold, 'Social Crisis and Epidemic Disease', p. 396.

be accommodated, while on the 2nd of October 1877, there were 2988 prisoners confined.⁴² Gaol mortality during the famine was appalling, and in many cases higher than the mortality amongst the rest of the population. The average death ratio (deaths per thousand populations) for gaols in the famine districts (Bellary, Chingleput, North Arcot, Cuddapah, Madras, Madura, Nellore, Salem, South Arcot, Trichinopoly) was 216 per thousand population, while the average for all other gaols was 68.3 per thousand population in 1877.⁴³ (The general death rate was 53.2 per thousand population in the districts, although this was often higher in towns where the starved poor congregated and registration of deaths was, presumably, more accurate).⁴⁴

There can be no doubt that gaol authorities struggled to maintain basic sanitary measures in the face of an influx of starving, emaciated prisoners that was much larger than the state infrastructure could deal with. There was an outbreak of hospital gangrene in Bellary gaol which was 'aggravated by overcrowding'.⁴⁵ Temporary gaols were set up in the famine stricken districts to relieve overcrowding, but overcrowding 'helped increase fatal sickness'.⁴⁶

It is easy to trace this appalling rate of mortality during famine periods to congestion or overcrowding alone, but the picture appears to be more complicated. The Collector of the Salem District reported in 1877 that 'the jails and their compounds were often

⁴² Proceedings of the Government of Madras in the Judicial Department dated 30th March 1878, Nos. 164-166, TNSA.

⁴³ *SCR 1877*, p. 69.

⁴⁴ *SCR 1877*, p. 83.

⁴⁵ *SCR 1877*, pp. 72-3.

⁴⁶ *Ibid.*

full to overflowing....but there was little or no mortality which could be traced to overcrowding'.⁴⁷

It appears more likely that conditions outside the prison- mostly long-continued starvation- were responsible for famine mortality. Table 5.2 strongly supports the conclusion that starvation prior to imprisonment influenced mortality more than the sanitary conditions within these institutions.

Table 5.2: Length of Imprisonment and Mortality in 1877 in the Gaols of Madras⁴⁸

Length of Imprisonment Undergone	No. of Deaths 1877	Rate of Mortality
Under 6 months	2212	30.34
6-12 months	642	14.55
1-2 years	301	10.80
2-3 years	150	7.30
3-7 years	211	7.79
Above 7 years	77	5.38

The fact that gaol mortality was related to the larger social and economic circumstances of the famine; and to caste and occupation is also borne out by the fact that 25, 207 out of 59, 903 of those who were imprisoned during 1877 were labourers; while 21,699 were 'agriculturists'.⁴⁹ Of the deaths registered amongst prisoners, 1,668 out of 3,593 were due to 'dysentery and diarrhoea'; 516 were from cholera; 480 were due to 'anaemia and general debility'; 437 were from 'other diseases'; 169 from respiratory diseases; 118 from intermittent fever; 116 from ulcers and boils; 35 remittent and continued fever, 27 scrofula and phthisis pulmonalis; 18 smallpox, 1

⁴⁷ H. Le Fanu, *Salem District Gazetteer*, Madras, 1918, p. 307.

⁴⁸ *Report on Administration of Jails 1877*, p. 29.

⁴⁹ *Report on Administration of Jails in Madras Presidency 1877*, Madras, 1878, p. 7.

suicide, 8 jaundice.⁵⁰ It seems therefore that it is impossible to discount the effects of starvation as a predisposing factor in the appalling prison mortality in these years.

In government hospitals and dispensaries, overcrowding was a common feature of reports of the officers in charge. There was an increase of almost 40,000 inpatients in the 165 institutions across the Presidency in 1877 over the previous year, also a famine year. Some of the increase was attributed to the opening of new institutions, but the bulk of the increase was attributed to the increase in patients 'who were beyond the resources of outdoor medical relief'. Thus, in 1875-6, the total number of in-patients was 28,968; in 1876-77 it was 38,751, and in 1877 it was 82,820.⁵¹ In Bellary, the Inspection report stated that 'the hospital building has been, and is now, much overcrowded. The sick are put everywhere- in the verandah, bathroom, and wherever a covered corner can be found'.⁵² From Chingleput it was reported that 'the accommodation has been sadly insufficient'.⁵³ In Coonoor, 'the hospital remained overcrowded till the worst of the famine was past'.⁵⁴

However, most diseases treated in these institutions were related more to starvation and social dislocation outside them rather than to overcrowding within. Of the diseases which were treated in 1877-78, the maximum were treated for dysentery, diarrhoea and injuries, and death rates were correspondingly high. The mortality rate for dysentery and diarrhoea was 77 per thousand population (dysentery) and 72.5 per thousand population (diarrhoea).

⁵⁰ Ibid., p.27.

⁵¹ *Annual Report on Civil Hospitals and Dispensaries for 1877-78*, p. 5.

⁵² Ibid, p.17.

⁵³ Ibid, p.26.

⁵⁴ Ibid, p.32.

The penal and medical institutions seem to have been receiving the epidemiological brunt of administrative inefficiency and poor organization in famine relief institutions, rather than serving as epidemiological traps in themselves. We would further suggest that it is worthwhile to investigate further the claim, made by several native and European officials, ^{that} people 'actively' sought out these institutions in order to get a basic subsistence during the famine. Such claims came from deep moral and administrative anxieties about the functions of government in crisis management. There appears to have been a conflict between the exigencies of crisis management and the need to lay out principles of long term governance, both amongst Europeans as well as amongst elite Indians. During the famine of 1876-78, in the face of public opposition in Madras to the Temple wage, the moral question was one that was frequently raised in regard to famine labourers, as has been discussed in Chapter 2.

These concerns were particularly evident in the case of prisons. However, in the case of hospitals and dispensaries as well, the question of whether people were "abusing" medical institutions as "almshouses" during the famine was a source of great moral anxiety for the Madras Government.⁵⁶

⁵⁶ In 1877, the Surgeon General of Madras reported to the Madras Government that 'So far as can be ascertained, admissions into dispensaries are strictly confined to the sick. In 1877, many cases were admitted for ailments resulting from starvation, but this did not in any way reduce them to the grade of almshouses'. (*Annual Report on Civil Hospitals and Dispensaries in Madras for 1877*). In 1878, the Surgeon General reported to the Madras Government that 'Dispensary Committees are expected to see that abuses of dispensaries as almshouses do not take place, and there is every reason to believe that admissions are restricted to those requiring medical aid'. (*Annual Report on The Civil Hospitals and Dispensaries in the Madras Presidency for 1878*).

As Arnold points out, however, if people did adopt such a strategy, then it was sadly miscalculated.⁵⁷ But it was miscalculated not because colonial institutions were epidemiologically unsound or more insanitary than the conditions experienced by people outside them, but because many who reached such institutions were beyond redemption. In cases where starvation had not progressed too far, the provision of adequate food and medical relief within institutional care probably did save a certain number. Where starvation had indeed gone too far, even the provision of food would not have prevented destruction of life. Divisions over the functions of governance and crisis management led to increased contact between the government and people in these institutions, but such contact seems to have had uneven epidemiological significance for crisis mortality.⁵⁸

Medical responses to famine and famine mortality

How did medical men address and respond to the disease and death consequent upon subsistence crises? David Arnold argues that famine ‘constituted one of the few occasions when Indians became the focus of state medical concern’ at ‘a time when colonial medicine in India still remained closely tied to the needs of the European population and the army’ and that ‘famine was one of the factors that encouraged colonial medicine to move, albeit hesitantly, towards a more general system of public health for the people of India’.⁵⁹ How, if all, did European medical skill influence the course of suffering and death during the famine? And why did medical men like

⁵⁷ Arnold, ‘Social Crisis and Epidemic Disease’, p. 396.

⁵⁸ Two recent articles have attempted to explore the complex relationship of colonial medical institutions in Madras with the state. See S. Lang, ‘Drop the Demon *Dai*: Maternal Mortality and the State in Colonial Madras 1840-1875’ and S. Hodges, “Looting” the Lock Hospital in Colonial Madras during the Famine Years of the 1870s’, *Social History of Medicine*, 18, 3 (2005): 357-378 and 379-398.

⁵⁹ Arnold, ‘Social Crisis and Epidemic Disease’, p. 404.

Cornish record in such minute detail their observations and investigations of starvation and starvation-related disease?

The most striking feature of medical responses to famine and famine disease was complete helplessness in saving most who came under their observation. This is evident in Alexander Porter's statement below:

The only effective treatment of famine diseases is the prevention of famine, or, if this be impossible, the efficient organization of famine relief. This to be efficient must be early in the famine, before the famine-stricken have begun to suffer from the disorganization of the tissues of the alimentary canal.⁶⁰

At the same time, famine provided the conditions for medical officials to observe and record the consequences of starvation in physiological and pathological terms, and such observations were recorded in great detail by Cornish as well as by other medical officials such as Porter and Cunningham during this famine. It might be argued that observations and descriptions of the physical condition and concurrent pathological organic changes in the human body followed upon the divisions between Madras and India over the adequacy of relief wages, administrative and financial responsibility, and moral duty between Madras and India.

These detailed physiological and pathological descriptions were fuelled by professional, utilitarian and humanitarian concerns that were critical to the relationship between different levels of the state and its medical services, as well as to the management of crisis. The state was at one level concerned with administrative efficiency: the identification of a system and level of state support and intervention which would not result in wasting money without saving lives. There were differences between Madras and India over the best system to achieve this. At another level it was

⁶⁰ Porter, *Diseases of the Madras Famine*, p. 209.

divided over moral notions of responsibility between intervention and non intervention. In this, the physical body of the famine stricken- both those who were able to work as well as the recipients of relief in camps and kitchens- came to signify the scientific proof of competing points of view, both medical and non-medical. Moreover, notions of 'science' and 'scientific proof' were the touchstone- or the excuse- for particular courses of action and policy, indicating a preoccupation with scientific governance at all levels of administration, despite an awareness that such scientific results were elusive.

The determination of the point at which state intervention was to cross the line between "necessity" and "extravagance" became central- indeed vital- to Imperial attempts to control Provincial expenditure and Provincial attempts to defend its interventionist stance. Medical claims to expertise in the determination of such a line led were based, in fact, on the lack of precise knowledge regarding the point at which this line was crossed, when the provision of relief became futile to the task of saving life.

The Weight Test

At Cornish's behest, the Government of Madras sanctioned a regular inspection of workers and of people on relief camps and works by sanitary inspectors deputed to famine duty from March 1877. These sanitary inspectors consisted of IMS officers deputed from the Madras Medical Service, as well as officers 'borrowed' from Bengal, the only Province which did not experience famine in 1877 and 1878. Nine IMS officers were deputed; one each to Bellary, North Arcot, Salem, Chingleput, Coimbatore, Kurnool, Nellore, Cuddapah and Madura. The inspection of the 'physical condition' of labourers, relief camp inmates and the population in

general formed one of the main aspects of their brief. They were required to note their observations on the prevalence of a number of signs and symptoms of starvation, including the prevalence of anaemia, wasting, emaciation, physical and muscular development amongst teenagers and children, the condition of pregnant mothers and newborn children, and whether the prescribed diet was being given to the people on works and in camps.⁶¹

Whilst all sections of people were observed, those of the relief works received the most attention, due to the fact that their physical condition was central to resolving the dispute between Madras and India over the adequacy of the Temple wage, and indeed over intervention in a more general sense. The weighing of labourers on the wage was conducted in four places (Nellore, Chittoor, Palaveram and Poonamallee) from March 1877. The “scientific” conduct of these observations was crucial to arguments that the Government of India’s wage standard was inadequate; and that the Government of Madras was justified in providing more liberal scales of relief.

However, the “scientific” character of these inspections was questionable, and this constituted a source of frustration for medical officials. In some areas, scales and weights were hard to come by; in others, as soon as weighing was begun, a rumour spread among the workers that they were being weighed in preparation to be deported, and in such circumstances, ‘the first weighing was also the last’.⁶² Regular weighing of the same cohort was possible only in Nellore district, where it was found that between March and June 1877, workers on the Temple wage lost weight. Cornish then proposed that the diet be tried on prisoners in jail, a suggestion which was immediately vetoed by the Inspector General of Prisons of Madras, on the grounds

⁶¹ *SCR 1877*, p. 203.

⁶² *SCR 1877*, p. 221.

that prisoners were already suffering the effects of starvation.⁶³ There thus appears to have been disagreements not only between different levels, but also different agencies of Government over the treatment of the famine stricken. The humanitarianism of medical men like Cornish was clearly qualified in the case of different sections of the population.

The only form of preventive medicine that was carried out with great persistence was vaccination. The congregation of famine stricken people on relief works and camps enabled vaccinators- many of whom undoubtedly suffered considerably during the famine in consequence of their pittance of a salary- to achieve a spectacular increase in both the total numbers vaccinated as well as the number of vaccinations among children under the age of one. There was a considerable increase in the number of vaccinations performed in 1876-77 and 1877-78 over the numbers in the years immediately preceding. From 383,067 in 1875-76, the number of the vaccinations increased to 478,727 in 1876-7 and 787,730 in 1877-78. This meant an increase of over 26% over 1875-6 in the number of vaccinations performed in the first year and over 105% when comparing the number of vaccinations in the second year of famine. The vaccination of emaciated and starved people was the subject of much public disapproval. As one reporter remarked of the relief camps in North Arcot,

Vaccination, of all things, had been scrupulously attended to, and I noticed several emaciated children and diarrhoea patients with marks of recent vaccination on their arms. This, I have been told at the Madras relief camps, is very wrong....no-one is to be vaccinated who is not in a tolerably sound condition of body.⁶⁴

⁶³ SCR 1877, p. 226.

⁶⁴ Report by the Special Correspondent of the *Friend in India*, dated March 16, reproduced in W. Digby, *The Famine Campaign in Southern India*, p. 100.

Yet, famine vaccination had little lasting impact on protection against smallpox, perhaps due in some respect to the exceedingly high proportion of infant mortality during the famine, and the inflated birth rate in the years immediately following.⁶⁵ As late as 1886, it was believed that only 20% of children born were subsequently vaccinated before their first birthday.⁶⁶ Clearly, what had been achieved during the famine was merely temporary success.

Most of the medical work carried out by the Madras Medical Department during the famine was of a palliative nature. This included the provision of food and remedies to calm the pain caused by diarrhoea, dysentery and cholera. Famine diarrhoea was treated with liquid diets containing milk and soups and mixtures containing dilute sulphuric acid, opium, nitric acid, chlorodyne, ipecac and morphine, and European medical practitioners reported early treatment to be fairly successful.⁶⁷ In some places, the dropsy or swelling that was characteristic of starvation was relieved by the use of diuretics and sudorifics. At the Monegar Choultry Relief Camp Hospital, coconut oil was massaged into the skin to soothe the itching of the dry 'famine skin'; and a mixture of cod-liver oil and balsam was given to relieve symptoms of dropsy.⁶⁸ At the Royapettah Hospital, the burning thirst of cholera patients was treated by giving them a mixture of dilute sulphuric acid in water. For

⁶⁵ On the long-term demographic consequences of famine, see J. Menken and C. Campbell, 'Age patterns of famine related mortality increase: Implications for long term population growth', *Health Transition Review*, 2, 1 (1992): 91-113.

⁶⁶ Source: *Annual Report on Vaccination throughout the Madras Presidency for 1886*.

⁶⁷ 'Remedial measures Ordered to be Adopted in Connection with the High Death Rate in Madras Town Due to Cholera.' Proceedings of the Government of Madras in the Public Department, Nos. 68-69 dated 13th February 1877. The utility of these remedies seems doubtful, and there must have been some protests from patients. Porter reported that diarrhoea was concealed by patients in hospital for fear that they would be put on a bland diet of milk and soup and deprived of 'curry'.

⁶⁸ Cornish, 'The Sanitary and Medical Aspects of Famine', p. xv.

acute pneumonia, 'a stimulating treatment of bark and ammonia, brandy and egg mixture and broths' was believed to be effective.⁶⁹

Indigenous medical practitioners and their therapies were incorporated into state medicine in times of crisis, for two reasons. In times of mass suffering and death, the medical services were extremely hard pressed for manpower, and indigenous practitioners were seen to constitute a floating labour force. (It was also hoped, possibly, that indigenous doctors could be schooled in biomedicine and that they would be able to popularize biomedicine amongst the people).⁷⁰ However, the second reason was that indigenous remedies were seen to have particular palliative and curative efficacy in the case of famine diarrhoea, which as we have seen, caused a substantial portion of famine deaths and suffering. In 1877, *Vythians* were employed by the Collectors of Madura and Coimbatore districts for the reason that '(they) treat successfully those maladies which are now so rife, diarrhoea and dysentery....we cannot cope with disease which is now carrying off so large a percentage of our population'.⁷¹

The paradox is apparent: European medicine was hopeless, in its curative and preventive aspects, in dealing with famine disease and famine mortality because most famine stricken people were too far gone by the time the doctors reached them. Yet, at the same time, this famine in a sense allowed for the development of an expert *medical* body of knowledge, using both vital statistics and clinical observation. This

⁶⁹ Porter, *Diseases of the Madras Famine*, p. 210.

⁷⁰ These attempts to 'school' native doctors in biomedicine erupted periodically when there was a famine or epidemic. There was such a move during the famine of 1866 as well, which was unsuccessful due to the unwillingness of the Madras Medical Department to bear the costs of the scheme, and the refusal of Indian communities to 'voluntarily' be taxed for such a scheme.

⁷¹ Letter from A. Wedderburn, Esq., Collector of Coimbatore, to C.A. Galton, Esq., Acting Secretary to the Board of Revenue dated 21st August 1877, No. 319, Proceedings of the Madras Board of Revenue, September 3, 1877, TNSA.

paradox of helplessness/expertise is summarized in Cornish's lament in December 1877:

A very large proportion of those applying for relief are so far reduced in frame that the expert can at a glance say of but too large a number, 'these *must* die'.⁷²

Medical treatment of what was a social and economic phenomenon, and treatment of what had once been preventable, but was now too far gone, was clearly of limited value. While this expertise does not seem to have spurred research into nutrition immediately after the famine, ironically, this expert knowledge about starvation and disease incorporated what could be termed today a social rather than a medical model of famine disease. This gave colonial medical men a significant role to play in famine prevention and policy through a detailed observation and description of the pathological signs of starvation.

Yet, it is perhaps simplistic to argue that 'epidemics during times of famine forced medical men out of the enclave'.⁷³ This would imply that the health of Indians was not a concern for the medical services except when famine led to epidemic disease that threatened European settlements, the army, prisons and plantations.

However, military health was left almost untouched by the 1876-78 famine, and medical practitioners were aware of this immunity. Cornish remarked in his annual report for 1877 that

In Madras, Bangalore, Bellary, Trichinopoly and Secunderabad the British soldier could not take his walks abroad without encountering the victims of smallpox and cholera, and running the risk of personal infection; but we shall see how little these circumstances have affected a body of men, provided with wholesome food and drink, and whose domestic situation was thoughtfully cared for by the State.⁷⁴

⁷² 'Remedial Measures ordered to be adopted in connection with the high death rate in Madras Town due to Cholera,' Proceedings of the Government of Madras in the Public Department, Nos. 68-69, dated 13th February 1877, Nos. 68-69, TNSA.

⁷³ Arnold, 'Social Crisis and Epidemic Disease', op. cit.

⁷⁴ SCR 1877, p. 17.

This immunity was reflected in the death rates of different sections of the population, which were as follows: European Army 17.25; Native Army 15.2; Jail population 175. 4; and for the general population 53.2.⁷⁵ Clearly, then, a more complex explanation is required to account for medical concern with famine disease and deaths.

Conclusion

Administrative responses to famine were sketchy, disorganized, and marked by conflict between different levels and agencies of the state over the necessity and form of state intervention, as well as great unevenness in the provision of relief. The towns were better provided for than the rural districts, and this appears to have contributed to extensive migration and crowding in relief centres.

While famine migration mirrored seasonal responses to scarcity and famine, its epidemiological significance requires further investigation. Further, administrative attitudes to famine migration were confused and contradictory, and marked by conflict between different levels of the state. In the early stages of famine, poorly organized relief camps and works, lack of potable water and general insanitation created the conditions for the spread of epidemic disease, especially cholera and smallpox, amongst starving people. There however appears to have been great unevenness in the way in which relief measures were organized in different areas across the Presidency, and this appears to have played a role in inflating death ratios in the main urban areas. Further, official relief was often unsuitable for patients who were in various stages of bowel disease and required a special diet.

⁷⁵ See *SCR 1877* for details.

Colonial penal and medical institutions appear to have acted as recipients for the victims of administrative inefficiency and indecision. While gaols were overcrowded, it appears that most mortality within the gaols occurred amongst those whom it was too late to save. Similarly, while hospitals and dispensaries were also overcrowded, the nature of diseases treated implies that chronic starvation was the main underlying syndrome.

It therefore appears that administrative inefficiency in organizing work and food at an early stage of famine was the main factor involved in exacerbating famine mortality. In addition, the great unevenness of relief measures as well as the regional imbalances in the ability and willingness of local administrations to undertake sanitary measures led to high death ratios in some areas.

Medical responses to famine disease were largely palliative, although preventive and sanitary measures were also attempted. Vaccination was prosecuted vigorously, if with somewhat short-lived effects, and indigenous medical practitioners were enlisted in the relief of symptoms of starvation. The most marked response on the part of European medical men was helplessness as regards the ability to save life where starvation had created the almost certainty of death in several cases. Yet, the divisions between different levels of Government over intervention made for detailed recording of the physiological and pathological symptoms of starvation. This created the space for medical men to make a claim for expert status in the prevention and management of famine and famine disease- concerns which were increasingly important to the interventionist state in the decades following the famine. This, we might argue, constituted as much the medicalization of famine disease, as it did the 'socialization' of colonial medicine itself.

Conclusions

The colonial state was irrevocably divided in moral, administrative and financial terms in its responses to famine and the provision of famine relief in Madras during 1876-78. These divisions made for inconsistencies in the relief of distress, and resulted in widespread suffering and starvation. However, they also allowed for considerable manoeuvring by the Provincial Government in the implementation of Imperial famine policy, and for the medical profession to gain administrative authority by claiming expertise in the scientific determination of standards of state support for the famine stricken.

The 1876-78 famine heralded the beginning of organized all-India state intervention in famine processes through the institution of famine codes and organized bureaucratic machinery for the early prevention of agrarian distress through prompt state intervention. To this extent, this particular episode was a 'prime mover' in the history of the medical profession and the history of state intervention in famine relief in India.

Famine Policy, Classical Political Economy and State Structures

Famine policy, was as S. Ambirajan puts it, 'a composite of many things- classical political economy, helplessness, frustration, humanitarianism, and even a certain callousness towards life'.¹ However, colonial famine policy was not- as Ambirajan, Ira Klein and David Arnold have argued- simply an application of non-interventionist ideals based on theories of classical political economy. To this extent, our conclusions coincide with those made by Sanjay Sharma, Ravi Ahuja and David Hall-Matthews,

¹ Ambirajan, *Classical Political Economy*, op. cit. p. 13.

that non-interventionist political philosophy probably justified financially and politically expedient courses of action, rather than determining them through the schooling of civil servants.

However, we differ from the above authors in that our findings indicate there were great differences between what was espoused by the Government of India and what was implemented by the Provincial Government. The divisions within and between different levels and agencies of the state- moral, administrative and financial- over what was possible, permissible and workable- prevented any wholesale implementation of non-interventionist philosophy, even when such philosophy was cited by Imperial authorities to justify particular courses of action. The ultimate defiance by Madras of the Government of India's instructions enables us to see the colonial state itself as much less cohesive and hierarchical than Sharma and Hall-Matthews do. Political authority in colonial south India appears to have been far more fragmented than they have suggested for western and northern India. Policy formation was critically influenced by this fragmentation. The thesis thus points to the role played by regional and local political structures, and relations between these regional/ local and supra-regional/ supra-local structures in shaping administrative responses to crisis.

If political authority was fragmented and immediate, individual players were significant in shaping and implementing 'state' policy at a Provincial and local level. Our study would therefore reiterate the point made by Lance Brennan and David Hall-Matthews regarding the significance of 'personalities and politics' in shaping events and in policy formation, although we would need to qualify Brennan's argument that

it was the dominant personalities in the India Office who called the shots. The beliefs and actions of individuals within the Provincial Government like William Robert Cornish, William Robinson and the Duke of Buckingham and Chandos clearly seem to have been significant in the making and implementation of Provincial famine 'policy'.

The Medical Profession, the State and the Official

The division between the Imperial and Provincial Governments over the question of intervention was important in allowing William Robert Cornish a prominent public position during the famine. Cornish's prominence owed largely to his arguments in favour of a higher famine wage than that suggested by the Government of India and his public critique of Richard Temple's one pound ration. These arguments were supported by the Provincial Government and the district bureaucracy in Madras, and received widespread recognition from the medical profession as well as from the press both in India and Europe. Clearly, Cornish's 'victory' in the debate owed to overwhelming professional, public and political support for what appeared to be a 'scientific' standard in the determination of administrative questions. Cornish's 'victory' also resulted in significant professional gains for him.

The Colonial State, Medicine and Empire

This would enable us to see the relationship between the colonial state and the medical services as more complex than has been suggested by existing authors, particularly those who have argued that medicine was a handmaiden or a tool of empire. Medicine shared selectively in contesting visions of empire, and played the divisions within the state to its advantage during this particular crisis. On the other hand, colonial medicine's- admittedly contested and dubious- 'scientific' status

justified the Provincial Government's interventionist stance and sustained it against Imperial non-interventionism. The refracted nature of Imperial authority is, therefore, a crucial element in understanding medicine's role in colonialism.

Power, Knowledge and 'Scientific' Administration

The use of vital statistics was central to Provincial defence of interventionist famine policy, and was made possible by a system for the use collection, compilation, publication, interpretation and use of vital statistics in sanitary policy may be seen as an extension of the drive towards 'scientific' and 'rational' administration that Eric Stokes, Chris Bayly and others have seen as gaining momentum from the third decade of the nineteenth century. However, right from its inception, the accuracy of vital statistics was tied up with the limited ability of the Provincial and Imperial Governments to intervene in local power structures, and doubts about accuracy reflected this insecurity of control. During the famine, debates around the accuracy of statistics were linked with assessments of the efficacy of Imperial policy and criticism of this policy by administrators in Madras. These debates over accuracy and intervention resulted in Provincial policy incorporating inaccurate and clumsy tools as the basis of a Provincial famine policy that was relatively humanitarian. Vital statistics in particular formed the weak and clumsy knowledge base of colonial sanitary science; and after 1880, of Provincial famine policy. It is thus perhaps more accurate to see colonial knowledge as a reflection of the refracted nature of colonial power and administrative authority rather than a direct corollary of a single imperial system. At the same time, vital statistics did play a 'justificatory' role, as argued by Arjun Appadurai, in debates between different levels of Government.

Starvation, Disease and Medicine

Because of the ways in which death statistics were collected and used in sanitary and famine policy, it is doubtful whether one can assert, as scholars like Tim Dyson, Elizabeth Whitcombe and David Arnold have done, that famine mortality consisted of two well-defined phases, the first constituting starvation and the second constituting disease. The most striking feature of the death statistics, and one which historians and historical demographers of this famine have not paid attention to, is the existence of a category of registration called 'other causes', which accounted for over a third of all deaths during the famine, and led the death rate during the worst phase of famine mortality. In considering this category of deaths, the thesis thus offers a more comprehensive explanation of famine deaths than existing studies.

While fevers accounted for the highest peak in mortality from a single cause during the two year period we have studied, it was 'other causes' which was responsible for the maximum deaths. The evidence seems to indicate that Cornish's hypothesis that 'other causes' was largely composed of starvation deaths. Further, evidence also indicates that there was great confusion over the classification and aetiology of fever deaths, making it difficult to attribute these to malaria. In effect, this also draws attention to the issue that it is often misleading for the modern historian to extrapolate current understandings of disease to nineteenth century death categories.

It follows that modern climatic theories of malaria do not explain a large proportion of famine mortality. On the other hand, while 'social dislocation' and congregation in urban areas, and famine relief works and camps did play an important role in

exacerbating cholera and smallpox epidemics, an emphasis on these factors tends to underestimate the significance of non-infective, non-sanitation nutritional factors in causing a significant proportion of famine deaths. Pre-famine social and economic indices were important in explaining trends in famine mortality, strengthening the hypothesis that entitlement failures, rather than the transmission of epidemic disease through social dislocation, were responsible for a greater proportion of famine mortality.

Social and Administrative Responses to Famine

It appears that there were great variations in the ways in which local administrations tackled subsistence crises. Under the circumstances, famine stricken people migrated in large numbers to centres of relief. While this might have created a sanitary crisis for ill-equipped doctors and administrators, the significance of migration as an epidemiological factor in the causation of famine mortality requires much further detailed investigation. It also appears that while numbers in colonial penal, medical and famine relief institutions did swell beyond their regular capacity, the condition of inmates upon admission rather than conditions within the institutions themselves needs to be taken into account.

Medical Responses to Famine: Epidemics, Enclavism and Intervention

Medical responses to famine can largely be summed up in terms of the paradox of helplessness/expertise. The helplessness of medical men to arrest or remedy the course of starvation and pathological degeneration amongst the majority of the famine stricken, led to detailed investigation of the physiology of starvation and its related pathological consequences. Their inability to arrest or cure chronic starvation after a

certain stage created an emphasis on adequate and appropriate state intervention as the only effective preventive against famine mortality. Yet, because of the importance of the determination of a 'scientific' standard for wages and doles which would straddle the demands of nutritional adequacy, preventive medicine and financial expediency, this 'social model' of famine disease enabled colonial medicine to claim an exclusive 'expertise' in determining standards of state support and thereby occupy a more significant place within administrative structures than it had hitherto done.

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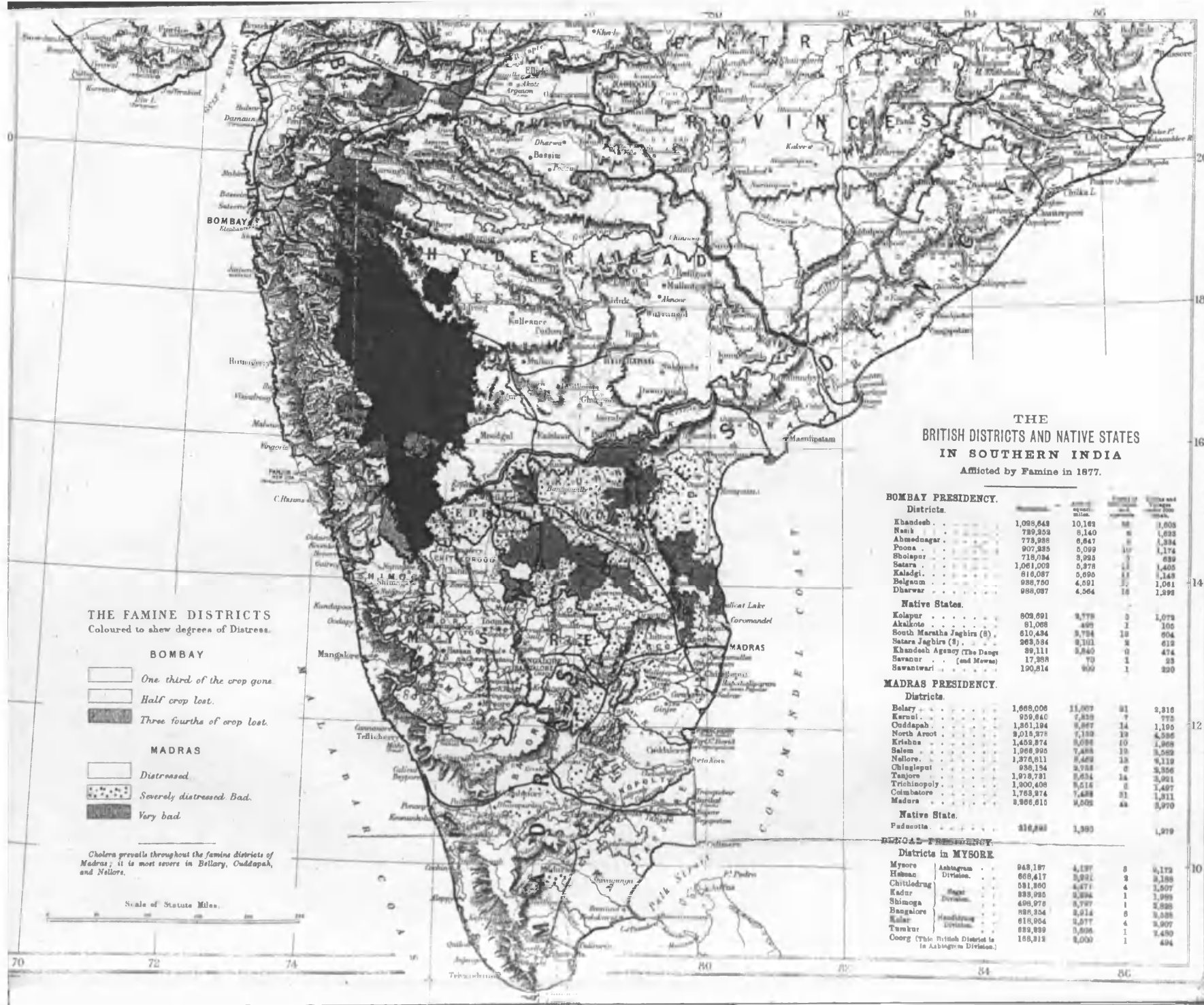
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THE
BRITISH DISTRICTS AND NATIVE STATES
IN SOUTHERN INDIA
Afflicted by Famine in 1877.

BOMBAY PRESIDENCY.

Districts.	Area in square miles.	Population in 1871.	Population in 1877.	Loss of population.
Khandesh	1,099,643	10,163	88	1,608
Nasik	789,359	6,140	8	1,638
Ahmednagar	775,298	6,847	8	1,394
Poona	907,285	5,099	10	1,174
Sholapur	718,084	3,998	11	639
Satara	1,061,009	5,378	11	1,405
Kaladgi	618,087	5,690	11	1,149
Balgaon	988,750	4,591	11	1,061
Dharwar	988,087	4,564	16	1,398

Native States.

Kolapur	603,691	3,778	3	1,073
Akalota	61,066	489	1	106
South Maratha Jaghirs (8)	610,434	3,784	13	604
Satara Jaghirs (8)	263,934	2,101	3	619
Khandesh Agency (The Dangs)	89,111	3,840	0	474
Savner (and Mowas)	17,388	70	1	23
Sawantwari	190,614	999	1	230

MADRAS PRESIDENCY.

Districts.	Area in square miles.	Population in 1871.	Population in 1877.	Loss of population.
Bellary	1,668,006	11,007	61	2,310
Karnul	959,640	7,839	7	775
Cuddapah	1,861,194	9,867	14	1,190
North Arcot	9,018,278	7,139	19	4,586
Krishna	1,459,874	8,098	10	1,968
Salem	1,068,990	7,438	10	3,569
Nellore	1,376,811	8,469	13	4,119
Chingleput	938,154	3,758	8	3,356
Tanjore	1,978,781	3,634	14	3,921
Trichinopoly	1,900,408	9,616	8	1,497
Coimbatore	1,768,874	7,438	31	1,311
Madura	3,966,610	8,606	44	3,970

Native State.

Palnadu	318,281	1,393		1,379
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GOVERNMENT OF MADRAS.

Districts in MYSORE

Mysore	948,197	4,137	8	4,173
Hassan	669,417	3,921	3	3,188
Chitaldrug	581,800	4,471	4	3,507
Kodur	889,925	3,294	1	1,999
Shimoga	499,978	3,797	1	3,286
Bangalore	888,324	2,614	6	3,286
Kolar	618,954	3,677	4	3,907
Tumkur	889,899	3,896	1	3,480
Coorg (This British District is in Mysore Division.)	168,913	3,000	1	494

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DEGREE FOR WHICH THESIS IS PRESENTED Doctor of Philosophy (Ph.D.)

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