The History of Sea Salt in British India in the nineteenth century

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Contents

Abstract

This thesis attempts to write a biography of sea-salt as a commodity in British India. It will attempt to interrogate the category of “Sea-salt” and analyses its function beyond just an economic commodity. It considers how sea-salt over the course of the nineteenth century became a scientific, sovereign and medical commodity mediated by historical circumstances and the policies of the British state. In effect, this thesis will attempt to study sea-salt from the prism of extra economical apparatus to garner a holistic understanding of the history of this commodity.

Abstrait

Cette thèse tente d'écrire une biographie du sel de mer en tant que produit de base en Inde britannique. Il tentera d'interroger la catégorie des "sels de mer" et d'analyser sa fonction au-delà d'un simple produit économique. Il prend en compte la façon dont le sel marin au cours du XIXe siècle est devenu un produit scientifique, souverain et médical, médiatisé par les circonstances historiques et les politiques de l’État britannique. En effet, cette thèse tentera d’étudier le sel de mer à partir du prisme d’un appareil extra-économique afin d’obtenir une compréhension globale de l’histoire de cette marchandise.

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Contribution of the Author

Chapter One: This chapter interrogates how Sea-Salt became a medical commodity in Britain. It looks at the ways in which artificially produced sea-salt was emphasized to be purer than the natural “sea-salt” itself. There has been no previous scholarship that interrogates sea-salt as a pharmaceutical commodity.

Chapter Two: In this Chapter, I look at the production of sea salt in British India. This chapter looks at production process of sea salt in the Bombay and Madras Presidency. There has been some works which detail on the production process of salt manufacture. However, my work focuses on the technological and environmental aspect of production something not touched upon by existing scholarship.

Chapter Three: This chapter looks at how salt was surveilled in the two presidencies of Bombay and Madras. No previous scholarship has touched upon this aspect of Salt administration.

Introduction

The thesis attempts to narrate the commodity history of sea salt in British India in the first half of the nineteenth century. I attempt to study this history by touching upon the imperial networks of knowledge, scientific and medicinal discourses on one hand and the political, economic, administrative and environmental factors on the other that generated an interest in the large-scale production and surveillance of the commodity as well as the making of the commodity in the popular imagination. However, in doing so, I have had to blur certain temporal and regional factors, as the salt administration in the presidencies did not proceed in a linear time frame nor was it homogenous in its regional spread. Thus, the structure of the thesis can be read as a series of themes, which often becomes the case in writing about big history. The geographical frame of this thesis roughly spans over the presidencies of Bombay and Madras which had an extensive coastal line that favored the production of sea salt and the temporal framework spans over the first half of the nineteenth century.

The thesis is divided into three chapters according to the commodification of sea salt in popular imagination as well as the production and administration of that commodity in the two presidencies. The first chapter deals with the medicinal and scientific discourses of sea salt in Britain and the reception of such ideas in the Indian subcontinent, which I opine is a reflection of the Company and later the Government's preference for it in the Indian subcontinent. It is interesting to note that Bengal was a large producer of salt up till the first decades of the nineteenth century but lost out to the presidencies of Bombay and Madras. Though scholars have highlighted the faulty salt administration, import of Cheshire salt as well as the price of production as reasons for this decline, it is worth noting that Bengal produced brine salt which was considered inferior to the salt produced from the sea in Bombay and Madras. The second

chapter then shifts to the process of production in the two presidencies, highlighting both environmental factors and technological means. It attempts to study to what extent did the British company maintained a dialogue with the indigenous population in the production process and to what extent it developed new technologies or retained older ones. It also touches upon the standards of purity imposed on the salt produced in the presidencies and tries to understand why the sea salt enjoyed importance over other salts. The third chapter attempts to outline the colonial surveillance exercised on the salt manufacturing areas of the two presidencies to prevent smuggling and how it legitimized the production of sea salt. In doing so, it touches upon the surveillance at the site of manufacture and through its transit route. It also touches upon how through this system of surveillance, the Company regulated the taste and preference of the populace to legitimize their sovereignty and in turn chose one salt over the other. In other words, I wish to trace how sea salt came to represent the Company's salt through a system of vigilance.

Review of Existing Literature

This thesis attempts to engage with two strands of historical scholarship- the history of salt in India and the history of commodities in the British Empire, both of which have a considerable amount of existing literature. In this section, I would try to provide a brief overview of the existing literature in both scholarships by citing some influential works and demonstrate how my thesis contributes to them and highlight my point of departure. I should, however, emphasize that though this thesis is focused on a commodity in the British Empire; it doesn't engage much with the history of trade and circulation of sea salt and doesn't necessarily address the monopoly and taxation policies imposed upon salt in the Indian subcontinent.

The historiography on salt in British India has been worked up most notably by scholars like Barui Balai[1], Sadananda Chowdhury[2], K.V Jeyraj[3] in the context of Bengal, Orissa and Madras respectively. These works focus mostly on the importance of salt monopoly in the respective presidencies and situate it in the broader paradigm of colonial economic policies. Barui Balai's work for example, notes in details the history of Salt in the Bengal Presidency from the late Mughal era to the early days of the Company Raj. His work demonstrates how the imposition of British monopoly interacted with pre-existing salt enterprises. Balai's work closely subscribes to the traditional view of "Deindustrialization"[4] which entails that colonial economic policies led to large scale decline of indigenous salt industries in Bengal. This view has later been echoed by Indrajit Ray[5]. In Ray's opinion what led to the decline of the industry was the discriminatory pricing policy by the East India Company. Ray points out that the East India Company changed its pricing policy twice "drastically" in 1836 and 1846 "when a pricing policy was instituted which discriminated against domestic salt in favour of British salt."[6] Sayako Kanda however differs from both these views in his work.[7] He opines that the pricing policy as well as the decline of the industries in Bengal could be attributed to environmental rather than economic factors. He notes that the Bengal Salt was costlier to produce since it required burning of fuel while on the other hand the Madras Salt was produced out of solar evaporation, which

[1] Barui Balai, *The salt industry of Bengal, 1757-1800 : A study in the interaction of British monopoly control and indigenous enterprise* (Calcutta: K.P. Bagchi, 1985)
[2] Sadananda Choudhury, E*conomic history of colonialism : a study of British salt policy in Orissa* (Delhi: Inter India Publication, 1979)
[3] K.V. Jeyaraj, *A History of Salt in Madras Presidency* (Madurai: Ennes Publication, 1984)
[4] The traditional view of "Deindustrialization" argues that industries in India (especially Handloom) declined at the face of British competition. For a Substantial review of literature on Deindustrialization see, Collins Simons, "Deindustrialization, Industrialization and the Indian Economy, c. I850-I947." *Modern Asian Studies* 19 (1985): 593-622
[5] Indrajit Ray, *Bengal Industries and the British Industrial Revolution (1757-1857)* (London: Routledge, 2011)
[6] Ibid. 162
[7] Sayako Kanda, "Environmental Changes, the Emergence of a Fuel Market, and the Working Conditions of Salt Makers in Bengal, c. 1780–1845". *International Review of Social History,* 55 no. 18, (2010): 123-151

was much cheaper. The export of this cheap Salt, according to Kanda, led to the decline of the Salt industry in Bengal. As the first chapter will demonstrate, the salt produced in Madras and Bombay were similar in nature as they were produced through solar evaporation and was popularly known as *Kurkuch Salt.* On the other hand, the salt production in Bengal was had a costlier process of manufacture and was produced through boiling,[8]

It is worth mentioning that the historiographical literature on Salt Industries in British India outside of the Bengal Presidency is relatively scanty. The few works that does exist like K.V. Jeyaraj's monograph[9] tend to be a discussion on British economic policies rather than the commodity of salt itself. In similar vein S.C Agarwal's massive work the *Salt Industry in India*[10] and S.K. Dravid's Development of *Salt Industry in India*[11] maps the entire development of Salt Industry in colonial and post-colonial India. My thesis departs from these works as it does not engage with the economic policies of salt taxation and monopoly. Rather my work studies the commodity of sea salt produced in British Indian territories and interrogates its specificity in the colonial context. I also look at how the sea salt became a global medical commodity in Britain in the course of the nineteenth century and the ways in which such ideas were transported back to the colony and effected the production and consumption of sea salt in India.

Beyond this historiography, I simultaneously engage with another strand of scholarship in the course of my thesis. This historiography can be broadly termed as the history of commodities. I emphasize on this literature specifically, to underline that there was a difference

[8] "The industry followed an indigenous technology, according to which the salt field -(called *chattur)* was ploughed and leveled several times during the rainy season, and was then left for five or six days so that the sunlight brought the salinity of the soil to the surface in the form of small blisters. The saline blisters were collected into a filter and soaked with saline water from a nearby reservoir (called *konree)* on a big earthen furnace so that the aqueous content evaporated, yielding salt in the final form. Salt produced in this manner was called *punga* (boiled) salt." Ray, *British Industries*, 133

[9] K.V. Jeyaraj, *A History of Salt*

[10] S.C. Agarwal, *Salt Industry in India* (New Delhi: Controller of Publications, 1976)

[11] S.K. Dravid, *Development of Salt Industry in India* (Jaipur: Uma Prakashan, 1972)

between salt as an "object" (as treated by previous historiographies) vis-à-vis salt as "commodity", and it is essential to understand the thin line of the difference between the two. Jean Baudrillard opined in *The Ideological Genesis of Needs* highlights this difference brilliantly

> The empirical 'object', given in its contingency of form, color, material, function and discourse… is a myth. How often it has been wished away! But the object is *nothing*. It is nothing but the different types of relations and significations that converge, contradict themselves, and twist around it, as such- hidden logic that not only arranges this bundle of relations, but directs the manifest discourse that overlays and occludes it[12]

The object without the ideological basis for its desire thus remains in the phase of a thing rather than that of a commodity; as Bill Brown notes "the story of objects asserting themselves as things, then, is the story of a changed relation to the human subject and thus the story of how the thing really names less an object than a particular subject-object relation." [13] Alternatively, an object becomes a 'commodity' when it is desired, has been ascribed a value or is in circulation. An object becomes a 'commodity' when it enters the commodity situation, which is described by Arjun Appadurai in *The Social Life of Things* as "the situation in which its exchangeability (past, present, or future) for some other thing is its socially relevant feature."[14]

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[12] Jean Baudrillard, "The Ideological Genesis of Needs", *The Consumer Society Reader* ed. Juliet B. Schor and Douglas B. Holt (New York: The New Press, 2000), 57.
[13] Bill Brown, "Thing Theory", *Critical Inquiry*, 28 no. 1 (Autumn 2001), 4.
[14] Arjun Appadurai, *The Social Life of Things: Commodities in cultural perspective* (Cambridge: Cambridge University Press, 1986), 13. He further divides this situation into: the commodity phase of the social life of things, commodity candidacy of things, and the commodity context in which a thing may be placed. All of these employ an idea of circulation or value of the thing.

However, what places the object in a commodity situation or alternatively out of it (as things) is the assumption that since there is a latent or expressed desire for an object, the object exists.[15] It will be interesting here to touch upon briefly on the views of Karl Marx as well. Reading Marx's *Economic and Philosophical Manuscripts of 1844*, Bradley J Macdonald writes "For Marx, capitalism engenders a desiring investment in which "human need" (the desire to be human, to strive for all that is possible under particular historical conditions) is reduced to "practical need" and is reflected in a concurrent "economical form of pleasure" (what Marx calls "enjoyment")."[16] Thus the underlining emphasis here remains that an "object" can only be transformed into a "commodity" not because of its quintessential qualities but rather through an ideological mediation.

For instance, the swamps as a natural site of salt production was obliterated from the memory of the public. This destruction was justified on the grounds that it facilitated "smuggling…because the places where it is produced are isolated, and inconvenient of approach."[17] However, it is also interesting to note that the British fascination with the sea had begun to grow since the early half of the nineteenth century. Simultaneously, the Company State had begun suppressing the manufacture of swamp salt, and thus the coasts became an *authentic natural space* of salt production. Salt, in turn, increasingly came to signify the Sea. In the Madras and Bombay presidencies a naturally occurring spontaneous swamp salt was destroyed to preserve the manufacture and sale of the government authorized coastal 'sea' salt. The

[15] Scholars such as Jane Bennett have worked towards debunking the notion of the object as thing rather than a vibrant matter. She opines that the objects should be seen rather as actants, a concept which she borrows from Latour which is used to define "any entity that modifies another entity in a trial…. Something whose competence is deduced from [its] performance" Jane Bennett, *Vibrant Matter: a political ecology of things* (Durham: Duke University Press, 2010), viii. In this manner, then it can be argued that an object can be a commodity if it competently performs its functions.
[16] Bradley J, Macdonald, "Marx and the Figure of Desire, *Rethinking Marxism*, 11, no.4 (Winter 1999): 27.
[17] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), 101.

fascination with the sea coast in Britain influenced the Company State's policy of mapping the coasts in India as well.

Thus, studying the history of sea salt alongside other commodities that were enabled by the framework of the empire becomes an interesting case. Sugar, tea, coffee, cotton and chocolate are commodities that can be easily fit into the category of imperial commodities because they were popularized and transported through imperial networks and registered an increase in their manufacture due to increases in demands of the empire. Sydney Mintz[18], Erika Rappaport[19], Sven Beckert[20], Mark Pendergrast[21], Marcy Norton[22] among others have worked extensively on these commodities to show how they were manufactured by the empire. However, salt cannot be said to be a commodity like them because salt was primarily not a product of the empire. Though severe taxation of the commodity enabled the expansion of the empire in the subcontinent, it cannot be said that imperialism enabled the manufacture of salt. In this case, it is rather the ideas and notions enabled through imperialist networks that influences the taste and preference for the commodity. And it is this manner, that I have attempted to locate the commodity history of sea salt in India and add to the exiting historiography by tracing a history of a common commodity.

[18] Sidney Wilfred Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Viking, 1985)
[19] Erika Rappaport, *A Thirst for Empire: How Tea Shaped the Modern World* (Princeton: Princeton University Press, 2017)
[20] Sven Beckert, *Empire of Cotton: A Global History* (New York: Vintage Books, 2014)
[21] Mark Pendergrast, *Uncommon Grounds: The History of Coffee and How it Transformed the World* (New York: Basic Books, 2010)
[22] See Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* (Ithaca: Cornell University Press, 2008) and Marcy Norton, "Tasting Empire: Chocolate and Internalization of Mesoamerican Aesthetics", *The American Historical Review* Vol.111, No.3 (June 2006), 660-691.

Sources and Methodology

In my effort to reconstruct the history of sea-salt in British India, I have mostly used documents composed by the colonial state. The parliamentary proceedings, including the Select Committee Report (1832) and the Report of the Commissioner appointed to enquire the Manufacture and Sale of Salt in British India (1856) have been two of my primary colonial sources. Along with them I have also used British periodicals and newspapers and, a plethora of nineteenth century handbooks and medical manuals to grasp the medical aspect of sea-salt that was touted so vociferously in Britain. I have also used some Bengali medical periodicals and English newspapers published in India such as *The Pioneer* and *Madras Mail*.

I have been influenced by Ann Laura Stoler's work in writing this thesis. Following her, and engaging with mostly colonial sources, I have attempted to trace the pulse of the colonial archives. In *Along the Archival Grain*, Stoler notes "while the formal styling of the official archives of the nineteenth-century Dutch East Indies can be read as discourses devoted to the supremacy of reason and rationalized rule…they yield a different sense of the colonial when read for the doubts and debates about what was deemed central to administrative practices."[23] I have attempted to trace the 'interiorities' of the colonial bureaucrats, to get a sense of the anxieties of colonial governance.[24] "Long treated as purely an economic extractor, a bureaucratic bully, or simply an instrument of coercion, Stoler's stories in *Along the Archival Grain* portray the otherwise reified colonial state as ridden with officials overwhelmed with fear and confusion and

[23] Ann Laura Stoler, *Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense,* 2009 (Princeton: Princeton University Press, 2009), 59.
[24] The archival turn in history has been of recent interest in scholar where the archives have turned into subjects from Sources of History. See for example, the production of narratives in historical discourse has also been addressed by Caroline Steedman, *Dust*. Hayden White in *Tropics of Discourse*.

sometimes tortured by uncertainties."[25] I have crafted this thesis keeping this framework in mind. I have also been greatly inspired by Derrida's *Writing and Différance*[26], an aspect that I feel reflects in the first half of the thesis where I read the commodity history of sea salt by interrogating the multiple significations it came to have throughout the nineteenth century.

Scheme of Chapters

This thesis is divided in three chapters other than the present introduction and is organized thematically rather than chronologically. The first chapter titled '*Sea, Sea Salt and Health*' traces the medical discourses about salt and the sea in the Indian subcontinent as a comparison to the emerging medical discourses about the sea and salinity in Britain. It then traces the commodity story of a commodity born out of these discourses, that of a category of bath salts that masqueraded as sea salts, and its reception in Britain and the subcontinent. The chapter traces the medical discourses that would have partly attributed to the colonial preference for sea salt over other variants of salt. The second chapter *'Production of Sea-Salt in India: Technology, Purity and Environment'* takes up on that cue and studies the process of manufacture of sea salt as practiced in the Bombay and Madras presidencies by touching upon the discourses of purity of sea salt. It also places the manufacture process as a dialogue between indigenous technology and environmental factor and notes the extent to which the colonial state mediated this dialogue. The third and final chapter '*Documents, Surveillance, and Sovereign Salt*' locates the emergence and operation of the salt administration, discusses the measures of surveillance and traces the paradigms of loyalty and sovereignty in the making of sea salt in India.

[25] Julian Go, "Review of, Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense", *Pacific Affairs*, Vol. 83, No. 3 (September 2010): 558

[26] Jacques Derrida, *Writing and Difference*, trans. Alan Bass (Chicago: University of Chicago Press, 1978)

Chapter one: Sea, Sea Salt and Health

In this chapter, I wish to engage with some of the medical discourses surrounding sea salt in Britain and India which can be studied as factors that influenced the colonial state's preference for the commodity over other salts that were produced in the subcontinent. I also will attempt to trace the story of a pharmaceutical commodity that was produced in Britain but imported to India, that utilized much of this discourse to gain currency. The aim of this chapter is to situate sea salt as a product that surpassed merely culinary and dietary requirements in an age that witnessed a boom in chemical salts, as well as to highlight the circulation of ideas about health and nutrition, its variations and disparities amongst the indigenous as well as the European population in the nineteenth century India. Nonetheless, it is important to note that by highlighting the role of the colonial state, I do not intend to state that the British medical discourses about salt outweighed or transformed indigenous discourses and medical knowledge. Though I briefly touch upon the subject, the plethora of knowledge in its varied linguistic array transcends the scope of this thesis.

Robert Multhauf in his book, *Neptune's Gift*[1] had highlighted the possibilities of studying salt as both a culinary and chemical category. He demonstrates how salt exceeded the mere bounds of dietary requirements as the industry of chemistry developed in the first half of the nineteenth century in Western Europe. Though the work remains primarily about the history of common salt, Multhauf hints at the possibilities of all the commodities that came under the banner of the commodity in that era- smelling salts, Epsom salts, fruit salts, some edible and some not. Works such as Anne Marie Eleanor Roo's *Salt of the Earth* attempt to trace the history of the growth of

[1] Robert P. Multhauf, *Neptune's Gift: A History of Common Salt* (Baltimore: John Hopkins University Press, 1996)

these non-culinary salts from its Paracelsian concepts to a materia medica in the middle of the eighteenth century in England.[2] Pierre Laszlo's *Salt: A grain of life* also attempts to highlight the medical properties, the myths and cultural beliefs about the same that the commodity supposedly possesses, by selecting excerpts from literature from far flung areas of the world.[3] However, I think that there is still a lacunae in the scholarship on the medical aspects of salt, particularly outside Western Europe and perhaps to a certain extent America. Historical accounts of this commodity are negligible in the case of India, though there are many accounts of domestic medicine and quick fixes in the subcontinent both in indigenous as well as the English language.

Medical Ideas about Salt in India

Salt features as a popular quick-fix in many household journals and medical periodicals in the course of the nineteenth century, particularly in the Bengali language which was one of the earlier mediums for generating medical literacy. In the periodical *Cikitsa Sammilini* that was published between 1885 and 1894, one finds numerous instances of how salt could be used as a remedy. Many of the medical properties purported to be possessed by salt depended on its capacity of absorption and preservation, making it a viable component in plant-based medicine. Salt could melt and infuse with the fibers of different parts of plants. For instance, remedies for curing worms included "using local trees and shrubs,… a mixture of the seed of the somraja mixed with salt in equal measure into a small amount of water"[4] or consumption of "salt [filled] inside a dried coconut, then seal[ed] tightly and burn[ed] in the fire ignited by cow dung."[5] The remedy to restore vitality also included salt, for instance "amongst the commoners, there is a

[2] Anne Marie Eleanor Roos, *Salt of the Earth: Natural Philosophy, Medicine and Chymistry in England, 1650-1750* (Leiden: Brill, 2007)
[3] Pierre Laszlo, *Salt: A grain of Life,* trans. Mary Beth Mader, (New York: Columbia University Press, 2001)
[4] *Cikitsa Sammilini*, vol. 3, 1886,30-31
[5] Ibid.,106-7.

proverbial saying ' consume ginger and salt and get to work' which means that consuming ginger and salt together generates vitality and reduces the chances of failure in work."[6] In a cure prescribed for boils, it was advised to "mix salt with the leaves of marigold flower and apply it as ointment."[7]

The same notion of salt possessing the capacity to melt through various fibers can also be noted when the periodical espouses and justifies the practicing of immersing the dead into rivers and seas, by noting "Dead bodies can be thrown into saline water as saline water kills bad odor and resists melting, and thus every type of melted dead body can be thrown into it without much concern."[8] However, it should be noted that the qualities of the salt did not merely transfer onto the sea, i.e. to say that the sea also had its role in making the salt a panacea for a host of diseases. The sea featured also featured prominently in the periodical as a cure. For instance, it notes that

> "It is healthy to reside by the banks of a salt-water river… To reside by the banks of the sea is the healthiest among all. The disease-causing bacteria is destroyed by the salt water because it doesn't allow the bacteria to arise from the soil. Thus, any saline body or the banks of the sea is the most beneficial for healthy residence. Not only can the healthy protect their health but even the diseased can regain their health by residing thus."[9]

Nonetheless, it is difficult to find instances of sea salt being preferred as a medicine over other kinds of salt. Indeed, when specifications of the type of salt to be used does come up in the periodicals, it is seen that there is a preference of rock salt over sea salt. For instance, rock salt (saindhava lavana) is specifically prescribed as a cure for cataract[10]. In other instances, it is hard

[6] Ibid., 176.
[7] Ibid., 219.
[8] Ibid., 165.
[9] *Cikitsa Sammilini* Vol. 2,1885, 7.
[10] Ibid., Vol. 3, 1886, 221.

to find a similar specification for sea salt as a medical matter, though instances of salt and sea as medical commodities are amply found.

One explanation for this preference can be found in the ayurvedic literature of subcontinent. Sushruta Samhita discusses about various types of salts but primarily emphasizes on the saindhava (rock salt) in most medical remedies, and though it mentions the Samudra (sea) salt as a cure there is no direct relation to it being the salt derived from sea and not the sea itself. The English translation of the text that came out in 1916 touches upon this dilemma. For once such instance, the translator Kunja Lal Bhishagratna translates a section about cure of an inflammatory eye-disease. He notes-

"*Sphatika, Vidruma*, *Samkha,* and *Yashti-madhu,* pasted with honey, as well as of *S'amkha*, sugar and *Samudra-phena* pasted with honey, if used as an Anjana would prove curative in a case of Arjuna eye-disease."[11]

In other places, where the word 'Samudra' is solely used as a cure, the translator annotates in a footnote that "*Samudra* may either mean *Samudra-phena* or Samudra salt i.e. *Karakacha* salt."[12]Karakacha salt is the popular name assigned to the salt produced along the Southern coast. The translator keeps alluding to this point in further footnotes. He opines "according to some, 'Samudra' means Samudra salt and others, it means Samudra-Phena."[13] It is important to note here that *Saindhava* is generally mentioned as 'rock-salt' throughout the text though *Samudra* is not as easily translated to the salt evaporated from the sea. Furthermore, Ayurveda and its derivative practices such as Kaviraji had become immensely popular by this time. Rachel Berger traces its popularity to the Montagu- Chelmsford reforms of 1919, and the transfer of responsibilities for medical services from the central government to the provincial government.

[11] *Sushruta Samhita*, vol. III, trans. Kaviraj Kunja Lal Bhishagratna (Calcutta: S.L. Bhaduri, 1916), 48.
[12] Ibid., 43.
[13] Ibid., 254.

This in turn, as she opines, "initiated a debate as to the precise nature of indigenous medical practice"[14] and as she further demonstrates, the scholarship on Ayurveda in the framework of an emerging nation. Projit Mukharji's *Doctoring Traditions*, on the other hand notes how indigenous systems of science and medicine interacted and absorbed ideas and inventions from the western scientific framework throughout the period between 1870 and 1930. By situating his study in colonial Bengal, he demonstrates how these 'braided knowledge' systems emerged[15]. Situating this translation in this framework of a popular nation-wide discourse which reflected indigenous as well as colonial influences in indigenous medicine and science demonstrates the extent to which these ideas affected and modified the dietary, sanitary and medical ideas harbored by the practitioners and their patients. In the context of this specific study, however, it highlights how an overlap between the Sea and its product- the sea salt was perceived and perpetrated in the public consciousness.

Ideas about the Sea

The sea in Hindu mythology can be said to be situated somewhere in the middle of the purity-pollution paradigm. On one hand, the creation of the cosmic universe, as noted in the Puranas, is traced to the churning of the empyrean ocean by the gods and demons. On the other, the idea of 'kala pani' or the taboo on crossing the waters and the resultant loss of caste also remained a popular trope throughout much of eighteenth and nineteenth centuries. It can be said that the deep sea was a site of creation and the resting place of Vishnu while crossing the sea shore was considered an act of transgression. Colonial ideas about the sea further influenced this milieu of knowledge.

[14] Rachel Berger, *Ayurveda Made Modern: Political Histories of Indigenous Medicine in North India, 1900-1955,* (Hampshire: Palgrave Macmillan, 2013), 3-4.
[15] Projit Bihari Mukkharji, *Doctoring Traditions: Ayurveda, Small Technologies and Braided Sciences,* (Chicago: University of Chicago Press, 2016), 20-27.

The sea in western scientific imagination witnessed a paradigmatic shift from the middle of the eighteenth century. The Biblical view of the sea was that of a void which harbored monsters, but explorations and scientific voyages brought about a dismantling of these notions. As Naturalists undertook sea voyages, their obsession with marine life in general and its relationship with the human species increased. Such ideas found a good ground in Germany where as Robert J Richards notes, the "developing ideas in morphology, embryology, systematics, language and behavior forced a reconceptualization of nature and the place of human beings therein."[16] Ideas of Romanticism and Naturphilosophie effected a reevaluation of the position of human in the framework of nature rather than vice versa. Theories of evolution was once such outcome of this process. Early theorists such as Goethe hinted at an organizational framework where the simplest of plants could be linked to the human body. These notions were also applied to the scholarship about marine life. For instance, Erasmus Darwin opined in his work *Temple of Nature* that the first creatures crawled from the ocean unto earth[17]. Laurenz Oken, writing in 1847, further articulated this idea. He acknowledged that humans originated from "the warm and shallow parts of the sea in the neighbourhood of the land." [18] Furthermore, he opined that 'sea mucus' was a vital liquid of the body.

These notions coupled with a growing middle-class and increase in tourism attributed the seashore with medical qualities. The middle of the nineteenth century witnessed a revolution in transport and communication, the expansion of railways particularly meant that the coasts of much of Western Europe could be accessed from its land locked interiors. Scholars such as John

[16] Robert Richards, "The Impact of German Romanticism on Biology in the 19th Century." In *The Impact of Idealism: The Legacy of Post-Kantian German Though* (vol.1), ed. Nicholas Boyle, Liz Disley and Karl Ameriks (Cambridge: Cambridge University Press, 2013), 105.
[17] Erasmus Darwin, *The Temple of Nature or The Origin of Society, A Poem with philosophical* (Baltimore: John W. Butler, and Bonsal & Niles, 1804), 28.
[18] Lorenz Oken, *Elements of Physiophilosophy,* trans. Alfred Tulk (London: C. And J. Adlard,1847),186.

K Walton[19] and Alain Corbin[20] have traced the growth and expansion of seaside retreats in Britain and France spanning over the nineteenth and twentieth centuries. Much of this tourism also found justification in the corpus of medical literature particularly physician's handbooks which recommended a retreat to nature in general and particularly the sea coast for better health and vitality. However, that the ideas did not remain curtailed to the Western European coast can be seen in the manner the sea and its air came to possess health benefits in the periodical cited above.

Nonetheless, it would be incorrect to assume that similar seaside retreats cropped out throughout the empire as well. In the case of tourism in the Indian subcontinent, it can be said that colonial efforts were more successful in modelling hill towns and stations than the coastal line. While a fascination with the sea and its health benefits grew amongst the middle class educated circles, it would still be a century till seaside bungalows and retreats would come into full sway. One of the reasons for this is the apparent colonial initiative to model climatic areas more favorable to their disposition, and another can be traced to the manner how some seaside destinations were utilized and imagined by the indigenous population.

Immersions and Bathing

Holy immersions for the purpose of religious purification and upward mobility was and continues to be a characteristic that guides the interaction of the people with bodies of water in the subcontinent. Hinduism and Sikhism attach a centrality to the holy dip, whether it be dipping in the artificial pool by the side of the Golden temple in Amritsar or in the mass ablutions during the Kumbhamela which occur once in twelve years. The action of bathing is deeply associated

[19] *See* J.K. Walton, *The English Seaside Resort: A social History 1750-1914* (Leicester: Leicester University Press, 1983) and Walton, *The British Seaside: Holidays and Resorts in the Twentieth century* (Manchester: Manchester University Press, 2000)

[20] Alain Corbin, *The Lure of the Sea: The discovery of the seaside in the western world 1750-1840*, trans. Jocelyn Phelps (Berkeley: University of California Press, 1994)

with the action of ritualistic cleansing and perhaps due to this religious tone to the action of bathing, not all water-bodies are necessarily vested with the powers to cleanse. Bathing did not have much connection to the purity of the water as much as the purity that religion had assigned to it. This is evident when William Ward notes that if a person

"be going to bathe in Gunga, and die on the road, he shall obtain the same benefits as though he had actually bathed. There are three million five hundred thousand holy places belonging to Gunga; the person who looks at Gunga, or bathes in the river, will obtain all the fruit which arises from visiting all these three million five hundred thousand holy places. If a person who has been guilty of killing cows, Brahmuns, his gooroo, or of drinking spirits, &c touch the waters of Gunga, desiring in his mind the remission of these sins, they will be forgiven. By bathing in Gunga, accompanies with prayer, a person will remove at once the sins of thousands of births"[21]

The custom of ritualistic bathing again finds mention in Emma Robert's *Scenes and Characteristics of Hindostan*, where she notes that "the only ceremonial used by the bathers is that of ablution, which consists merely in dipping in the Ganges, and in paying the tribute, collected carefully by the attendant Brahmins."[22] While memoirs and travelogues have ample references to this ritualistic aspect of bathing, there isn't as many scholarly works on the relationship between the people in the subcontinent and the sea to evince a non-religious or medical aspect. Although it would be incorrect to state that medical and scientific discourses about the sea were verbatim borrowed from the metropole, it would nonetheless appear that these ideas influenced the subcontinent, and featured as cited above, in periodicals aimed at an educated middle-class audience.

[21]William Ward quoted in Thomas Medwin. Mary Ellis Gibson, *Anglophone Poetry in Colonial India, 1780-1913, a critical anthology* (Athens: Ohio University Press, 2011), 112.
[22] Emma Roberts, *Scenes and Characteristics of Hindostan with Sketches of Anglo-Indian Society,* vol. I (London: Wm. H. Allen and Co.,1835), 217.

It more plausible, owing to the heightened interest in the Sea during the mid-nineteenth century in Britain that these ideas would have reached the subcontinent through a colonial system of knowledge. Alain Corbin notes how pharmacists began to write about "the virtues of cold water and especially the indications for bathing in waves and taking holidays at the seaside."[23] He traces the growth of such literature particularly to the onset of the Industrial revolution. He writes

"The ruling classes, believing that they did not have the vigour with which the working classes enjoyed thanks to their labour, felt that they were being consumed from within. The elite of the society feared their artificial desires, their listlessness and their neuroses. They felt threatened by social death from their own particular types of fevers and passions, because they were unable to participate in the rhythms of nature. This is the perspective within which the sea-shore began to develop its appeal."[24]

Countless sea-bathing hospitals and infirmaries sprung up in Britain as well.[25] Blackpool and Bournemouth were some of the more famous seaside retreats. As these seaside retreats grew, so did the literature on bathing. Certain important themes that the discussions on bathing dealt with were- when to indulge in a sea bath and for how long, how to take a bath to maximize the health benefits and, the benefits of sea air and the precautions to be taken while bathing (if it was permitted). However, an important aspect of the act was that of taking the plunge. As Corbin noted "the cold, the salt, and the shock to the diaphragm from plunging abruptly into the water"[26] was believed to be essential to the curing of the anxieties of the frail patient. It was supposed to restore the cure-seeker's vitalities by endowing them with vigor.

[23] Alain Corbin, *The Lure of the Sea*, trans. Jocelyn Phelps (Berkeley and Los Angeles: University of California Press, 1994), 57.
[24] Corbin, Lure of the Sea, 62.
[25] "The Science of Sea Bathing." *The British Medical Journal* 2 no. 3425, August 28, (1926): 393-394.
[26] Corbin, *The Lure of the Sea*, 67.

However, physicians remained wary about sea-bathing even as they prescribed it. While the sea-bath was advertised to possess the qualities of a panacea, they were also worried about the effect of a prolonged exposure to the turbulent sea water. Such opinions become more common place from the 1870s onwards and perhaps in the light of discussions on the nervous system and the skin. For instance, in a piece titled *Precautions in Sea Bathing*, the author notes

"However suitable, as a valuable tonic restorative, bathing in the open sea may be in the case of any particular person, the good effects of a sea-bath may be missed if the bather do not give heed to certain well ascertained rules which ought to guide his proceedings."[27]

The author then proceeds to discuss about the ill-effects of taking a bath in the morning without breakfast or while fasting or plunging into the water in a state of emotional excitement. It is interesting to note the dramatic and often not so medical tone that accompanies the instructions about taking the plunge. For instance, the author writes that "a bather should not stand hesitatingly by the water's edge until he becomes cold and shivering but plunge boldly into the sea at once."[28] These concerns addressed the anxieties of a frail urban class as well as arose from a notion that cold water immersions could induce depression.

Furthermore, cold water plunges were supposed to work on the principle that the shock produced by the difference in bodily temperatures when one plunges into the water, would imbue the immersed body with warmth. However, prolonged exposure to cold water came under criticism in the latter quarter of the nineteenth century as discussions on the permeability and porousness of the skin gained currency and a therefore concern about the action of cold immersions on the nervous system heightened. The author, thus, states at the end of the piece that no bather should remain in the sea for more than ten minutes. The reason given follows-

[27] "Precautions in Sea-Bathing." *The British Medical Journal* 2 no. 1175, July 7 (1883): 24.
[28] Ibid., 25.

> "From too long immersion in the open sea, the skin becomes unduly cooled, and the circulation and nervous system depressed, so that exhaustion, *malaise*, and shivering are apt to arise, instead of a feeling of renewed vigour, well-being and warmth."[29]

Another concern that made physicians as well as the public wary about taking the plunge was the increasing instances of accidental drowning. By 1880s, the peak sea-bathing season (mostly from summer to fall) was being called the 'drowning season'. The usual causes behind such cases were said to be the bather's mistake in straying in to secluded spots where they could be easily swept up by tidal currents, or in cramps or asphyxia. Heart-attack and seizure to came to be identified with cold water plunges. For instance, in an article *Accidentally drowned*, the author notes that "a plunge into cold water is sufficient to throw a weak heart into a dangerous state of tension, which is further increased by swimming- an exercise perhaps the most violent in which it is possible to indulge."[30] Simultaneously, warmer water baths and also hot air baths such as the Turkish baths which didn't emphasize on a vigorous participation were gaining popularity. Sea salts as a commodity could be placed in this context as a means to enjoy the seaside experience while controlling the vagrancies of nature and the limitations of the human body. Another aspect of sea-bathing which contributed to the popularity of sea salts was the social space of the seashore.

[29] Ibid.
[30] "Accidentally Drowned." *The British Medical Journal*, 2 no. 1284, August 8, (1885): 266.

The British beach in the middle Victorian era was a highly gendered space and it continued to be so years after the end of the reign. Women and men followed a different set of rules when it came to sea-ba thing. Whereas men could swim without the assistance of the 'dipper', women would often be transported in bathing machines to the coastline and were accompanied by a bathing assistant. The task of the dipper was to dip the bather into the rushing waves of the sea. It is not surprising that in a time when the advertisements as well as the physician's advice encouraged visitors to daringly plunge into the waves of the sea, that seeking the aid of the dipper could result in cases of manhandling, suffocation and in extreme cases, even death. The arrangement of the bathing machine and the dipper was made available to the women so that they could bathe in their own privacy and comfort. However, it exposed them to the concerns that it wished to safeguard against. For instance, take the illustration above, which shows an extremely grim possibility of availing a bathing machine. Though whether such deaths were a regular occurrence is still questionable, it hints at the discomfort experienced by women. Moreover, women and their male relatives were wary about the gaze of other men as they bathed. For instance, in 1881, a contributor and a presumably worried husband writes in *Fun*, advocating the case of the sea salts in the manner

Figure 1: "Death in a Bathing Machine", *The Illustrated Police News etc.,* August 12, 1871,

> When my wife had sat in the sun, on the Embankment, for an hour and a half making believe to wait for a bathing machine. I went back to her and said, "You would probably have to wait longer than this were you really at Ramsgate: but no matter, come with me;" and buying, *en route,* a packet of Tidman's sea salt, I took her to the nearest public baths, and bade her have her dip in the briny. "You will be able to undress in comfort, my dear." I remarked, "and there will be no fear of your bath being impregnated with sewage; nor will you have low cads staring at you through telescopes; so that it will not be much like a bath at your dear seaside, I fear. Still, make the best of it, and join me when you come out at the Embankment Gardens.[31]

Viewed in this light, sea salts mimicked the experience of sea-bathing in more private and less cumbersome quarters. It is worth noting here, that the act of immersion had a gendered aspect as well in the case of the Indian subcontinent. As Emma Roberts notes "Hindoo ladies of high rank, when desiring to bathe in the Ganges at Hurdwar, are conveyed into the large covered litters, which completely conceal them from the gaze of the multitude."[32] This doesn't evince that the women who bathed in privacy in India would have the same desire for this commodity but does allude to why the commodity would have been popular amongst upper caste and upper class women when seaside tourism would gain currency.

Nonetheless, it is important to remember that the action of immersion in pre-colonial India was mostly surrounded around riverine sources and particularly the streams of Ganga. Validated by the *mahatmya* literature that cited Puranic sources, these holy dipping places contained mostly sweet water and not saline. Even in the case of the Jagannatha Temple in Puri, which had a massive coastline near to it, the pilgrims would take their dip in the tanks associated with the temple. Furthermore, the fact that a fascination with the sea and its health benefits increased from the late nineteenth to mid-twentieth century demonstrates the extent to which colonial ideas influenced and modified the relation the people had with the sea. However, in

[31] "Our Extra -Special's Metropolitan "Sea-Dining"", *Fun*, no. 847, Aug 3 (1881)
[32] Emma Roberts, *Scenes,*222.

much of the nineteenth century, these ideas were limited to the upper caste natives and the Anglo-Indian population. It is partly evinced by the fact that advertisements for Tidman's sea salt or even later Condy's alternative were largely advertised in *The Pioneer* which ran with the purpose of catering to the Anglo-Indian and Anglicized population. Tidman's sea salt though marketed to a large array of middle-class consumers in Britain came to be considered a luxury commodity. For one instance, a company official touring the hill station of Nainital advocates the use of the commodity to provide for a better experience. In a piece in *The Pioneer,* he notes "a cargo of Tidman's salt be brought for the lake, and that a nice sandy beach be prepared by the municipal authorities. Donkies and bathing-machines might be extemporized on the spot."[33] What is evident here is the import of the British model of the seaside retreat. Whether such plans materialized or not, it can be said with some certitude that Tidman's sea salt was a commodity reserved for the purposes of luxury consumed by a select class, caste, and perhaps ethnicity of people.

Sea Salt as a commodity- Tidman's and Condy's

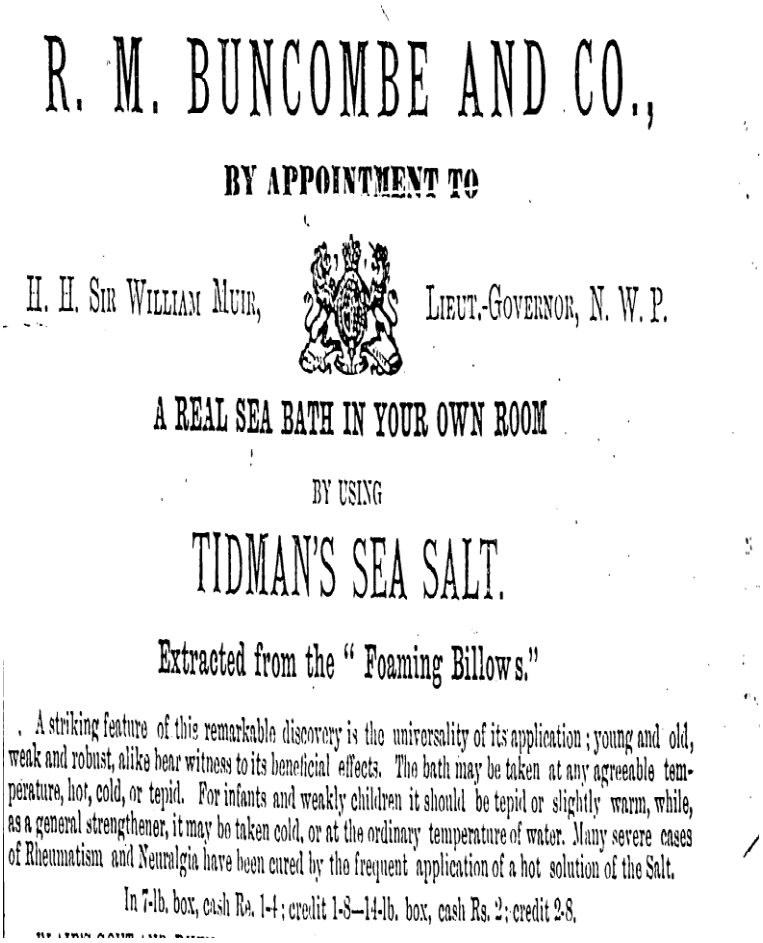
Tidman & Sons and Henry Condy became household names in the latter half of the nineteenth century due to their popularity of sea salts. To a large extent, the historical processes behind this reception has been discussed. However, the advertisement campaign that was conducted at large, particularly by Tidman should also be studied as one of the reasons why the commodity was particularly appealing to the consumers. Tidman and briefly Condy capitalized on the extremely popular trend of seaside tourism to carve out a subsidiary market for themselves. Targeting their products primarily at women and infants, who were often not well suited to the harshness and vagaries the sea offered, they built a sizeable consumer base. They did so by reiterating and convincing that their products were sourced from or recreated the sea experience. Theoretically,

[33] *The Pioneer,* August 27, 1872.

such a commodity can be said to a substitute, for it attempted to substitute the seaside experience but it did so not by claiming superiority but by mimicking it. This category of sea salts reflects a paradox in capitalism, particularly in capitalism's view of nature. Renato Rosaldo speaks about this paradox, in his work *Culture and Truth*. He notes "people destroy their environment and then they worship nature…(it) uses a pose of 'innocent yearning' both to capture people's imaginations and to conceal its complicity within often brutal domination."[34] The fact that sea salt became a popular commodity at a time when the sea coast was being monopolized by capitalists evinces this paradox furthermore. The exploitation of the sea coast simultaneously heightened the purity that it possessed in the popular imagination and increased popular yearning for its experience. Sea salts were advertised to fulfill this gap, to use Neil Smith's words about the capitalist production of nature, "between a first nature that is concrete and material, the nature of use values in general, and a second nature which is abstract, and derivative of the abstraction from use-value that is inherent in exchange-value"[35]. In other words, by building on the medical and social discourses on the Sea, it attempted to build an existence for itself. It could, thus, be said to be a hollow commodity for it didn't generate demand by itself but by the fact that some other experience it attempted to recreate had a huge demand. And that it was so, can be seen in the gradual decline of the commodity when the gendered notion of the British beach gave away gradually from the first decades of the twentieth century. Nonetheless, just as Michael Taussig notes the "wonder of mimesis lies in the copy drawing of the character and power of the original, to the point whereby the representation may even assume that character and power"[36], likewise this salt when in circulation came to acquire that representative power.

[34] Renato Rosaldo, *Culture and Truth: The Remaking of Social Analysis* (Boston: Beacon Press, 1989), 70-71..
[35] Neil Smith, *Uneven Development: Nature, Capital and the Production of Space* (Oxford: Blackwell, 1990), 389.
[36] Michael Taussig, *Mimesis and Alterity: A particular history of the senses* (New York: Routledge, 1993) see, Introduction, xiii.

Tidman's was more persistent and successful in authenticating its product as a product naturally sourced from the sea which was able to recreate the seaside experience. It was popularly advertised as the salt to recreate 'a real sea bath in your own room' and alternatively as that 'extracted from the "Foaming Billows"'. The advertisement claims a universality in application by stating that the young and old, the weak as well as robust could bathe with it to improve their health, and then it offers the opportunity to the bather to control the temperature and condition of the bath, and silently alludes that such would not have been possible if the bather were to be bathing in the Sea.



R. M. BUNCOMBE AND CO.,

BY APPOINTMENT TO

H. H. Sir William Muir, Lieut.-Governor, N. W. P.

A REAL SEA BATH IN YOUR OWN ROOM

BY USING

TIDMAN'S SEA SALT.

Extracted from the "Foaming Billows."

A striking feature of this remarkable discovery is the universality of its application; young and old, weak and robust, alike bear witness to its beneficial effects. The bath may be taken at any agreeable temperature, hot, cold, or tepid. For infants and weakly children it should be tepid or slightly warm, while, as a general strengthener, it may be taken cold, or at the ordinary temperature of water. Many severe cases of Rheumatism and Neuralgia have been cured by the frequent application of a hot solution of the Salt.

In 7-lb. box, cash Re. 1-4; credit 1-8—14-lb. box, cash Rs. 2; credit 2-8.

Figure 2: : An Extract from *The Pioneer*, Allahabad, dated June 4th 1873

A report by a certain Dr. Hassall was available to authenticate the claims of the Company and the report and directions [were] enclosed in each package."[37] *The Practitioner* in the section on 'New Inventions' further reevaluates the authenticity of this report. It notes

> "When sea water is evaporated to dryness there remains about 3.5 per cent of saline residue. About three-fourths of this residue is chloride of sodium, the rest being chiefly chloride and sulphate of magnesium, chloride of potassium, sulphate of calcium, and a small amount of bromide of magnesium…This chloride

[37] *The Practitioner: A Monthly Journal of Therapeutics* vol. 5 (London: Macmillan and Co., 1870),62.

> of sodium (sea salt), however, although generally contaminated by chloride and sulphate of magnesium and sulphate of calcium, does not, when re-dissolved, constitute sea water, inasmuch as some of the most characteristic salts of the sea water are either absent, or present only in much diminished proportion, having remained dissolved in the mother-liquor form which the chloride of sodium has crystallized out. This mother-liquor is sometimes allowed to run back into the sea, or the salts contained in it are extracted by a special process of manufacture, subsequent to the removal of the chloride of sodium…*no article is at present obtainable in London containing all the salts of sea water in their proper proportion, and which, therefore when dissolved in the necessary quantity of water, would really constitute a sea bath.*"[38]

This statement is then followed by a comparative analysis of the saline residue of the German oceans, and the contents of Tidman's Sea Salt hints that Tidman's Sea Salt didn't really produce a real sea bath in one's own home because certain essential components that are usually present in the saline solution from the sea was not found in the solution from the commodity. The table below compares the elements found in sea water solution- chloride of sodium, chloride of potassium, chloride of magnesium, chloride of calcium, bromide of magnesium, sulphate of magnesium, sulphate of calcium, carbonates of calcium and magnesium and certain insoluble elements with the contents of Tidman's Sea Salt.

[38] Ibid., 61.

	Residue from Sea Water.	Tidman's Sea Salt.	French Salts.	
			1st.	2nd.
Chloride of sodium	78·04	94·98	97·39	95·10
,, potassium . . .	2·09	—	—	—
,, magnesium . . .	8·81	1·34	0·24	1·71
,, calcium	0·20	—	—	—
Bromide of magnesium . .	0·28	—	—	—
Sulphate of magnesium . .	6·58	1·39	1·33	0·54
,, calcium	3·82	1.50	0·93	1·79
Carbonates of calcium and magnesium	0·18	—	—	—
Insoluble impurities and loss.	—	0·79	0·11	0·86
	100·00	100·00	100·00	100·00

Figure 4 **: An analysis of the Contents of Sea Water and Tidman's Sea Salt, from *The Practitioner* vol. 5, 62.**

However, despite the limitations that Tidman's Sea Salt had in producing 'a real sea bath', the natural claims of the chemist company didn't die down and acquired a common place in the popular imagination. For instance, a poem in the Odd Thoughts section of *The Manchester Weekly Times* satires the claim of Tidman's. The author of the poem, Byam Wyke writes in the poem titled 'Off to the Sea-side' writing "Methinks I hear the linnets sing, Upon the hawthorn tree (Some Tidman's sea salt please to bring, To freshen up the sea). [39]

[39] *Manchester Weekly Times*, Odd Thoughts, July 8,1898.

A REAL LUXURY !!
AN OZONISED SEA BATH.
CONDY'S OZONISED SEA SALT
FOR BATHS, &c.

COMBINES the properties of a SALT WATER and a PURE AIR BATH; INVIGORATES the body, STRENGTHENS and TRANQUILLIZES the nervous system.

Condy's Ozonised Sea Salt consists of a combination of purified Sea Salt with Ozonic Oxygen, as it occurs in Condy's Fluid. The peculiarly invigorating effect of Sea Water and Sea Air is due to the presence of oxydising and purifying Agents of this class.

The use of Condy's Ozonised Sea Salt combines the DOUBLE EFFECT of a Salt Bath and an Oxygen Bath, so that the effect is most bracing, invigorating, and refreshing.

Through the influence exerted on the nerves and vessels of the skin by Condy's Ozonised Sea Salt, the invigorating effect of baths is far greater when TEPID WATER is employed WITH THE SALT than when COLD WATER is used without it.

This will be found of GREAT value to persons who have constitutionally a dislike to the use of COLD WATER, though WITH cold water the effect is still more bracing.

Cash Price, per bottle, Re. 1; per dozen Rs. 10.

Mathew's Fuller's Earth for the Nursery and Toilet

Strongly recommended as a soothing and cooling application for

Sunburnt Arms and Faces, Chapped Hands, Roughness and Redness of the Skin, Chafing and Abrasions of the Skin in Infants, &c., &c.

Per box Re. 1 and As. 8.

J. CORFIELD & CO.
CALCUTTA. (373b)

Fig 5: Advertisement, The Pioneer, December 12, 1876

Though Tidman's sea salt had other competitions such as Brill's, Condy's stands out amongst them for its advertisements. Advertising itself as an affordable luxury, Condy's built up on the logic of Tidman's further and claimed that it could recreate a more authentic seaside experience. Claiming to combine sea air as well as sea water, Condy's ozonated Sea Salt attempted to paint a stronger representation in the mind of the consumer to be considered a more authentic commodity. Condy's sea salt later gave way to Condy's fluid which came to acquire much popularity as a household disinfectant.[40]

Condy's sea salt didn't leave as powerful an impact on the popular imagination as much as Tidman's did. Perhaps it was the lack of medical credibility or the sheer nature of grandiose claims, but Condy's sea salt featured very briefly in the 1870s in the newspapers of the Indian subcontinent. Whereas, Tidman's sea salt was successful in acquiring that representative healing

[40] For instance, Nugent Robinson advices in *Collier's Cyclopedia of Commercial and Social Information and Treasury of Useful and Entertaining Knowledge,* "it is very important in measles, as in all infectious fevers, to remove all discharge and soiled linen instantly; the motions should be passed into vessels containing chloride of lime, carbolic acid or Condy's fluid; this with ventilation will go far to prevent infection." Nugent Robinson, Collier's *Cyclopedia of Commercial and Social Information and Treasury of Useful and Entertaining Knowledge* (New York: P.F. Collier, 1883), 659.

power of the sea as can be seen in numerous articles and snippets published in the newspapers of the time. For instance, in a poem titled 'Marine Musings' one narrates the experience of the seashore and writes in the end "If you weren't by the ocean's margin, you'd be in some other part;

But no matter where you wandered 'neath the heavens' o'erhanging vault, you might always procure sea-bathing by the using of Tidman's Salt."[41] Nonetheless, the success that Tidman's had can be traced to a bathing experience prior to the emergence of an industry of bath salts in the twentieth century. Tidman's sea salt lucidly gave the control to the bather to choose the conditions most desirable to them though there was a corpus of literature on how to take a bath that had gained much popularity by the last quarter of the nineteenth century. For instance, E. Harris Ruddock noted in The Homeopathic Vade Mecum of Modern Medicine and Surgery-

> "An occasional addition of sea-salt to the water …communicates a stimulating property favourable to reaction. A similar effect is likely to result from the force or shock with which the water is applied, and probably a shower bath is the most efficient, as it most excites those forcible and deep inspirations which are the most efficient cause of the reaction which follows. The reaction is further promoted by vigorous friction over the entire surface with coarse large towels, which operate both by stimulating the cutaneous vessels, and also by muscular exertion, which promotes the more energetic action of the heart. A brisk walk after the bath also tends to promote reaction."[42]

Ruddock adds soon after that "the temperature may be varied according to the sensations of the patient, but as a rule should be that of the temperature of the blood- 96° to 98°; if higher than 98°, the bath may be followed by a profuse perspiration, which weakens the system."[43] A plunge into the sea, on the other hand, could cause "chilling of the skin, and driving inwards of the

[41] Professor Goalongfellow, *Marine Musings*, Manchester Times September 9,1865

[42] E. Harris Ruddock, *The Homeopathic Vade Mecum of Modern Medicine and Surgery: for the use of junior practitioners, students, clergymen, missionaries, heads of families, etc*. (London: Jarrold and Sons,1867), 31.

[43] Ibid.,32.

blood upon the organs within the chest and abdomen."[44] Thus, by giving the consumer the control over the vagrancies of nature in their own comfort, Tidman's created a place for itself in the market in the second half of the nineteenth century.

Salt as a panacea in the Tropics

Salt came to acquire properties of a panacea, particularly in the hot and humid climate of the tropics where dehydration and exhaustion were common problems. Salt was found to be a favorable balancing agent in this regard, particularly in its relationship with water. For instance, Godfrey Gumpel wrote in his work on common salt that though water diluted the blood, salt restored it. He notes that before water has diluted blood, "if, now, before destruction takes place, a grain of common salt is added to the watery blood, [one] can actually see the globules gradually restored to their normal form, *i.e.*, those blood globules, which have not been killed by the absorbed water, will give up this water to the salt solution."[45] He further notes

> "Plain water has a destructive action on the tissues of our body, and…this destruction is prevented and checked by the presence of common salt. So that, although a great affinity exists between the two inorganic substances, yet there seems to be a kind of opposition exercised between them; or, shall we say, they act upon each other as moderators? The destructive tendency of the water is moderated by the presence of common salt, and the irritating action of the salt is subdued by the softening influence of water; thus, at all events we find them act in the human body."[46]

[44]John H Packard, *Sea Air and Sea Bathing* (Philadelphia: P Blakiston, Son & Co., 1885), 26.
[45] C. Godfrey Gumpel, *Common Salt: Its Use and Necessity for the Maintenance of Health and The Prevention of Disease*, (London: Swan Sonnenschein & Co., Ltd., 1898), 44.
[46] Ibid.,125.

For this purpose, he advised those who visited or desired to stay in the tropical climate to keep a vial of salt by their bedside to be readily available for consumption. The contraption as shown in the picture below was one that would readily produce a mixture of salt and water to restore the vitalities of the patient. This device was to be kept near any possible source of drinking water, so that it could be easily dissolved and consumed in times of crises. Similar contraptions as well as prophylactic injections of salt which gained currency later in the twentieth century came to be considered panaceas to provide quick relief.

Figure 4: A representation of a vial containing salt to be dissolved and consumed

Salt water baths also grew in popularity in this climate, as it was believed that the skin " furnishes the means of exhaling a large proportion of the fluid given off from the body and is the chief means for maintaining animal heat at an equitable point."[47] Taking a salt water bath in the tropics would then not only cleanse the body but also aid in balancing the bodily temperature in a climate that often appeared oppressive to the British population in the Indian subcontinent. It is in the backdrop of such ideas that the colonial approach to the production of salt was framed.

Conclusion: The Colonial Preference for Sea Salt

In this chapter, I have attempted to highlight the medical discourses about the sea and its derivative sea salt that bestowed it with qualities of a panacea. I have also highlighted how a

[47] L. Duncan Bulkley, *Manual of Diseases of the Skin with an analysis of eight thousand consecutive cases and formulary* (New York: G.P. Putnam's Sons, 1882),*5*.

company capitalized on these discourses to carve out a market for themselves in Britain as well as in India. It has been demonstrated how these discourses that emerged in Britain transferred on to the subcontinent and led to the emergence of sea salt that though nascent in the late nineteenth century would get immense popularity in the twentieth. Vernacular medical periodicals borrowed these ideas and further spread them amongst the middle class, thereby creating a discourse about salinity and sea salt that would not have been perhaps there without the intervention of a colonial system of knowledge. The sea coast became a site for a purer variety of salt than those produced farther inland or from riverine sources. This point will further be evinced in the following chapter in the course of discussion about the purity of salt and would be seen that the sea salt from Madras was valued to have almost as much purity compared to the Cheshire Salt. These notions can be further evinced when one compares the production of brine salt at the beginning of the Company rule in Bengal to that at the beginning of the Government, as well as the production of salt in Bombay at that time. It becomes amply evident that there was a severe decline. Indrajit Ray notes in 1863 "the sale of government salt was only 37,556 *maunds,* i.e. barely 4 per cent of what was sold in 1800, and thus signalled the end of salt manufacturing in Bengal."[48] A contemporary statistics from the Bombay presidency, notes that Bombay produced an annual sum of 46,29,946 maunds.[49] This discrepancy continued in the latter half of the nineteenth century to the extent that salt in nationalist imagination come to denote that produced along the sea coast, an aspect that I would discuss in the final chapter of this thesis.

[48] Indrajit Ray, *Bengal Industries and the British Industrial revolution* (1757-1857) (London: Routledge, 2014), 139.
[49] House of Commons Parliamentary Papers (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), 221.

Chapter Two: Production of Sea-Salt in India: Technology, Purity and Environment

This chapter aims to provide a general outline of the process of the manufacture of sea salt as practiced throughout the Madras and Bombay presidencies in the first half of the nineteenth century. It starts with a brief discussion of how a system of salt administration came into being, and then proceeds to an analysis of manufacture of sea salt. The themes discussed in this regard include both environmental factors and technological means affecting production. Some of the environmental factors affecting manufacture were distance from the sea, nature of sand, rainfall, and the direction of wind. The sea salt produced in the districts varied in quantity and quality according to the environmental factors as well as technological means. Though mostly labour-intensive, technological innovations to pump and let sufficient water through indigenous devices as well as canals, significantly determined the quantity and quality of salt. Furthermore, proper storage techniques would also ensure that there was less wastage and that the salt produced was relatively pure. However, it is important to note a significant difference in the manufacture of sea salt in Bombay and Madras before proceeding to the subsequent sections. As S.A.M. Adshead notes

> In Bombay, which covered most of the west coast of India, units of production were large, relatively concentrated, new and partly foreign owned…In Madras, on the other hand, the units of production were small, relatively dispersed, old and owned by the government, though farmed out on a long term basis.[1]

[1] S.A.M. Adshead, *Salt and Civilization,* (New York: Palgrave, 1992), 168.

Owing to this difference, the salt manufacture in Madras lost out compared to that in Bombay, and as Adshead further remarks that in terms of production "Madras was inward looking and Bombay was outward looking"[2]in terms of supply.

Establishing a salt administration

The expansion of the East India Company's territories was accompanied by and influenced the establishment of salt administration. While the Company's monopoly was the strongest in the case of Bengal, Indrajit Ray argues that

> Both the Bombay and Madras governments were committed largely to *laissez-faire* in salt administration…While the Bombay administration was entirely market-oriented and tax-based, there were two parallel systems in Madras, the so-called government monopoly and the excise system, both subject to a given rate of tax. Manufacturers coming under the monopoly system in Madras had to surrender all their produce to the government but free market rules applied in the case of those falling under the excise system.[3]

The East India Company initially had a monopolistic hold in Bengal when in 1765 Lord Clive formed his own private trading company under a government-nominated committee that would exercise exclusive rights in the sale and purchase of salt. The Nawab of Bengal, who exercised a monopoly over the same earlier, was made to enact a regulation whereby the wholesale dealers of salt had to deal with the Company exclusively.[4] The profits earned by the Company in Bengal also made them think of similar prospects in Madras. Their military expansion further south in the course of the Anglo-Mysore and the Anglo-Carnatic wars made them consider the prospect of establishing a monopoly in Madras along the lines of the one in Bengal, partly to finance their

[2] Ibid.
[3] Indrajit Ray, *Bengal Industries and the British Industrial Revolution, 1757-1857* (London: Routledge, 2014), 153.
[4] Ibid.,151.

military expeditions and partly to meet the demand of the Bengal government. On 27th July, 1795 the Board of Revenue issued circulars to the salt producing districts of the Madras presidency, requiring from them details of the price of the salt- pans and the cost and expenses incurred by them in shipping and of salt. On 1st August the same year, that the Government transmitted to the Board of Revenue a copy of an order issued by the Bengal Government (dated 7th July of the same year) for the supply of "as much as 4 lacs of maunds of salt from the Northern Circars, for which [the Madras government] would receive… 57 sicca rupees per 100 maunds… 82 sicca weight to the seer"[5]. However, a barter system between Bengal and Madras wouldn't come into being till the beginning of the nineteenth century when sizeable portions of Madras would come under the control of Fort St. George, with Canara and Malabar remaining as exceptions. Though the monopoly in Madras wasn't as absolute as the one in Bengal, Regulation I of the 1805 Act instated that

> The manufacture or sale of salt, and the transit, export, and import of it, whether by sea or land, in the territories subject to the Presidency of Fort St. George, excepting on account of Government or with their express sanction is hereby expressly forbidden; and all salt manufactured, sold, conveyed, exported, or imported, directly or indirectly otherwise than is provided for in this Regulation, shall be liable to seizure and Confiscation.[6]

The case of Bombay was much different than the case of Madras. The Company state proceeded at a slower pace in their military conquest of the territory. It was only after the end of the third Anglo-Maratha war, in 1818, that the Company state could have a consolidated hold. Some while after its establishment, in the month of June, 1823, the Bombay government submitted to

[5] House of Commons Parliamentary Papers (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, 95.
[6] C. Annadurai Aiyar, *The Revenue Code of Madras Presidency, 1802 -1880* (Madras :, Empress of India, 1880), .279.

the Court of Directors a proposal to introduce a salt monopoly along the lines of the one in Madras but the proposal was refused because it was "calculated to cause dissatisfaction in the minds of the people in the newly acquired territories"[7] . It was thought best to adopt the earlier forms of revenue collection, and it came into operation as early as 1824.

While the manufacture of salt in Madras was partly under the Company State, the Company state didn't exercise as much control in the case of Bombay. The area under salt manufacture in the two presidencies differed. Madras was divided into twelve circles and sixty factories[8] whereas Bombay was not as organized. State owned salines were very few as compared to private salines[9] spread primarily along the west coast and clustered around the city of Bombay and the areas south to it. Most of the salt in these two presidencies was procured from the sea, by farming near the coast or through means of natural and artificial water inlets. The process of manufacture was mainly solar evaporation. Nonetheless, there were qualitative and quantitative differences in the sea salt crystals owing to the nature and time period of the salt farming season and environmental factors. Bombay salt was considered slightly superior to that of Madras.

The Dialogue of Production

It is worth interrogating the scholarship on the mode of production in the era of colonial transition before proceeding into further discussion. A broad and diverse scholarship exists on the matter, both on the agency/authority in the production as well as the technological means employed. The extent and degree to which the technology and the actors were indigenous or alternatively imposed and foreign appears vastly different depending on the stance that the

[7]Alexander's East India and Colonial Magazine (London: R Alexander, 1835) Vol. IX, 151.
[8] Adshead*, salt and civilization*, 161.
[9] Ibid., 297

scholar takes on this debate. However, it can be said with much certainty that the Company state in the early half of the nineteenth century was a transitional colonial state that was still engaged in military expansion of its borders and establishing administrative control. To what extent, the early colonial state could impose its control is on the other hand, a much-debated matter that has been concisely summarized by David Washbrook in his essay *South India: 1770-1840: The Colonial Transition*.

Washbrook begins the essay by citing two views that contradict each other. The first being of Robert Frykenberg who opined that the colonial state "broadly followed the Indian precedent and, even when it attempted to be more assertive …tended to be overcome by local and indigenous initiatives."[10] On the other hand, he cites Prasannan Parthasarathi's view that the colonial transition brought about a dynamic change in spheres of capitalist production. Still scholars such as David Ludden and Pamela Price highlight continuity over change, assigning more agency to the peasants and kings respectively. And yet, scholars such as Nicholas Dirks and Arjun Appadurai see in the colonial transition, a transition of power, a certain dynamism and violence that effected paradigmatic shifts in polity and religion. However, Eugene Irschick and I think David Washbrook to a certain extent, take a position of mediation between all these stances. Irschick "suggests the centrality of a 'dialogue' between Britons and South Indians out of which new constructions of 'Tamil society' came to be forged."[11] Washbrook, on the other hand, doesn't think the 'dialogue' to be as open-ended. He opines that the "colonial state functioned by incorporating an eclectic selection of local elite groups, whose position in relation to the rest of the society was transformed and enhanced."[12] I think that my argument can be

[10] Washbrook, David "South India 1770-1840: The Colonial Transition", *Modern Asian Studies* 38,3 (July 2004), 479.
[11] Ibid., 480.
[12] Ibid., 515.

placed somewhere between that of Irschick and Washbrook. While the colonial state did exercise the administrative control over the salt production in the two presidencies, the technological means of production did tend to incorporate indigenous practices. As will be demonstrated in the subsequent sections, the mode of production was often determined by local environmental constraints and societal frameworks.

The Role of Environmental factors

The production of sea salt in the two presidencies was primarily a labour-intensive endeavour with comparatively less technological involvement. Being produced primarily by the solar evaporation of sea water as it was let into land, the production relied on factors such as the distance from the sea, the nature of the soil, wind and monsoon. The size, colour and texture of the crystals would be better in a more favourable environment. The salt would not be bitter in taste and thus, there would be less wastage.

The salt pans in Bombay as well as Madras had the advantage of a large tract of coast, and thus the production areas can be seen in respect to it. Most of the salt produced in Bombay could be classified under two heads- the sea or coast salt and the salt manufactured in the inland districts. The sea or coast salt was produced mostly around the Island of Bombay and more or less in districts situated at the sea board of the presidency "from Raireee on the Goa frontier, southward, to the shores of Gulf of Cambay in a northerly direction"[13] The inland salt manufacturing areas are located mostly around the saline dessert of Runn of Kutch. The salt manufacturing area in the Madras presidency stretched from Ganjam in the North to Cape

[13] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), 'On the supply of salt for the presidency of Bombay', 28.

Comorin in the south and amounted to 12,000 acres[14] by the end of 1856. There were three major sources of water which was cultivated in salt farming, namely, the river, the backwater and the sea. Manufacture was mostly conducted along the long coast, the salt pans being placed within a radius of a few miles from the source of water. Most of the salt pans in the Northern Circars, Ganjam, Rajahmundry, Attiput, Chengelput and those along the coast of the Bay of Bengal cultivated on the grounds drenched by the sea water. Further inland, areas around the rivers Krishna and Godavari also produced salt. In the case of Canara and Malabar, backwater was an important source for the manufacture of salt. The type of saline water also determined the amount of salt produced as H. Newill, Assistant Commissioner, Northern Circars notes-

> "The quantity of the salt produced in a given area will depend upon the mode in which the water is supplied in the pans for evaporation… The quality of the salt water used will affect the out-turn whether taken direct from the sea or from creeks, which receive the drainage of rain water, or from pits dug a few feet below the surface which yield more saline water than sea water."[15]

The distance from the source of water also affects the quality of soil. *A Hand-Book of Common Salt* written by J.J.L. Ratton, sheds light on the role that soil played not only in the amount of salt produced but also about its quality (shape and size of crystals, colour, etc.). The key characteristics that the soil should possess in order to produce a better quality of salt, is impermeability i.e. it should be able to retain the salinity of the water. And, thus Ratton notes "It is a matter of the greatest importance to obtain an impermeable clay soil for high level works"[16]

[14] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, p. 100
[15] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix C.- No. 2, Memorandum by Mr. H. Newill regarding the Manufacture and Sale of Salt in the Northern Circars, p.199
[16] J.J.L Ratton, Hand-Book of Common Salt (Madras, 1877) p.12

He states further that the colour and the purity of the salt depended on the nature of the soil. He notes

> "Sea salt when clean and free from earth stains is generally white and opaque from the presence of air, water, etc., in the innumerable fissures and flaws of its illjointed crystalline lamellae…however [there are some salt] which have a dark brown or black tinge from the admixture with the black soil of the pans, from which they are taken."[17]

Most of the lands under salt production were lands which couldn't be reclaimed for agriculture, due to the inundation by the sea. The height of the ground above the sea level would determine the nature of the soil. In Bombay, the soil on which salt production was conducted was mostly alluvial. It had been formed near the heads of estuaries and on the banks of the tidal creeks along the coast. There were plots of flat alluvial land varying from a few acres to several square miles. Sea water at high spring tides would inundate this land. These mud banks would appear to have been formed, in the course of ages, by the gradual silting-up of shallow hays, and by the formation of alluvial deposits on the banks of rivers and streams, more especially at points near their out-fall into the sea. The nature of these deposits varied according to the geological formation of the surrounding country, depending on whether the soil was "more or less impermeable by water, free from pebbles, shells, sand, and all granular substances, plastic when in a wet condition, hard and unyielding when dry, and not readily pulverisable, so as to be raised by the wind in the form of dust"[18] However, salt production was mostly carried out on a land which was at a ground level which ranged between "one to three feet below the level of the high spring tides"[19] so as to let in the required amount of water from the sea with minimum

[17] Ibid., p 12-13
[18] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), 'On the supply of salt for the presidency of Bombay', 29.
[19] Ibid.

technological intervention and minimum prospect of any land reclamation for agriculture. Most of the coastal salt works were situated in this height at which they were easily inundated by saline water from the sea. In the case of Madras, there were mostly three types of soil. The inundation from the sea had resulted in a sandy soil near the coast. Further inland, at the intersection between the water from the sea and water from the rivers Godavari and Krishna, there was a predominance of black soil. Clay – light, muddy and stiff, was also common in the coastal areas producing salt. Other than these main types of sand found in the districts, there were also mixtures of two or more varieties; for instance, the soil in Chingelput was a mixture of black brackish earth with sand and saline particles. F.S. Child, the Head Assistant Collector of Tinnevelly notes, "the quantity of salt to be procured from a given area depends entirely on the nature of soil"[20]

Monsoon was also another factor that determined the season of manufacture. The South-West and the North-East monsoon winds are crucial in bringing rainfall to the sub-continent, and the monsoon period along the coast of Bay of Bengal roughly lasts between the months of June and October. At the beginning of the nineteenth century, the manufacture season in Madras began around March (the onset of summer), however by 1820, the season would commence from the month of January, indicating perhaps a commercialization of the manufacture of salt[21]. Many salt farmers were also farmers who would return to their fields with the arrival of the monsoon[22]. Nonetheless, untimely showers and torrential rainfall caused much loss to the manufacturers; washing away farmed salt and also leaching the soil of salinity and thus depleting the

[20] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix C.- No. 14, Letter from F.S. Child to C.J. Bird, p.277
[21] KV Jeyaraj, A History of Salt Monopoly in Madras Presidency 1805-1878, p. 25
[22] Ibid.

productivity of the land for the subsequent season. The unpredictability of the South- West monsoon in the month of May could hamper the salt manufacturing season in Bombay at its peak.[23]

The size of the crystals depended also on the erosive action of wind. In Bombay, the heat of the weather as well as the force and direction of the wind determined the size of the crystal of salt[24]. G.W. Plowden in his Report on Salt, has noted the importance of wind in the crystallization of salt in the Madras presidency

> "Long continued land winds cause the salt to deposit in flakes, which, on being handled, crumble to a fine powder. Easterly winds are more favourable to crystallization; and in southerly winds the crystals are of large size. The above effects are easily accounted for, by the relative dampness of these winds; crystallization being more perfect, the slower the evaporation. The red or brown colour of some kinds of salt, is owing to the wind driving the dust into the pans, or to the rough method sometimes used in scraping or raking up the salt, by which a quantity of dirt is scraped up with it."[25]

The illustration below taken from *A Handbook of Common Salt* shows the difference between the size of the Bombay and Madras salts in comparison to other specimens from Sambhur, Marseilles, Mayo and the submerged salt. Though the crystal of the Bombay salt was smaller in size in comparison to the Marseilles, Mayo and Sambhur Lake, it was larger in size than the 'naturalsize' of the submerged salt.

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[23] HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), 'On the supply of salt for the presidency of Bombay', 32.
[24] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), 'On the supply of salt for the presidency of Bombay', 31.
[25] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, p. 108

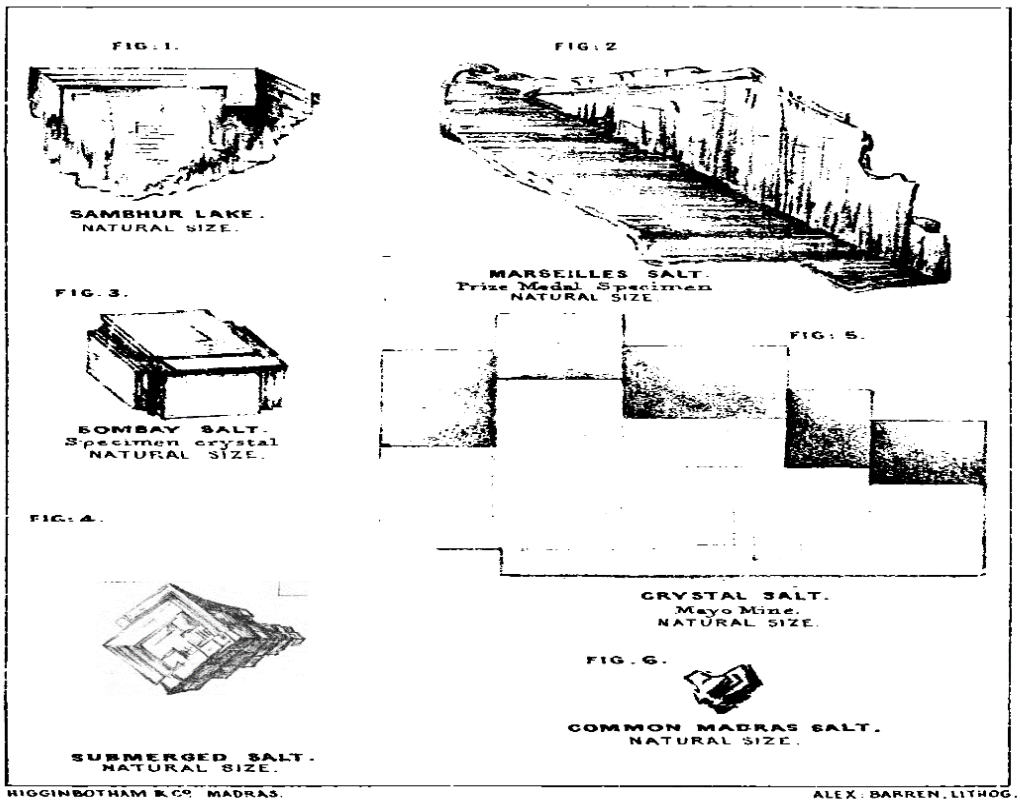

Fig. 1 The size and shape of the Madras and Bombay Salts in comparison to some other specimens

Technological Means of salt production in Bombay

The production of salt was mostly labour-intensive and technological innovations were centered on the building of embankments and canals. The embankments acted as one of the primary means of diverting sea water. Varying levels of sea water as well as the force of the waves determined how the embankments would be built. The embankments and sluices were of masonry. They were erected in shelter situations and "they consist of earth-work of a very slight and inexpensive construction"[26] Each embankment included two to three sets of salt pans which

[26] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), 'On the supply of salt for the presidency of Bombay', 30.

were situated close to each other, and received their supply of sea water through a series of embanked channels. Each set of salt pans are called ‘agurs’ and groups forming the set are called ‘suzas’. The diagram below shows how a typical ‘agur’ appeared in the Bombay presidency.

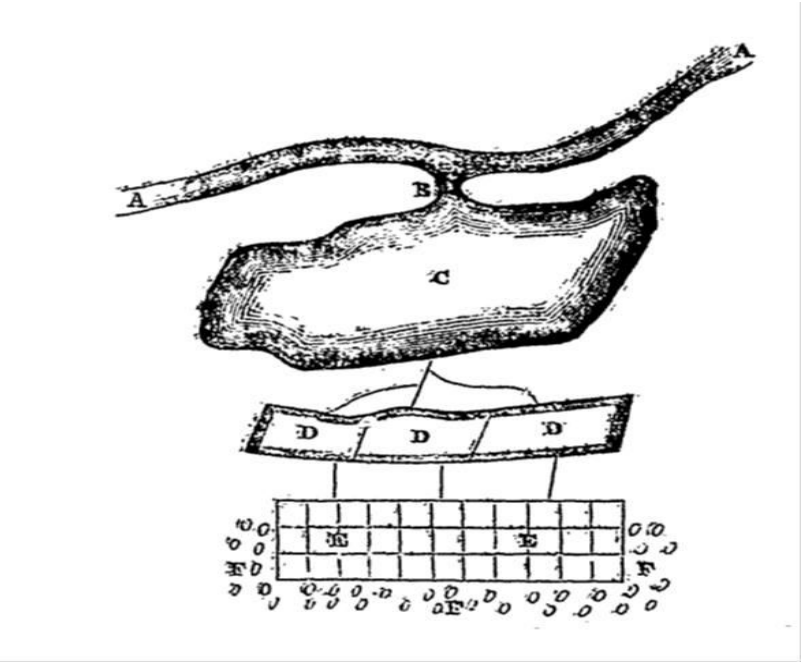

Fig. 2 The component parts of the Agur and their uses

Manufacturing season began from March and lasted till May. At first, water from the high spring tides was let in through the channel ‘A’ and flows through the channel ‘B’ and then on to reservoir ‘C’ which is known as the pandhurum or khuzeenath. Since the ground was mostly irregular, the reservoirs also took asymmetrical shapes and connected to the embankments. Once the water entered the reservoirs, the saline water goes through a partial solar evaporation and then in drawn to smaller reservoirs called “tawponee” which is denoted by ‘D’ in the illustration. The saline solution is diverted to the tawponee. The solution is let in till it covers a layer that is nine to eighteen inches in height, and is allowed to stay there for a period of ten to fourteen days. Once the saline solution of a slightly brown colour starts clumping to twigs or foreign particles,

it is understood that it has become highly concentrated and is let into the evaporating beds denoted as 'E' in the diagram. It was mostly the same size of the tawponee.

The evaporating beds or "koondies" consisted of regular compartments, as can be noticed in the diagram above. The compartments were usually of different sizes going up to 400 feet in length and 100 feet in breadth. However, the average dimension for the compartment was between 20-80 feet in length and 10-30 feet in breadth. The ground of the koondies was levelled by mallets and boards, and trodden by feet, so as to avoid any seepage of the saline concentrate into the soil. The brine was allowed to reach a depth of three to five inches and was allowed to evaporate till the crystals began to show. The process lasted another fourteen to twenty days, and the crystals were collected by a wooden scraper called "newla" that consists of "thin boards feet long by 8 inches broad attached to a long bamboo."[27]

The crystalline solution, still wet, is allowed to drain on an elevated ridge for two to three days after which it is collected in a heap to be stored. The heaps are conical and are not placed far away from the site of the pans. The site of storage is denoted by 'F' in Fig. 2, and are not more than a few yards away and are mostly in line with salt chowkeys. The heaps "may contain from 200 to 3000 Indian maunds of Salt, and are in some parts of the country, on the approach of the rainy season, protected by a thatch of rice,, straw, or coarse grass, and in other parts by a coating of mud, of from four to six inches in thickness."[28]

The position of the agurs in the suzas also differed according to the districts. The saltpans are mostly continuous to each other in the island of Bombay, and fall in an area of three miles, with the exception of Dadalee. In Konkan, they are clustered in smaller groups spread over an area of one to five miles. The salt pans would usually yield around four to six crops of salt during the

[27] Ibid., 31
[28] Ibid.

entire season and the yield would differ according to the different suzas spread over different districts. Other than the sea or the coast salt and the inland salt, there were also two other types of salt- earth salt and the salt from the Runn of Kutch. The former did not have a significant production and the latter was produced in Gujarat. The source of water for the production of salt in the Runn of Kutch, was not, however from the inundation of the sea at high spring tides but from a natural well that had been formed by siltation over the ages.

Technological means of salt production in Madras

The process of manufacture in the Madras presidency was comparatively better documented and administrated by the Company State. At the turn of the century, the manufacture of salt was carried out by ryots, who began preparing the salt fields in March. In the first month, they would plough the field twice, to a depth of three feet and let it dry in the sun; following which, saline water was added to a depth of six inches and the grounds were treaded upon by a group of six men. A minimum of eight days would be required for the drying process, if there was no rain. The process of adding water and treading was repeated till the point that the ground was completely dry. Each kani[29] was divided into thirty-two pans and saline water was added to each of them, followed by a hiatus of eight to ten days, whereby the land would dry to produce a one-inch thick salt crust, and it was left to the winds for further crystallization and the size of the crystals would depend on the nature of the wind. Crops were then periodically extracted till the end of the season.

However, K.V. Jeyraj notes that the from 1820, the season of manufacture could be seen to begin in the month of January. Two reports provide insight to the process of manufacture that

[29] Equivalent to 57,600 square feet of land

existed during that time, one by Mr. Angelo, an assistant to the Collector Mr. Ogilvie and one by Major de Havilland, the Inspector of Civil Estimates. G.W. Plowden in his report studies the two and arrives at a conclusion that two methods were prominent in the manufacture of sea salt in Madras[30]

The first method of production could be seen most prominently in the salt pans of Attiput, though variations of this method were employed throughout Madras. Plowden notes that the number of salt pans or *ullums* too varied, perhaps in accordance with the wealth of the manufacturer and this could also lead to significant differences. The size of a single *ullum* is "about ½ a cawny, or 28,000 square feet, or 2/3 of an acre"[31]. However, the *ullums* employing this method of manufacture were characterized by the presence of one single source of water (as is evident in Fig 2) rather than separate water beds or reservoirs for each salt bed which was a characteristic of the method employed in the beginning of the nineteenth century.

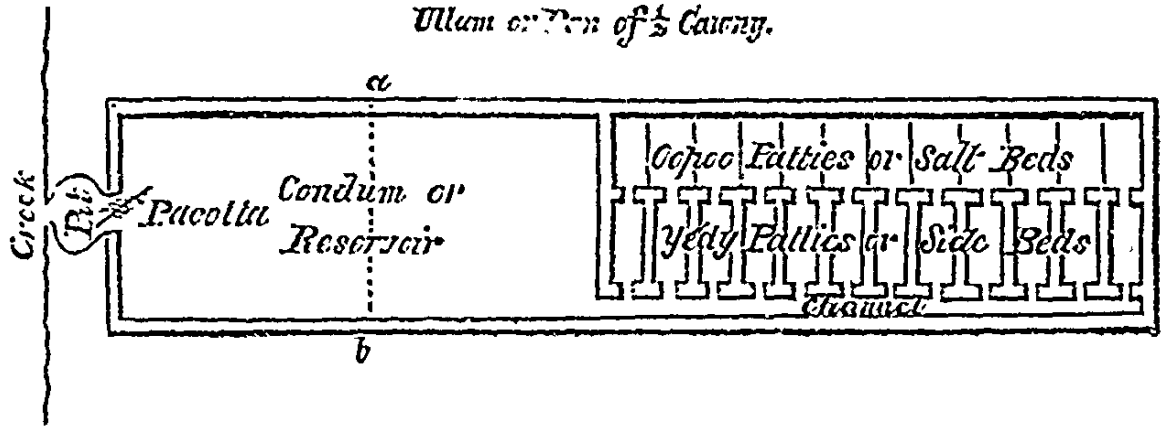

Fig 2 Plan of the salt pans at Attiput

[30] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, p. 100
[31] Ibid., p.101

In order to draw the saline water towards the salt pans, a pit or excavation is constructed at the side of the creek or the backwater. The instrument used for doing is the *pacottah* which is described in a *Classical Dictionary of India* as

> "machine for raising water from deep wells by hanging a bucket at the end of a long pole, and then attaching the other end of the pole to one arm of an elevated horizontal lever. The weight of a man on the other end of the lever raises the pole and with it the water. The apparatus is found to be the most efficient means of raising water in a la[n]d where coal is costly. It is...the best means of employing natural forces for human purpose."[32]

However, a more graphic description is provided in *The Home Friend*, *a weekly miscellany of amusement and instruction-*

> "a pacottah [is] a species of seesaw machine, on which two men balance each other, or both balance themselves against the water, drawn up in a large leathern bag, which as soon as it reaches the surface of the well, is capsized into a reservoir by an attendant imp, the son of one of the balancers."[33]

The *condum* or the reservoir occupies half the *ullum* and once it is filled up, it stands at a risk of becoming turbulent with the agitation of the winds. Thus, in times of strong winds, a temporary bank is laid (in Fig 2, it is depicted by the dotted line connecting *a* to *b*) and at one of the ends (near point *b* in Fig 2) a hole is dug to divert the flow of water into the two halves thus created. The height of the bank of the reservoir (depicted by the border) is around eighteen inches (1 ½ ft.) and the width is twelve inches (1ft.). The water within the reservoir stands at a

[32] John Garrett, *A Classical Dictionary of India: Illustrative of the mythology, philosophy, literature, antiquities , arts, manners, customs of the Hindus* (Madras: Higginbotham and Co, 1871), 99
[33] The Home Friend- *A Weekly Miscellany of Amusement and Instruction*, (London: W. Clowes and Sons,1854) vol. 1V, 197.

depth of twelve inches (1 ft.), and water is diverted from the reservoir into a narrow channel, 2 feet in width (Fig 2, depicted on the bottom right) as and when needed in the process of manufacture, it is supplied to the 12 *yédy patties* or the side water-beds (above the narrow channel, see Fig 2) "The banks separating these from these each other" Plowden notes "are made 2 or 3 feet wide"[34] The salt would be left on these banks to dry and scraped on to the salt beds or the *oopoo patties* (depicted in the top right corner of fig.2) and it is here where the process of 'solar evaporation' would be conducted. These salt beds occupy one-fourth of the *ullum* and are divided into twelve sections, separated by narrow ridges of a couple of inches.

The process of manufacture is slightly altered in case of a manufacturer having several such *ullums* under their control and is depicted in Fig. 3

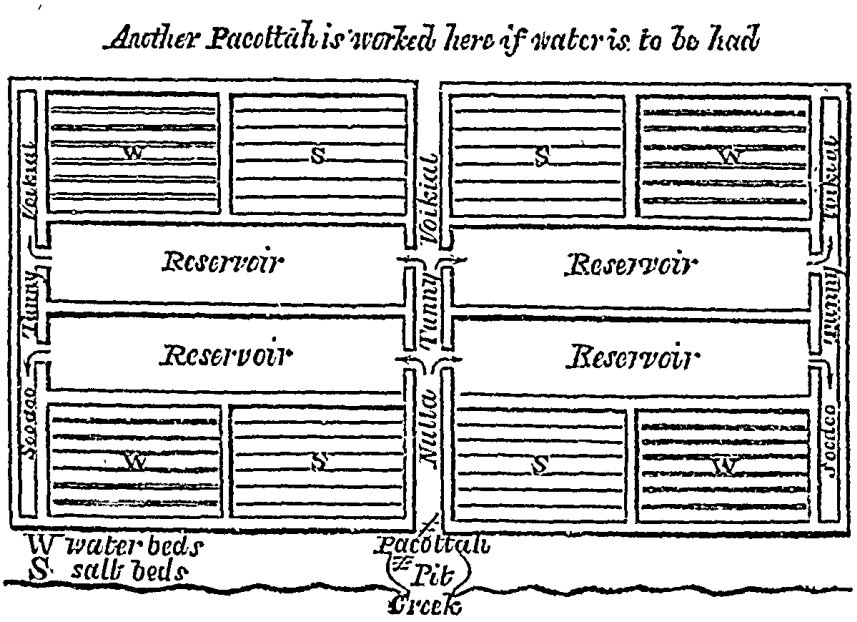

Fig 3. Layout of the salt-pans in case of the ownership of multiple *ullums*

[34] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, p. 101

The *nulla- tunny kal* , which means in Tamil, good water channel is channelized through the salt pans as the main channel (centre, Fig 3.) and water is diverted to the reservoir. From the reservoir, water is channelized into the *Soodoo-tunny kal* or warm water channel (depicted on the sides, Fig. 3) and from then "into the water-beds, and from them to the salt-beds."[35] The reservoir here "is well stamped down, and as smooth as a pavement."[36] The brine thus extracted tends to be warmer in comparison to the previous method.

The second method of production that could be seen in function particularly in the district of Tanjore was a model that was employed by the salt pans which were located further inland, and may have mixed sources of water.

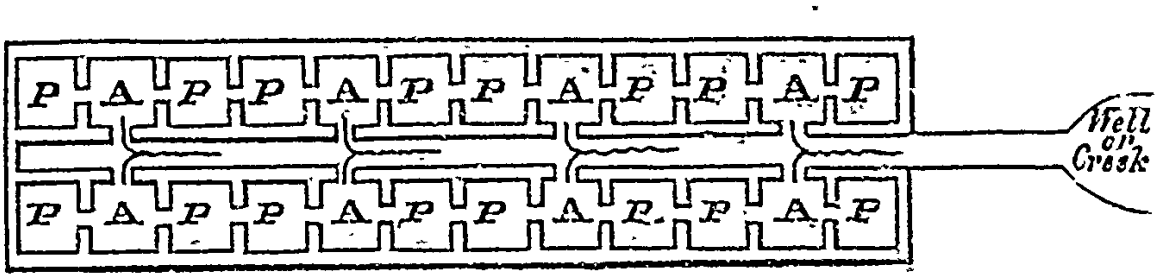

Fig 4. Layout of salt pans when the source of the water is further away

The sea water is drawn into a central channel by the operation of the pacottah, diverting the saline water first into the reservoirs (marked 'A' in Fig. 4) and once the brine becomes concentrated, it is diverted into the Pans (marked 'P' in Fig 4). The reservoirs are called *an-pattie,* which in Tamil means 'male bed' and the Pans are called *pen-pattie*, which translates to female-bed. Plowden notes that there are variations of this method as well

[35] Ibid.
[36] Ibid.

"In some few ullums, a long way from the sea, when the creek is influenced by fresh water, as many as three condums or reservoirs are used; each of a different degree of concentration; the last communicating with the side beds. They are called, respectively, nulla-tunny, soodoo, and Kāram or concentrated"[37]

While the salt manufacture season in the beginning of the century began from the month of March, G.W. Plowden notes that the manufacture season runs from January to the end of August. In the manufacture season the salt pans could be scraped twenty-one times, if "July [was] pretty dry" [38] However, Plowden notes that the first five scrapings were mostly discarded, being of a poor quality. The chronology of the events and the time taken is briefly summarized for the salt pans at Attiput (considered the best in quality), to illustrate how the process of manufacture took place during the salt producing season.

Table 1- Process of production and time taken[39]

Process	Days
Clearing the pit (near water inlet), clearing channels for future reservoirs and building banks	2
Water beds are temporally irrigated and the grounds are levelled and slightly pressed	3

[37] Ibid., 102
[38] Ibid.
[39] Ibid.

Repair of banks and ridges	2
Adding water to salt beds, and levelling it	2
Stamping and treading salt beds	8
Drying Salt beds	7
Ridges of Salt beds repaired and made functional	2
Reservoir is laid down and smoothed with a short plank attached to the end of a plough	4
The temporary channel is covered up and regular channel is made. Water is let in by the pancottah till it stands six inches deep	2
Water is let in to the water beds, the reservoir supplies it with water (2-3 inches every day) and the beds are smoothed down	2
Side beds supply water to salt beds to a depth of 1 inch	2

Floors of salt beds are plastered with mud and smoothed with scraping board	1
Salt beds left to dry, white sand sprinkled over, trodden with feet and smoothed with scraper	2
4 inches of water let off into the water beds, from reservoir by channels	1
2 inches of water diverted from water beds into salt beds; the Pacottah is operated to supply fresh water to reservoir	2
Water in salt beds allowed to brine and then replenished	3
The process is repeated	3
Salt beds are left to dry and smoothed with a scraper	2

3-4 inches water is allowed to enter the salt beds	1
Water in the salt beds are allowed to crystallize	6
Total number of days taken	58

G.W. Plowden notes that when the water is supplied into the water beds (for five days), the reservoir too is supplied with water, morning and evening, allowing brine to form. After the fifty-eighth day, the salt is scraped as it slowly settles at the bottom, by using "a plank at the end of a pole, like that used on macadamized roads in wet weather."[40] The scrapings produced in a season varied between an estimate of 192 mercals and garce 4, mercals 35.

At the beginning of each season, a contract would be drawn up between the Company and the manufacturers, an estimate of the demand (consumption) would be made first and then a quota of supply would be decided, this contract rate was called *Coodewarum*[41] The duty of the manufacturer under the system of the monopoly would then technically come to an end with the scraping off of the salt. The salt is left on the drying grounds and is "measured into heaps of 10 garce or 1200 maunds."[42] The salt is then taken to the depot. No allowance of wastage is made

[40] Ibid.
[41] Kamala Devi, Salt Policy of the British- A Case Study of the Madras Presidency, PhD Thesis, Sri Venkateswara University, 2000, 39
[42]HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix E No. 11, Replies to the Collector of South Arcot, April 6 1854, Report by G.W. Plowden, ESQ. Commissioner of Enquiry on Salt, 62

for the manufacturer; however, a wastage allowance of ten percent is assigned on further shipment[43].

The salt, at first is measured and stored at the drying grounds or platform. The heaps of 10 garce each are covered with 'straw or with large Palmyra palm leaf thatching'[44] Perhaps, the purpose of covering it in this manner was to prevent further crystallization of the salt by the wind rather than concerns of theft. This can be ascertained from the fact that there were strong opinions about the appearance and purity of the salt, which I would discuss in the next section and thus the salt was covered from exposure in order to avoid abrasion by wind or discoloration by dust. An illustration of such heaps of salt (found in the case of Bengal, shown below) might provide an idea about how the salt was stored at the drying grounds.

Fig 5. Storage of Salt in the drying grounds

The heaps appear to be covered entirely with grasses, straws or leaves and tied with rope. These heaps are then transported to the depots where they are weighed by the officials, and kept under a system of surveillance. A description of a depot in the Madras presidency reads

[43]Ibid., 72
[44] Ratton, Hand Book of Common Salt, 136.

"The platforms at the depots are rectangular, and raised three or four feet above the level to which water usually rises in the monsoon. The earth taken to raise them is dug in such a manner as to form a deep ditch round each of them, leaving only one broad entrance; in the centre of each is a hut for the watching peons, erected on a raised mound of earth. The platforms are made as large as possible, it being an object to secure as many heaps as practicable upon the same platform, and to limit the number of platforms, with the view of saving the expense of watching. The platforms are further surrounded with palisades, or hedges of prickly pear and aloes, or some other kind of defence, and the entrance is guarded by a gate. Within the enclosure of each platform a separate space is set aside for the express purpose of measuring and loading Salt."[45]

Spontaneous and earth salt

Other than the government sanctioned sea salt, two other forms of salt were produced, namely the spontaneous salt and earth salt. The spontaneous salt was produced almost naturally with minimal human interference and was of the best quality. The earth salt was produced as the name suggests from mounds of earth and was the most impure variety of salt among the three. While the spontaneous salt was prone to being smuggled, the earth salt was used for the purposes of adulteration.

Spontaneous salts, were, as the name suggests salts that were produced 'spontaneously', largely because of natural processes rather than human intervention. It was obtained throughout the swamps of the Madras presidency and particularly in the districts of Tanjore and Masulipattam, and was alternatively known as 'swamp salts'. The ground was not

[45] HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix E No. 11, Report by G.W. Plowden, ESQ. Commissioner of Enquiry on Salt, 69

prepared for the manufacture of the salt unlike the case of the sea salt. The salt-pans and beds would be formed by natural indentation. The method of production involved allowing "high tides [of] the sea to flow over the level earth, and its return [was] prevented by quickly throwing up small banks: the enclosed water is then allowed to evaporate."[46]

However, a more precise account of the production of spontaneous salt can be found in the account provided by Ratton, who writes about the production of the salt in Point Calimere in the Negapatam district

> "Two long lines of mud embankments, about six feet high, are run out parallel to each other into the swamp, in the direction of the tide, and are connected with each other at intervals of one hundred yards by similar embankments, placed transversely, so as to form a series of reservoirs, in line, resting on the level swamp. They are of large size, and open into each other from end to end, by means of a row of commodious, wooden sluice gates, in masonry frames. The rear wall of the first or mainland reservoir, communicates with a canal cut in the swamp; the gate of the last reservoir opens far out, in the direction of the sea. When the high, tidal, monsoon wave, rolls across the swamp in June, the sluices are left open, that it may enter and fill the reservoirs; and when it has attained its highest level, the sluice of the last or outermost reservoir is closed, whereby water is retained in all. The other sluices are closed afterwards, to counteract wave motion and wind drifting. Having closed the sluices, all the preparations are complete. The water is allowed to evaporate without further interference until salt forms, and if the season is a fortunate one as regards weather, a large quantity of excellent salt is obtained."[47]

[46]HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, p. 103
[47] Ratton, The Hand Book of Common Salt, 175

The salt produced in the swamps was of a better quality than the sea-salt and was most prone to being smuggled. In certain districts such as Masulipatam, there was a trade in this salt around this time, and in certain other districts like Rajahmundry, a system of surveillance monitoring the salt was in existence. However, most of these swamps were inaccessible to the colonial officials though known to the pre-colonial salt sellers and banjaras, and thus could be easily stolen. Procurement of such salt was also very expensive, given its inaccessible nature, and thus, to eliminate the threat to the government salt revenue, it was "destroyed by being trampled underfoot by herds of cattle, brought from a distance"[48] For further prevention of formation of the salt, the swamps would be drained[49]

The manufacture of 'earth salt' was extracted from mounds of common earth. K.V. Jeyaraj provides an account of the process of manufacture

> "mounds of common earth are formed to sufficient height about 10 to 20 feet. The summit is made hollow to receive earth impregnated with salt which is collected from the vicinity and thrown into the hollow part, and water is poured on it, which then runs through a narrow drain into a reservoir, constructed of masonry, below in the rear of the hillock. The contents of this reservoir are then conveyed by pots, and poured into the beds of the pans to the depth of 1 ½ inches and left to evaporate in the sun for six days, when Earth Salt is produced."[50]

[48] Ibid., 177
[49] Ibid., 178
[50] KV Jeyaraj, A History of Salt Monopoly in Madras Presidency 1805-1878, 31

The brine thus collected would be treated to further placed in a large inverted cone, at the bottom of which there is a bamboo tube, dipping in a slight degree from the horizontal line. The bottom of the cone is lined with weeds and straws to ensure the transparency of the lixivum thus obtained. The Earth salt previously collected is put into the cone till the height of 'b-b' followed by common water. Through the bamboo, the mixture is conveyed into the earthen vessel 'C'. This mixture thus obtained is further boiled in a common iron boiler, further evaporated and mixed with a proportion of magnesia, thus making the taste of the salt bitter.

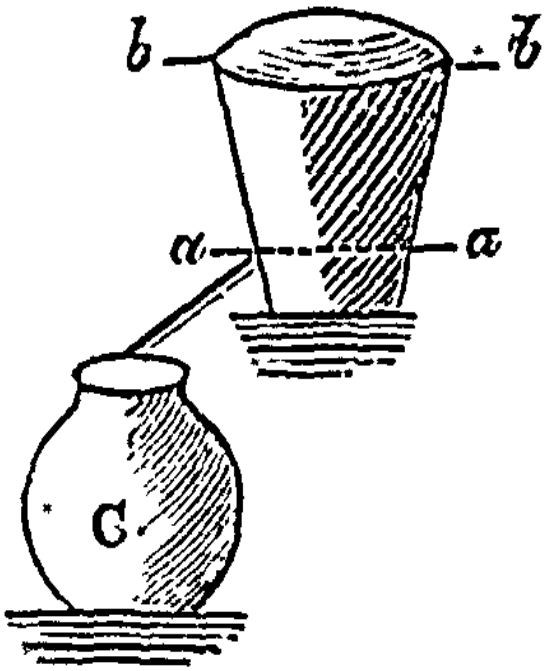

Fig 6. Lixiviation of Earth Salt

The Purity of Salt

In the earlier sections, I had touched upon how purity of the salt produced was judged upon its appearance, colour and crystal. In this section, I would like to discuss about this further by first discussing the composition of the salt that was scraped off at the end of the manufacture season. It is important to remark here that the purest salt, the rock salt, contains about 98 parts of Sodium Chloride (NaCl), the Cheshire mine salt containing up to 98.30 parts[51] and the Madras

[51] Ratton, Hand Book of Common Salt, 57

swamp salt or spontaneous salt contained about 97.46 parts[52] The Madras Salt was seen more or less as 'tolerably pure[53]' by the colonial officials, with the percentage of NaCl being 89 parts (if perfectly dry). A study was conducted by Dr. Mayer, a Professor of Chemistry to study the chemical composition of the Madras sea salt collected in the Cuddapah district. Twenty-two specimens of Salt were collected and each of these specimens were dried at the temperature of boiling water till they ceased to lose weight and the following composition was seen[54]-

Particles	Part
Moisture	7 per cent
Sand and dirt	3 per cent
Chloride of sodium or pure salt	89 percent
Muriates of magnesia and lime	1 percent
Total	100

Table 2- Chemical composition of Madras Sea Salt

The preferred size of the crystals has been alluded to earlier, the powdery texture of salt being disliked. Nonetheless, the Madras Salt contained very small and indistinct crystals as has been illustrated above, and was preferred less in comparison to the Bombay Salt. It was dark-brown or

[52] Ibid., p. 174
[53]HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix C No. 6, Reply of the Collector of Rajahmundry District, April 24, 1854 , 224
[54] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, 108

at best "grey in colour"[55] and was thought to be contaminated with dirt. Furthermore, the government salt was adulterated with earth salts, owing to the high prices assigned to the commodity, and this further added impurity. There are many references in the *Reports on Salt*, that the salt sold for internal consumption might have been more impure in comparison to the salt designated for export.

The effects of consumption of such adulterated salt or the earth salt had been a matter of much debate and concern. While G.W. Plowden writes "The Reports of the Collectors…have…induce(d) me to believe that the inhabitants of the countries, or tracts of counties, using only earth salt are equally healthy, long-lived and able-bodied, with those eating only sea salt."[56] However, Mr. Thomas in a Minute (22nd May, 1851) opposes this view stating

> "I am under a strong impression, derived from information obtained at different times and from different quarters, that earth salt contains so much impure and earthy matter, that its use tends to bowel attacks, worms, and low fever, and injures the general health. Of course the only remedy is to place good marine salt within the reach of the mass of the people, and thereby increase both the revenue, and the comfort of the people, at the cost of a little more pains in the Salt Department."[57]

However, two factors that might be influencing the debate on the purity of salt and its effect on the health of the consumers at the time were- the need to increase revenue from salt and, the increased demand for salt from Madras to Bengal.The Bengal Government had been in interested in importing salt from Madras from the 1790s, and had also insisted on instating a monopoly in

[55] KV Jeyaraj, A History of Salt Monopoly in Madras Presidency 1805-1878, 27. The colour of the salt talked about was from pans in Chingleput
[56] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix B.- No.1, Memorandum on the supply of Salt for the Presidency of Madras, dated June 17, 1854, 122
[57] (HCPP), Report on the Manufacture and Sale of, and Tax Upon Salt in British India (1856), Appendix G- No.5, Minute by Mr. Thomas. , dated May 22nd, 1851, p. 387

Madras for that purpose. There was an export of the Madras Salt to Bengal, from the beginning of the nineteenth century, as K.V. Jeyaraj discusses the manner in which the trade was carried on

> "the *dhonis* operating between Madras and Bengal were engaged on a contract basis before 1806. But then this system was changed into a permit system to the owners of vessels ready to receive and transport specified quantities of salt of good quality. The *ships*[58] were allowed to retain not more than 5 maunds which may be kept on board."[59]

Although there was a shift from small '*dhonis*' to big ships carrying salt to Bengal, the Madras salt failed to meet the requirement of supply and even when the salt reached the Bengal market, as Indrajit Ray notes, it had "only a limited market, in spite of its lower price, about 32 per cent that of domestic salt"[60] owing to its bitter taste. However, the demand of the Bengal Government for the supply of the Madras Salt didn't diminish. In 1824, there was a massive scarcity of grain in Madras, and in 1826 as Jeyaraj notes, "a number of *dhoni* owners …had brought grain from Calcutta…for supply of salt"[61] This slowly developed into a system of exchange from 1830 onwards, and exposed the need to further increase the manufacture of salt.

The drive for increasing the production of the salt further led to a drop in the standards of purity, which became more prominent in the years of the British Raj, as sale by quality came to be replaced by 'sale by measure'[62]. While a larger amount of salt would be collected in this manner, but the quality of the salt would not match the standards. It has already been discussed in the section on the chronology of the manufacture process, how the salt beds needed to remain undisturbed for stipulated amount of time for the formation of a good salt crust, however, scraping the crust before time meant that the salt would inevitably contain many

[58] Italics mine
[59] KV Jeyaraj, A History of Salt Monopoly in Madras Presidency 1805-1878, 94
[60] Indrajit Ray, Bengal Industries and the British Industrial Revolution (1757-1857), (Oxfordshire, 2011), 149
[61] KV Jeyaraj, A History of Salt Monopoly in Madras Presidency 1805-1878, p. 100
[62] S.A.M Adshead, Salt and civilization, p. 304

impurities. Furthermore, the spontaneous salt from the swamps would also be utilized in times of high demand; and in the latter half of the nineteenth century, the swamps came under government purview[63].

Conclusion

This chapter has focused on the manufacture of sea salt in the presidencies of Bombay and Madras in the first half of the nineteenth century. The chapter studied the environmental factors and technologies affecting the production. It briefly discussed the qualitative and quantitative standards of the sea salt produced. It also hinted at how one salt was preferred over the other. However, the Company State's interference in the mode of manufacture and the division of the labouring class in the salt pans are themes that have not been touched upon in this chapter. I have deliberately left out the section on labour for it has regional variations and the complexities that cannot be summarized in one chapter or even a thesis. However, I discuss the salt administration and surveillance in more details in the following chapter.

[63] Reginald M.A. Branson, *Digest of Indian Law Reports, and Law reports, Indian Appeals* (Bombay: Education Society's Press, Byculla, 1884), vol. 3, 1270

Documents, Surveillance, and Sovereign Salt

In this essay I would like to delve into the history of salt administration and surveillance in the Presidencies of Bombay and Madras. These two presidencies, located in the western and Southern India were the chief producers of sea salt in the territories of the East India Company in the nineteenth century. When going through the archives of the Company State one finds voluminous documents dedicated to ensure a strict surveillance on the salt establishments. The Company had constant vigilance over the production, transit and sale of salt in these two presidencies. The colonial state had an immense convoluted mechanism of surveillance in place to ensure that salt establishments and distribution were constantly monitored. Colonial surveillance as it will be seen later in this essay, was not a homogenous endeavor and it entailed nuances that were shaped both by global historical forces and local realities.

Existing scholarship on the history of salt administration in South Asia is not particularly expansive but some major contributions include the works of K.V. Jeyraj, Sadananda Choudhury, Barui Balai among others. These works interrogate the administrative aspect of salt establishments in some detail. However, the aspect of surveillance remains unaddressed in their theoretical framework. Interestingly, though 'surveillance' has been a major trope in the post-foucauldian historiography in South Asia (as elsewhere in the world), very little work has been done in terms of understanding early colonial surveillance mechanisms.[1] This is further

[1]There has been comparatively less works on surveillance in South Asia as one would expect. Suchetana Chattopadhyay, "From London to Calcutta: The Bolshevik outsider and imperial Surveillance, 1917-1921", and Aparajita Mukhopadhyay, "Lost in Transit? Railway Crimes and the Regime of Control in Colonial India", in Memory, Identity and the Colonial Encounter in India: Essays in Honour of Peter Robb, edited by Ezra Rashkow, Upal Chakrabarti and Sanjukta Ghosh (New York: Routledge, 2017), and Radhika Singha, Punished by Surveillance: Policing 'dangerousness' in colonial India, 1872–1918, *Modern Asian Studies*, 49 (2) pp. 241-269. I am thankful to Ujaan Ghosh for drawing my attention to the following references. H

surprising because, colossal number of documents are available in the colonial archives about the surveillance modalities of the East India Company.

A closer interrogation of colonial surveillance modalities, I believe will also shed new light on the nature of early colonial polity and governmentality. The decision to surveil salt establishments (as seriously as the government did), I believe was intricately tied to colonial policy making and helps us understand the pulse of the colonial state. This essay would then essentially try to understand three important questions: Firstly, How was the colonial state surveilling salt establishments? Secondly, why was the colonial state so invested in this surveillance? Was it only a desire to protect the revenues earned from salt or was there more than economic considerations at play? And finally, how colonial was colonial surveillance? Did the colonial state impose surveillance techniques in the colony that they learned in the metropolis or was their pre-colonial surveillance institutions that the colonial state integrated in itself? The rest of this essay would be divided in subsections and would be aimed at answering the above questions.

Salt, smuggling, and the two presidencies

The question of surveillance was intricately tied to the issue of smuggling, which the colonial government believed was carried on at some length in India. In the initial decades of the nineteenth century, however, smuggling of salt was vehemently denied by the Company officials[2] but by 1836 when the price of salt was rising colossally, major Company officials conceded to the Select Committee that smuggling was a reality that needs to be addressed. The Chairman of the Select Committee feared that salt monopoly in India would suffer the same fate

[2] (HCPP), Report from the Select Committee, Salt, British India, 10 June 1836, p. 32.

as tea monopoly in Britain as such was the extent of smuggling that 'sooner or later' it would become an 'organized' phenomenon putting an 'end to the revenue [earned from salt] altogether'.[3] Initially to counter smuggling, Salt *Chowkies* (vigilance offices) were set up with the duty to keep a check upon the transit and manufacture of salt. However, economic motives coupled with the denial of smuggling by the officials led the Company to take the *Chowkies* down. This in turn led to a revival of smuggling and it was noted that the loss due to smuggling became far greater than it would have taken to maintain the original establishment of the Salt *Chowkies*.[4]

These Salt *Chowkies* were later revived but officials lamented the fact that the refurbished *Chowkies* were ineffective. One of the primary arguments that was made to substantiate the ineffectuality of the newer *chowkies* was the fact that they lacked the superintendence of European officers which in turn implied a lax vigilance. An interesting aspect about these reports on smuggling in the salt establishment was that, vigilance was racially measured. That meant that 'Native' officers were often deemed to be less vigilant and surveillance was believed to be most effective when it was operated under the eye of an European officer. Much of the discussion in the colonial bureaucracy regarding salt surveillance and smuggling tended to be a commentary on "native", morality and ethics. It was largely believed, that 'native' salt officers bestowed with the duty of checking smuggling were oppressive, immoral and often themselves involved in smuggling. The native officers of the salt *chowkies* "were paid in the way of confiscation for any contraband salt which they might seize",[5]

[3] Ibid.
[4] HCPP, Report from the Select Committee, Salt, British India, The response of Thomas .Love . Peacock, Assistant Examiner of India Correspondence to the Select Committee, 4 July 1836. p. 77
[5] Ibid.

which meant that the government gave them incentives according to the amount of smuggled salt they could cease.

This system according to a section of the government was ideal because this would make the officers more active and 'put down smuggling altogether' since their payment depended on the amount of confiscation of contraband salt.[6] However, the ineffectiveness of such a system lied in the untrustworthiness of 'native character'. As T.L. Peacock in his minutes to the Chairman of the Select Committee on Salt noted:

> In point of fact, one of the great evils that existed in the superintendence of the salt chokees was, that the native officers got salt from the molunghees and had it sent through their chokees for the express purpose of seizing it, they being paid for the confiscation."[7]

The insinuation of the allegation was, the 'native officers' forced more salt to go through their respective check-posts just in order to seize them, thereby maximizing his profit. In a way the Peacock was arguing that smuggling was furthered (or even forced) by the native officers just for their own economic gains. To prove the depravity of the native ideas about official duties, Peacock further read a [bizarre] extract from an [unrelated] meeting where Dwarka Nath Tagore [who was once a Dewan of the Salt Board] apparently disrespected William Bentinck. He concluded by noting that, "The government have now appointed native superintendents of salt chokees, and in my opinion the measure will only tend to give efficiency to the old abuses, which the revival of the European superintendence might have prevented."[8] The native officials were thus seen as the root of abuses within salt administration and often their involvement of was taken to ridiculous proportions. For example, W.Blunt in 1834 noted that,

[6] Ibid.
[7] Ibid.
[8] Ibid.

> I have been informed (and I do not wholly discredit the information), that the very individuals who have petitioned government, and who are the owners of that salt, as well as other purchasers of salt at the government sales, are the parties principally concerned in the illicit trade.[9]

Though Blunt was primarily concerned with the illicit trade in Bengal Presidency, it is worth noting that the theme of the native involvement in Salt smuggling remains a ubiquitous theme in the colonial archives. It is important to understand the discourse on native corruption before we delve further in the ways in which the colonial state argued that smuggling was practiced. As scholars have noted, the 'rhetoric of Indian perfidy'[10] often shaped colonial administrative policies and was a recurrent theme in the colonial archives. The construction of the corrupt native officer was in many ways an essential tool that eventually justified colonial subjugation and racism. Often the narrative of the corrupt native officer masked the colonial state's overall incompetence to counter smuggling efforts in the salt trade.

One of the most common smuggling practices in the Madras Presidency, according to the Company officials involved, "the connivance of the public servants, who sometimes, while sales are going on at the depot, contrive to sell some of the salt, just brought in from the pans, not yet measured and stored. In this case, an understanding exists between the officials, the manufacturers, and the purchasers."[11] The Company was quite certain of a nexus of smuggling that involved corruption in its own administration, which was facilitated by the native officers. Another mode of smuggling that the government was quite sanguine in respect to the involvement of native officials was the tampering of salt measurement. This was believed to be

[9] HCPP, Report from the Select Committee, Salt, British India, Minutes of W. Blunt, 9 December 1834, p. 106
[10] Rachel Sturman, *The Government of Social Life in in Colonial India: Liberalism, Religious Law, and Women's Rights*, Cambridge, Cambridge University Press, 2012, p. 51.
[11] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, Appendix B. No. 1, 17 June 1854, p. 116

executed by the salt servants who "stored an excess in each heap, and, for a consideration, giving purchasers more than their proper quantity."[12] The purchaser officially paid less to the Company for the salt he received and in turn compensated the officials who helped in tampering with the measurement. Especially, since salt measurement in large quantities could easily be tampered with, This mode of smuggling was noted as "the least easy of detection, [and] is the most common method in which the salt servants effect frauds."[13] The government lamented that such was the dexterity of native officials in facilitating this smuggling, even European officers could not prevent it.

> Even under the very eyes of an European officer, an expert measurer will take in 10 per cent, over, or 10 per cent, less, than he ought, without much fear of detection, and as it is impossible for the European officers to see one thousandth part of the salt measured, the matter is easily arranged.[14]

Finally, another mode of smuggling of sea-salt prevalent involved tweaking the bureaucratic paper work. Salt production was dependent heavily on the environment, including "the weather, the season of storing, the degree of dryness at which it is stored."[15] Naturally, since the production depended on external factors, from time to time a considerable amount of salt was wasted because of the harshness of the environment. This opportunity was not wasted by the officials intent on smuggling. Often, they entered a greater amount of "wastage" in their official books and the difference was "clandestinely sold by them."[16] It is interesting to note that in 1844 the Court of Directors were of the opinion that smuggling was mostly a result of the high monopoly prices (especially in the Madras Presidency).[17] The argument went that since prices of

[12] Ibid.
[13] Ibid.
[14] Ibid.
[15] Ibid.
[16] Ibid.
[17] Ibid. Appendix K. No. 1, Extract from a Dispatch from the Court of Directors to the Government of India, No. 9 3rd July 1844. p. 408

salt was so high it led a large section of the populace to buy the cheaper smuggled salt. At this juncture, this demonization of the native official and insinuation of the corruption within colonial bureaucracy facilitating smuggling, by the Board of Revenue seems to be an interesting stance. Regardless of their stance, the Board of Revenue agreed that one of the reason smuggling is rampant in native establishment is because of the low remuneration of the native officers.

> The facility of fraud and the great gain to be obtained often prove too great temptation to the native establishment, who are certainly not remunerated in proportion to their responsibility; and, without the and *personal* check of some European officer, it cannot be expected that thorough integrity will be preserved.[18]

The question of the low remuneration and the exacting requirement of Salt production was also raised by the principal assistant collector of Ganjam, W. Knox who noted that:

> In the first place 1 beg leave to submit that the payment of 30 [rupees]., monthly, to a man who sells 2 lacs of rupees. worth of salt, is quite insufficient to ensure a good and honest man. The responsibility, the exposure to the sun, the constant vigilance required, joined to the bad pay and great temptation, renders the salt department one generally obnoxious to the more respectable servants.[19]

The interesting notion that seems to come out is directly relating smuggling and corruption within the salt administration to the natives and especially the ones that were low paid. The colonial state assumed quite directly that native officers facilitated smuggling because they were underpaid. Yet an European officer was always believed to be honest and the perfect check on the native officer not because he was well paid or otherwise, but because of his racial superiority. As the collector of Canara asserted quite phlegmatically that if salt depots "were to be placed under the under the eye of the European officers,"[20] it will have an increased source of revenue.

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[18] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, Appendix B. No. 1, 17 June 1854, p. 114

[19] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, Appendix C. No. 3, Enclosure No. 1, p. 209-210

[20] Ibid. Appendix K. No. 6, 17 August 1850, p. 419

Salt and physical surveillance

As seen from the above discussion salt was believed to be smuggled in considerable quantities and the colonial government had an elaborate mode of surveillance to counter this smuggling. This section will explore the surveillance methods adopted by the colonial state in order to keep a check on the smuggling of sea salt. The most common surveillance techniques included a strict physical vigilance exercised on the salt pans and the salt depots, which entailed posting watchers and guards. The Board of Revenue for example printed a circular order in 1850 and prescribed the "warning off all workmen at sunset [and] the fencing of the depots, so as to make them quite inaccessible."[21] Similarly, watchers were placed over pans during the manufacture season and it was ordered that the 'the manufacturers collect and pile the day's produce into small heaps [and] close the pans.'[22] The salt was then dried before being removed to the depot, and a strict estimate was kept on how much salt was being removed from the heaps. The heaps were then marked with 'clay stamps' for prevention of 'tampering'. The mode of surveillance slightly differed in the presidency of Bombay in comparison to those of Madras. In the Bombay presidency, large establishments (or several small stuck establishments) were under the supervision of the offices of the inner and outer daroga (officers). The duties of the inner and the outer Daroga was described as,

The Establishment-of the Inner Daroga is charged with watching production and store, with the care and custody of the Salt produced and stored', and- with the delivery of the same upon written orders from the officers by whom the Duty is collected. The Establishment under the Outer Daroga is the Preventive Establishment, stationed at Chowkeys established, under the provisions of Section 7 Act XXVII of 1837, in the immediate neighbourhood of each Salt Work (Agur) or group of Salt Works (Suza), the distance in each case being regulated by local circumstances, for

[21] Ibid. Appendix B. No. 1, 17 June 1854, p. 114
[22] Ibid. p. 95

the purpose of preventing any Salt from being removed from the pans, except the quantities passed by the orders of the Inner Establishment.[23]

INNER ESTABLISHMENT.						
1 Daroga	117	0	0			
1 First Cutcherry or Office Karkoon	22	8	0			
1 Ditto ditto	18	0	0			
2 Subordinate ditto at 12 rupees each ..	24	0	0			
1 Ditto ditto	10	0	0			
1 Shroff	15	0	0			
1 Agur or Suza Karkoon	13	0	0			
2 Ditto ditto at 12 rupees each ..	24	0	0			
1 Ditto ditto	10	0	0			
Tolat—none—Vide paragraph 258, showing the duties performed by the Tolat.						
2 Stampers at 4 rupees each	8	0	0			
25 Peons at rupees 4 : 8 each	112	8	0			
1 Jemadar	12	12	0			
1 Havilda	6	8	0			
1 Ditto	6	0	0			
1 Naique†	5	0	0			
1 Hulkara	4	8	0			
1 Water Supplier	12	0	0			
1 Ditto	10	0	0			
1 Farsh	4	0	0			
1 Sweeper	1	0	0			
Petty supply	15	0	0			
				450	12	0
OUTER ESTABLISHMENT FOR THE PATREE WORKS.						
1 Daroga	43	0	0			
1 Tolat or Weighman	8	0	0			
3 Nakadars at 6 rupees each	18	0	0			
4 Peons at rupees 4 : 8 each	18	0	0			
Petty supply	0	8	0			
				87	8	0
FOR THE OOROO WORKS.						
1 Daroga	41	0	0			
1 Tolat or Weighman	8	0	0			
2 Nakadars at 6 rupees each	12	0	0			
3 Peons at rupees 4 : 8 each	13	8	0			
Petty supply	0	8	0			
				75	0	0
Total rupees ..				613	4	0

***Figure 1: Establishment entertained for the management of the several Salt Works in Talooks* Patree and-Ooroo, in the Collectorate of Ahmedabad, in the Province of Gujrat**

Thus to put it simplistically the inner daroga was charged in charge of overseeing the production while the outer daroga was in charge of the chowkeys (outposts). The Darogas were paid on the basis of Eight annas per cent based on the excise recovered. The table below (fig. 1) shows the total number of officials kept in the salt establishments under a particular collectorate. As a perfunctory glance of the table elucidates, that the *inner establishment* was given much more priority than its counterpart. Not only were there more officials posted in the inner establishment, their remunerations were also considerably more. The duties of the inner daroga were also considerably more. He was supposed to watch over production, storage and delivery of salt at the 'several works comprised in his talook.' He was also in charge of for collecting the Excise

[23] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, *On the Supply of Salt for the Presidency of Bombay*, p. 41

Duty, Land Rent, and all other monies, and for keeping an account of the same.'[24] He was also supposed to report all revenue collections to the government treasury, from time to time and at some occasions, on a daily basis. But his premiere duty was one of surveillance

[He] is expected to exercise a vigilant personal supervision over the Salt "Works, and to see that all the officers of his establishment strictly performing their several duties.[25]

However, surveillance over salt establishments were not just limited to the Daroga himself. In fact, the Daroga was the official who ensured that effective surveillance was conducted by his subordinates. The primary duty of watching the salt pans was conducted by the Peons, or guards, who were posted in the salt chowkeys to watch over the pans. They were posted always in a group of two or three and sometimes more depending on the size of the chowkey. They also had to guard the Daroga's *cutcherry* [office] and treasury, and had 'to escort treasure when there is – no military guard available.'[26] The surveillance mechanisms of course did not stop there since another category of guards called *Jemadars* and *Havildars* were employed, whose duty was 'to look after the Peons to do the rounds at night, and see that the-men under them at the Chowkeys are - on the alert.'[27]

The layer of surveillance facilitated by the inner establishment was furthered by the outer establishment, which was under the supervision of the Outer Daroga and his associates. The 'Outer Establishment', as the name suggests was stationed outside of the works and was independent of the inner establishment. It acted as a 'check upon the Inner Establishment employed within the Works.'[28] The duties of the outer establishment was described as

[24] Ibid,.42
[25] Ibid.
[26] Ibid.44
[27] Ibid.
[28] Ibid.

The Daroga is the head of the Preventive Establishment entertained for the Salt Works of the Talook. His Chowkeys or Preventive Stations are situated at-commanding spots, generally within half a mile or a mile of the Works. These Chowkeys are under the charge of the Nakadars (sometimes called Karkoons) and Peons.[29]

The other duties of the establishment included to see that no salt leaves without a permit or Rowanah (either by land or by sea) and to ensure that salt is not taken by routes other than the ones described in the permits. If salt was removed on bullock the chowkey officer had to count the number of packs with weights marked on each and then verified it against the amount of weight that was allowed in the permit. When Salt was removed in 'carts or in boats, the quantity contained in them [was] ascertained by cubic measurement' and the result was entered in the books kept in the chowkey. The Daroga used to patrol the Chowkey under his charge 'at all times' to see that his subordinates are at their stations and on the alert.[30]

This dual establishment facilitating check upon one another formed the backbone of the physical surveillance system, which the colonial government deployed in the Bombay Presidency. The effort that required for the government to maintain such a complicated system emphasizes how seriously surveillance on salt establishments were taken by the colonial state. Later in the century, some doubts were raised about the effectiveness of a dual system, especially from the officials of the Custom and Excise department. A section of colonial bureaucracy was of the opinion that the dual system which was supposed to act as a check upon one another was in reality a 'mere delusion'. In fact, as one official argued, the two darogas were more likely to perpetrate a crime together than acting as a check against the other. [31] However, in spite of the

[29] Ibid.
[30] Ibid.
[31] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, *On the Supply of Salt for the Presidency of Bombay,* Appendix P. p. 74

dissents among colonial officials, the Government of Bombay, carried on with the dual system with slight modifications.[32]

The Daroga remained a ubiquitous figure in the salt administration in other presidencies as well. He was the chief supervisor of the salt agencies and was the supreme bureaucratic official who facilitated surveillance. In Madras, the other chief site for sea salt production, the office of the Daroga was not dual in nature (like in Bombay). In most Salt agencies in Madras, the Daroga was a singular office who worked collaboratively with a number of other officials (mostly subordinate to him) to facilitate surveillance. His primary pre occupation was to oversee the measurement and weightage of salt to see that no fraudulent activity was taking place. In the Madras Presidency, the Daroga was also in charge of facilitating patrols near the salt pans, particularly at night.

At this juncture, it would be interesting to situate the surveillance of salt in colonial India in the broader context of the theories of surveillance. Such a discussion I believe will shed light in understanding colonial modalities of surveillance in South Asia. Michel Foucault's Discipline and Punish can provide a fruitful point of departure in this context. Foucault argues that from the eighteenth century onwards (in mainland Europe), a new model of apparatus evolved which enabled 'a mechanism that coerces by means of observation'.[33] This new modality of observation was based on the relationship between the visibility/invisibility paradigm. A new architectural model was necessitated that aimed at making everything possible through a 'single gaze'. This model of observation adopted in schools, hospitals, and factories often served as the

[32] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, *On the Supply of Salt for the Presidency of Bombay*, p.
[33] Michel Foucault, *Discipline and Punish*, trans. Alan Sheridan (New York: Vintage Books, 1995), p. 170

template for surveillance of multiple subjects. Drawing the relationship between the factory and its operating surveillance mechanism, Foucault notes,

> [W]hat was now needed [in factories] was an intense, continuous supervision; it ran right through the labour process; it did not bear - or not only - on production (the nature and quantity of raw materials, the type of instruments used, the dimensions and quality of the products); it also took into account the activity of the men, their skill, the way they set about their tasks, their promptness, their zeal, their behaviour. ….A specialized personnel became indispensable, constantly present and distinct from the workers...their role would be 'to supervise the workers, to inspect all the places of work,' to inform the directors of everything that takes place (Cournol). Surveillance thus becomes a decisive economic operator both as an internal part of the production machinery and as a specific mechanism in the disciplinary power. [34]

If we keep this Foucauldian paradigm in mind we notice that much of it was applicable in the way salt production was surveilled. The Daroga (and the peon as well) were not part of the production process but he was constantly present monitoring the entity through his gaze. He was vested with the dual duty of surveillance as well as maintaining the accounts and records, his surveillance worked as a decisive *economic operator* as well.

Drawing from Foucault's concept Nicholas Mirzoeff in his influential work *The Right to Look*[35], discusses the modalities of surveillance in the slave plantations of North America. Mirzoeff uses John Baptiste Du Tertre's picture, Indigoterie (fig. 2) from his work *l'Histoire générale des Antilles habitées par les Français* to demonstrate how surveillance on multiple plantations was conducted by a single 'overseer'. Oversight from a central vantage point, argues Mirzoeff was essential for the functioning of plantation 'economy'.[36] Salt

[34] Ibid. p. 175
[35] Nicholas Mirzoeff, *The Right to Look: A History of Counter Visuality* (Durham: Duke University Press, 2011). My thanks to Ujaan Ghosh for drawing my attention to this piece of work.
[36] Ibid. p. 50

production (like sugar) required an essential component of discipline;

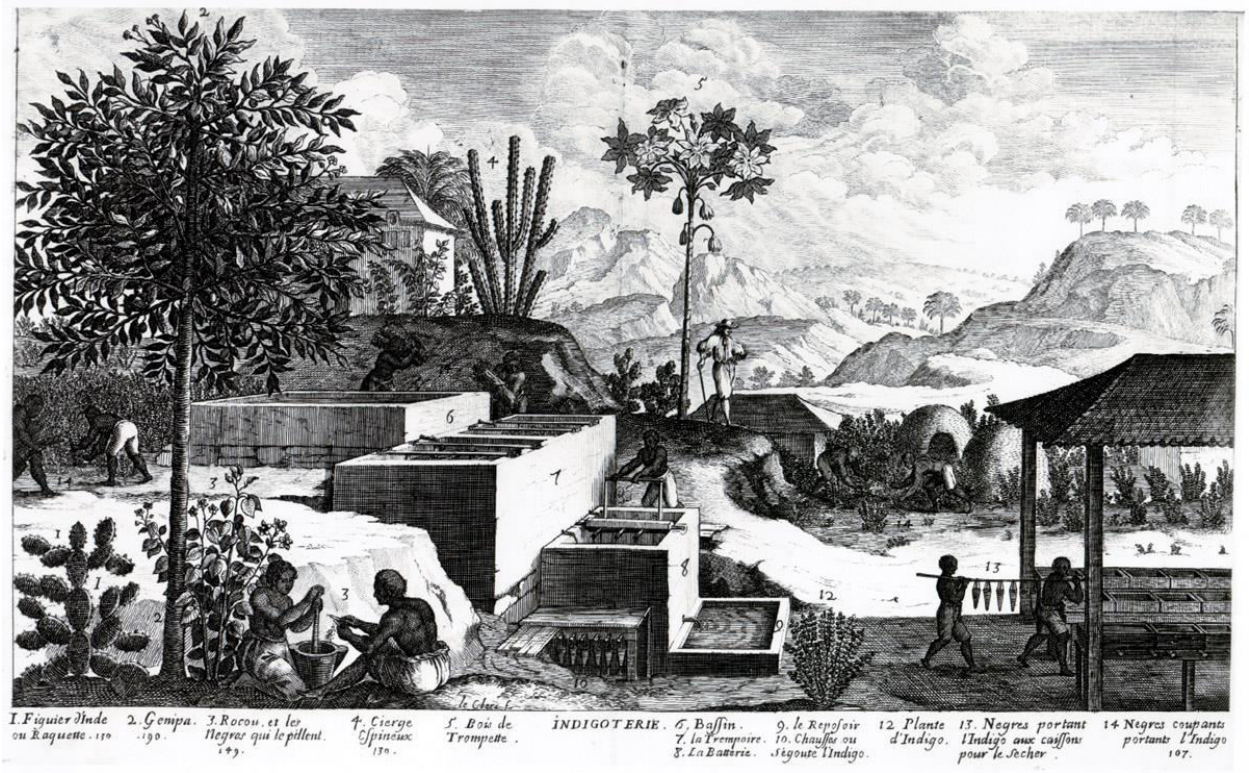

Figure 2 : Indigoterie, by John Baptiste Du Tertre

The scrapping of salt from the pans, measuring, stamping, rowannah writing all of this involved meticulous discipline both on the part of the manufacture and that of sale. Hence, surveillance through oversight became extremely important for the economic operation of salt depots. The Peons on the salt pans who were entrusted to physically look over the pans served as the overseers, in this context. The 'watcher over the pans', though often were a handful in number, were entrusted to implement vigilance through their sight. The duties of the Peons were made on relays, which meant as the shift of one peon ended, another took his place, ensuring that the surveilling gaze remains constant. To make surveillance further effective there were employments of 'Golah Peons', who were in charge of ensuring that the peons were doing their duties properly. Thus, there were in effect a triangular level of surveillance with the Peon as the primary watcher who was watched by the golah peon, who again in turn was evaluated and

watched by the Darogah. Thus this three tier system, was a hybrid of the benthamite panopticon and the plantation overseer, and formed the physical surveillance in the Salt pans. However, as we shall see in the following sections, the physical aspect of vigilance was only one of the features of the broader colonial surveillance apparatus. Physical vigilance was accompanied by an elaborate mode of paper surveillance that complemented the gaze of the overseer and made colonial surveillance further formidable.

Rowanahs, papers and the reordering the Panopticon

The previous section has elucidated how physical surveillance operated in the salt establishments in Bombay and Madras. It is important to note, however that surveillance in the salt depots was not restricted simply to corporal vigilance exercised by the colonial officials. To further, the effectiveness of the vigilant gaze the colonial state was increasingly dependent on paper surveillance,[37] which ensured efficient functioning of the salt works. Paper surveillance as the term denotes, ensured vigilance through keeping a strict paper trail. The colonial state was obsessed about maintaining a strict paper trail regarding the workings of the salt administration. As we will see the Company government was deeply invested in recording even the minutest and (even unnecessary details) about the production, transit and sale of salt. Interrogating this vast archive left by the colonial state, give us insight into the functioning of its bureaucracy, its anxieties and its obsessions.

The paper surveillance worked primarily through a document known as the 'Rowanah' (alternatively spelled as Rowannah or Rowana), which was officially described as 'a protective

[37] This theme has been dealt in some aspects by Ujaan Ghosh in his discussion on Pilgrimage in Orissa. See, Pilgrimage Politics and Surveillance: The temple of Jagannatha and the colonial state in early nineteenth century Orissa. https://arrow.dit.ie/ijrtp/vol4/iss6/7/

document; a permit to pass goods free of duty.'[38] The *rowanah* worked similarly in most presidencies, with slight regional variations. A *rowanah* or Pass was delivered to the purchaser with the Salt, which specified 'the quantity [of salt] purchased, and its destination, the amount paid, the number of carts or bullocks' that carried the salt and so on. The *Rowanah* was also valid for a specific amount of time and probably had an expiry date. It also had written in it the number of bags of salt that was permitted in transit. The salt that was prepared on the platform was guarded by the peons and they were also in charge of inspecting the *rowanah*. The salt that was produced was not allowed to be removed at anytime or by anyone without producing the correct *rowanah*.[39] In the Madras Presidency, for example the general guidelines to the salt officials included

> [T]o allow no sales to go on where Salt is being stored; to have all returns entered originally in books with each page previously stamped and numbered by the Collectors*; to report periodically what Rowannahs or Permits have been issued, specifying the date and number of each, also the quantity it covers:* to have daily returns of every mercal of salt brought into store, and every mercal sold, specifying, in this latter case, the number of the heap; to watch any fluctuations in the extent of manufacture, sale, wastage, and to inquire into the causes.[40]

The *rowannah* was thus a document that had to be filled with minute details that specified information about the purchaser of the salt, its quantity and its route. To understand how the mechanism of the sale of salt worked and how the paper trail was followed, let us take the case of Tanjore to demonstrate how the sale of salt typically worked in a depot.

Located in Madras Presidency, Tanjore was believed to be one of the districts were smuggled earth salt entered from Mysore and Pudokottai[41] and hence a stricter vigilance was

[38] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, Appendix B. No. 1, 17 June 1854, p. 116
[39] Ibid.
[40] Ibid. My italics.
[41] Ibid., p. 140

kept in the salt depots. A merchant who wanted to purchase salt had to pay the Shroff,[42] the money according to the quantity of salt he require. In turn the merchant received a receipt, which had the stamp and number previously struck upon it in the office of the covenanted officer in charge. The merchant then had to present the receipt to the peshkar[43] at the salt platform, who then ordered the quantity of salt that was required. He then accurately measured it and delivered it to the purchaser. This was all accompanied and documented by a *rowannah* showing the quantity purchased and its destination and the amount paid thereof. The *rowannah* also consisted the number of bullock carts that carried the salt and the duration for which the pass was valid, the number of bags into which the salt was packed. When the salt was delivered to the purchaser, 'the name of the purchaser, his village, the amount paid and the date of sale', were entered in a 'sale book'. The book was secured from interpolation by the covenanted officer who signed each of the leaves. The paper procedures did not stop here and was further complicated:

> At the same time the Curnum writes the rough cooroopoo account, this is fair copied on the following day on stamped cadjan, the rough copy is kept in the salt cutcherry, and the fair copy is sent to the covenanted officer's office every fifth day. The moodepumalai is also written by the curnum during the sale. This is an account showing the items sold to each purchaser, and the particulars of the coin in which its cost was paid; this is written, both to be kept as a record, and for the information of the Shroff, that he may compare it with his receipts of money, and see if they coincide. The peshcar, or head native officer, only puts his initials to the *receipts for money paid:* the subordinate officers sign all accounts, and the peshcar is considered responsible for their correctness.[44]

The *rowannahs* were made mandatory as early as 1805 by the colonial state and salt that was found without a *rowannah* (or excess to the quantity specified in the quantity of *rowannah*) was liable to seizure by the colonial officials. Generally, when a *rowannah* was taken by the

[42] A *Shroff* was an official with the duty to receive the money from the purchasers of Salt, examine coins, and keep regular accounts of the same. His signature was essential in all the forms for the application of purchasing salt.
[43] The Peshkar was generally the second officer of the 'native establishment', immediately subordinate to the Sheristadar or head officer.
[44] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, Appendix B. No. 1, 17 June 1854, p. 115

merchant, it had specific instructions about the chowkey (checkpoint) where the *rowannah* was supposed to be returned. The merchant after having sold his salt had to return the *rownnah* back to the chowkey, which was then returned to the collector's office, and the same *rowannah* was never used twice. The Collector then through the *rowannah* could verify whether the salt that was sold only to the districts mentioned in the *rowanah*.[45] However, this led to often arbitrary yielding of power by police officers who were given the duty to check the *rowannah* and often put the traders under 'exaction and annoyance'.[46] Thus to stop the abuse of power, the *rowannah* system was slightly modified in 1835. In a new regulation, the government decided that the officials who confiscated salt without a prescribed *rowannah* could no longer 'adjudicate' matter and instead any merchant caught using fraudulent practices were to be transferred to the nearest civil or magisterial office.[47]

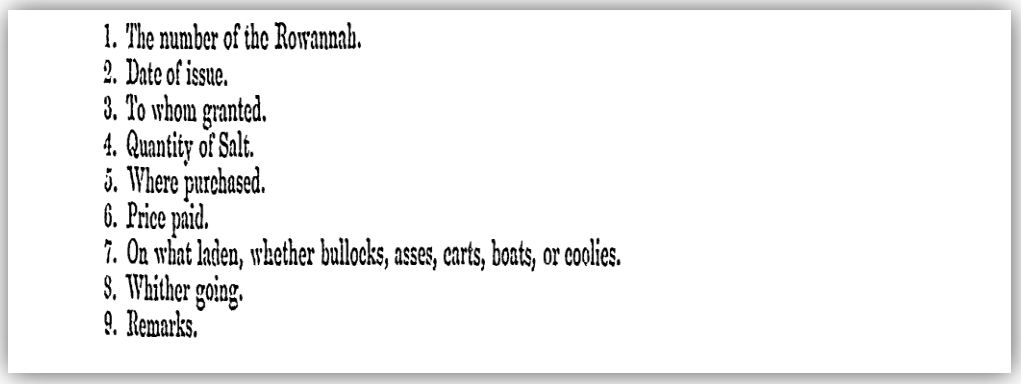
1. The number of the Rowannah.
2. Date of issue.
3. To whom granted.
4. Quantity of Salt.
5. Where purchased.
6. Price paid.
7. On what laden, whether bullocks, asses, carts, boats, or coolies.
8. Whither going.
9. Remarks.

Figure 3: Particulars of a Rowannah, Source: HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, Appendix B. No. 1, 17 June 1854, p. 115

[45] Ibid., p. 116
[46] Ibid.
[47] Resolution, dated 15 April 1835, Proceedings 22 January 1835; also Note by the Secretary, dated 3 March 1835; and ditto, by Mr. *H. M. Parker,* Member of the Board of Customs, Salt and Opium, dated 25 February 1835. *HCPP, Report from the Select Committee, Salt, British India*, p. 129

Enclosure No. 2.

Kooroopoo Accounts of Salt Manufacture and Sale in Ackarapoottoor Pan at Negapatam.

6th April, 1854.

	Gar.	Mer.
Remaining in platform salt of 1853	655	214
Wastage in ditto	16	135
Ditto in pan	1	58
	17	213
	673	27

SALE.

Mappoolacooppum Adaikettan Chetty purchased 70 mercals of salt, value rs. 21, the salt contained in 14 bags on 2 bandies, to Mappoolacooppum. Time allowed, one day from 10 o'clock of this date. Rowannah No. 3011.

Nunnillum Soondra Chetty purchased 30 mercals of salt, value rs. 9, contained in 6 bags on 1 bandy, to Nunnillum. Time allowed, 1 day from 10 o'clock of this date. Rowannah No. 3012.

Andonipettah Parasooramah Chetty purchased 55 mercals of salt, value rs. 16½, contained in 11 bags on 1 bandy, to Andonipettah in Keevalore talook —from 10 to 12 o'clock of this date. Rowannah No. 3013.

Abishaga Cutlay Kylasha Pillay purchased 40 mercals of salt, value rs. 12, contained in 8 bags on 1 bandy, to Abishaga Cutlay in Nunnillum talook. Time, one day from 10 o'clock of this date. Rowannah No. 3014.

Negapatam Balasoobramania Pillay purchased 40 mercals, value rs. 12, contained in 8 bags on 1 bandy, to Negapatam in Keevalore talook. Time allowed, from 10 to 4 o'clock of this date. Rowannah No. 3015.

Kanaripatam Iyaroopillay purchased 30 mercals of salt, value rs. 9, contained in 6 bags on 1 bandy, to Teroonagasweren in Combaconum talook. Time allowed, 3 days from 10 o'clock of this date. Rowannah No. 3016.

Moottum Oonnamalay purchased 40 mercals of salt, value rs. 12, contained in 8 bags on 1 bandy, to Moottum in Keevalore talook. Time allowed, from 10 to 4 o'clock of this date. Rowannah No. 3017.

Nagore Viapoory Pillay purchased 40 mercals, value rs. 12, contained in 8 bags on 1 bandy, to Nagore in Keevalore talook. Time, from 10 to 2 o'clock of this date. Rowannah No. 3018.

Negapatam Ramasawmy Pillay purchased 5 mercals, value rs. 1½, contained in a small bag, to Negapatam in Keevalore talook. Time, from 10 to 4 o'clock of this date. Rowannah No. 3019.

Valippaliem Narayanasawmy Naicken purchased 5 mercals of salt, value rs. 1½, contained in 2 small bags, to Valeppaliem in Keevalore talook—from 4 to 6 o'clock P.M. of this date. Rowannah No. 3020.

Moolengody Soopa Odyan purchased 40 mercals, value rs. 12, contained in 8 bags on 1 bandy, to Combaconum. Time allowed, 3 days from 4 o'clock of this date. Rowannah No. 3021.

Nagore Veerabudra purchased 90 mercals, value rs. 27, contained in 18 bags on 2 bandies, to Nagore in Keevalore talook—from 10 A.M. to 4 P.M. of this date. Rowannah No. 3022.

Negapatam Soobroy Pillay purchased 50 mercals, value rs. 15, contained in 10 bags on 1 bandy, to Nagapatam in Keevalore talook—from 4 to 6 o'clock of this date. Rowannah No. 3023.

Figure 4: Rowannahs issued in the Madras Presidency, documenting the details of the the amount of salt and its purchaser. Source: HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India, 1856, Appendix to the Salt Report, Enclosure No. 2, 6 April 1854 p. 271

Appendix F.—No. 6.

Form No. 6.

Application for Salt.

No. (of the Register of Applications).

To

The Officer of the Salt Department at Salsette.

I, Bhiccajee Wamon Fudkay, inhabitant of Bhewndy, for myself, request that you will allow me to export 20 Indian maunds of Salt to Chiploon, per Mahagerry Luxmee, Tindal Govind Dhagocha, burthen 75 Bombay candies, or 50 Indian candies, register No. 935 of Tanna, from Agur Sonkhar, Suza Moordah, belonging to Gunnesh Wittul; and that you will receive the sum of Rupees 15 on account of excise duty, passing a Permit for the weighment of Salt. 1st May, 1852.

Signature of the Trader.

Endorsement.

I have sold 20 maunds of Salt to the above trader, at the rate of Rs. 3 per anna. It is therefore requested that a Permit may be granted to him after receiving the regulated amount of ground-rent. 1st idem.

Signature of the Shelotree, or Proprietor.

The amount of excise duty, &c., on the above Salt, is as follows:—

Rs.	15	0	0	Excise at 12 as. per maund.
Rs.	0	5	0	Ground-rent at 3 pies per maund.
Rs.	15	5	0	Total rupees fifteen, and annas five.

written by (enter name)

Signature of the Bill Examiner.

The above sum of Rupees 15 : 5 has been received, and credited under the appropriate head in the "Kird" (Form No. 8), at No. , and a Permit, No. 1, issued. 1st idem.

Signature of the Shroff.

The officer at the Salt Works is requested to give Salt to the trader, as per Permit No. 1; returning the application for record. 1st May, 1852.

Signature of the Sir Carcoon.

The quantity of Salt, as stated in the Application and Permit, was given on the 1st May, 1852, and the latter document delivered over to the trader, a counterpart of the same having been kept. 1st May, 1852.

Delivering Carcoon's signature.

Figure 5: Application for Application for Purchaisng Salt in Bombay Presidency, with the details of signatures of the tarder, the shroff and other meticulous details. Source: *HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India, 1856, , On the Supply of Salt for the Presidency of Bombay, Appendix F, No. 6, p. 21*

The most interesting aspect of the *rowanah* and the paper mechanism process in general was its effectiveness in facilitating surveillance. As the above figures show, the documents used by the colonial state ensured that all the necessary information were scribed in it. A single *glance* was enough to find out: the identity details of the purchaser (his name, village address, etc), the name of the Shroff, bill examiner, and the Carcoon along with the routes and amounts of salt that left the depot. This mode of documentary surveillance by the colonial state is how it effectively reordered the panopticon. What made the panopticon as a model of surveillance so effective was that everything could be observed with a single glance. Since salt merchants took salts to sell in distant places, it was impossible to physically surveill everything. Hence, the apposite surveillance mechanism invented by the colonial state involved a *documentary mediation* but ensured the observation of every activity and information through a single glance. The physical surveillance of the Daroga was complemented by the *rowannah* and the documentary mode of vigilance.

As demonstrated above the *rowannah* had to be collected from on depot and later submitted to a separate depot by the merchant after the sale. The two offices had to be absolutely sure that the *rowannah* issued were the same and not tampered with. Given that the *rowannah* was an extremely complicated procedure it raises some critical questions about colonial surveillance policies. Firstly, was the rowannah an instrument invented by the colonial state? Secondly, what kind of writing prices and scribal requirement went into crafting the rowannah?

The answer to the first question is complicated. The pass system was an essential component in the slave plantation of America and controlled the movement of the salves. Scholars of slavery have noted that that the pass was mandatory for slaves to travel from one plantation to the

other.[48] Nicholas Mirzoeff also notes that a signed permission from the overseer (passes) was necessary for the workers to travel to markets.[49] The protective document that regulated merchants was also prevalent in Mughal India as well. Sebastian Manrique, a Portuguese traveler got into trouble trying to pass by a custom outpost and eventually required a 'passport' from the Nawab to leave Rajmahal. [50] Later Manrique also had to take recourse of a passport which he acquired from the capital of Dacca to cross the city of Azarati.[51] The French merchant Jean Baptiste Travernier, similarly received a 'passport' from the Nawab of Dacca Sahista Khan, who gave it to the former in the event he decided to revisit him.[52]

Thus, when the colonial state decided to use the *rowannah* as an institution, the protective document/pass-system already has a precolonial genealogy as well as a global equivalence. It is perhaps in the interaction between local and global forces did the institution of *rowannah* was developed by the colonial state as an instrument of surveillance. Further, there needs to be some important questions about scribal cultures that needs to be addressed here. The *rowannah* was written in English but also in Persian (along with regional languages, like Tamil and Telugu)[53] which meant pre-colonial scribal practices were incorporated by the colonial state in its machinery. As Bhavani Raman has demonstrated in the context of Tamil Nadu, the pre-colonial scribal cultures were exceedingly important in sustaining the 'Document-Raj' of the colonial state. The lack of evidence, makes it difficult to speculate boldly but much of the Pre-colonial

[48] Marie Gladys Fry, *Night Riders in Black Folk History* (Chapel Hill: University of North Carolina Press, 2001) p. 103
[49] Nicholas Mirzoeff, *The Right to Look*, p. 61
[50] Amir Khair Muhammad Farooqui, *Roads and Communications in Mughal India*,
[51] Michael Herbert Fisher (ed), *Visions of Mughal India : An Anthology of Mughal Travel Writing* (London: IB Tauris, 2007), p. 115
[52]Ibid., p. 179
[53] HCPP, Report of the Commissioners appointed to inquire into and Report upon the Manufacture, and sale of, and tax upon Salt in British India,1856, Appendix E, No. 11, p. 313

scribal knowledge and culture was essential for maintaining the institution of the rowannah as well.

Conclusion: Salt, sovereignty and the need for an elaborate surveillance

Before concluding it is important to analyze why it such an elaborate surveillance mechanism was placed to ensure that salt was protected. There is of course the argument that the colonial state wanted to protect the loss of its revenue. Such an argument though feasible, is too deterministic in its approach. Ensuring salt was not stolen or in anyway taken away from the clutches of the authority of the Company, was also tied to the question of sovereignty. To understand how salt was intricately linked to sovereignty, it is important to understand what salt meant in the broader cultural rhetoric of South Asia. Salt in South Asia, was essentially a metonymy for loyalty. 'To have one's salt' (Maine Āpkā namak khaya hai) meant being forever binding oneself in a contract of loyalty, similarly a betrayer of trust in Hindi is known as 'Namak Hārām' literally a salt betrayer. The importance of salt in popular conception was perhaps one of the reasons why the British Government wanted to monopolize salt. The idea that the populace was having the salt from the British government was a way of imposing sense of loyalty on the masses by the nascent Company state. By forcing the populace to have *only* the Company's Salt was a way of binding its subjects to the contract of loyalty, making them 'Namak Hālāl'. Hence a strict surveillance became so important, because if salt was smuggled and people were buying salts from agencies other than the British government, it meant that the salt that bounded the tie between the overlord and the subject was broken. If salt was provided by other agencies, other than the British state, it meant a sharing of sovereignty, as it undermined the exclusive loyalty that the subjects were supposed to have towards the Company.

Conclusion

The thesis has attempted to briefly trace the commodity history of sea salt in nineteenth century India. It has been written with the intent to study a commodity which has been hitherto been seen considering mostly economic policies in South Asian historiography, by tracing its emergence in a framework of intellectual, political, and administrative history. I have attempted to highlight the extra- economic factors that constituted in the making of sea salt. In the first chapter, I have focused on the intellectual framework of medical discourses in which the commodity came into existence. In the second chapter, I have attempted to trace the history of the commodity, primarily as a product produced by a dialogue between technological and environmental factors. In the third chapter, I have attempted to trace its history as an emerging sovereign commodity through the surveillance of which the Company state attempted to establish its rule and sovereign authority in the subcontinent. In this chapter, I have also tried to allude to how sea salt became a commodity of the nation, and the beginning of the process by which it would come to become a symbol of British oppression of Indians in the twentieth century.

I think that each chapter serves as a theme which can be taken up and worked upon to a greater extent. I think of my thesis thus as a set of possibilities rather than conclusions. Nonetheless, I feel that there is a major gap in this thesis in terms of labor history, something that Paul E Lovejoy has worked upon extensively in his work *Salt of the Desert Sun*[1] in the case of Central Sudan. Without this aspect, I feel that there is a sense of incompleteness in this thesis. It would be interesting to study how labor was mobilized on the salt establishments, and from which caste they belonged, the conditions they faced, the medical hazards of their work, so on

[1] Paul E Lovejoy, *Salt of the Desert Sun*: *A History of Salt Production and Trade in Central Sudan* (Cambridge: Cambridge University Press, 1986)

and so forth. This aspect is something I wish, is taken upon and further elaborated for there is a huge scope of work that exceeds the bound of this thesis.

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