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**Malaria and Empire in Bahrain,
1931-1947**

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Abstract

Modern understandings of malaria as a mosquito-borne disease embedded in human-environment interactions prompted British officials to intervene in the daily sanitary practices of Gulf populations. But histories of the Gulf have neglected the centrality of disease in shaping local experiences of empire, state-building, and modernization. This article examines urban and agricultural infrastructure, imperial science, and indigenous notions of the relationship between health and environment through the lens of British anti-malaria efforts in Bahrain. Tracing the flow of science and expertise from British India to the Gulf allows for the ground-level reconstruction of imperial interventions and the resulting interactions with local people. The movement of scientific and medical knowledge from British India to Bahrain resulted in a new milieu of state intervention at a micropolitical level, which prompted British officials to elide and delegitimize indigenous disease imaginaries and water use.

Short bio

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Introduction

On an April morning in 1940, a group of women paid an unexpected visit to the British Political Agency in Manama. Alarmed by the Government's proposed antimalaria measures, the women sought to express their concerns to the Political Agent.¹ As one of the Political Agent's subordinates reported in a scribbled note, "A deputation of some 40-50 women from surrounding parts of Manama came to the agency at about 8:15 this morning to agitate for the removal of the order by the Br Govt [*sic*] requiring all private wells to be filled before the 27th of this month."² The women's complaint was in direct reply to a March 4 notice of the Anti-Malaria Committee's new regulation that house wells within six hundred feet of artesian wells had to be filled in.³ After describing their visit, the administrator added, "In any case in their view malaria came from Allah and not from mosquitoes."⁴ Placing this statement in his report might have undermined these women's credibility in the eyes of the British administrators. After all, a fundamental assumption in their anti-malaria campaign was that native populations were ignorant of modern medicine and sanitation and needed to be taught new practices, in a simplified form. For these women, however, the appeal to a greater power could also be a critique of the centralized decisions made by the British-run Anti-Malaria Committee. Why should a disease they understood as part of the natural course of life be an excuse for these men to radically transform their access to water and their domestic economies?

This rare indication of how local women in Manama reacted to invasive anti-malaria measures demonstrates the limitations of the top-down approach to public health that the British administration and their elite political clients employed.⁵ The Anti-Malaria Committee in Bahrain consisted of administrators from the British Political Agency and an assortment of elite men of Manama.⁶ They decided on measures in committee meetings with no local input beyond that of these well-positioned male representatives. The initiative of 40-50 women to discuss their concerns over changes to their water supply and then to set out in a group for the British Agency

1- IOR: R/15/2/1062: Note from Agency Administrator to Political Agent.

2- IOR: R/15/2/1062: Note from Agency Administrator to Political Agent.

3- IOR: R/15/2/1062: Notice by order of Hamad bin Isa al-Khalifa, 4 March 1940.

4- IOR: R/15/2/1062: Note from Agency Administrator to Political Agent.

5- Historiography of medicine has barely started to consider the unique experiences of women in the Arabian Peninsula. Hibba Abugideiri's recent essay on historical midwifery in the Gulf is an important intervention. see Hibba Abugideiri, "A Labor of Love: Making Space for Midwives in Gulf History," in *Gulf Women*, ed. Amira El-Azhary Sonbol (Syracuse, NY: Syracuse University Press, 2012), 167-200.

6- IOR: R/15/2/1062: Anti-Malaria Committee Meeting, 11 July 1939.

indicates that these leading male citizens were not familiar with water use and labor patterns within their own households. The Agency employee met with two women representing the delegation, Sughara bint Hussain and Maryam bint Haji Abdulla, “both from Faris al Hamam.”⁷ These women, he reported, “state that the closing of the wells would cause...hardships for the following reasons: (1) the Govt supply was a long way from their houses and they would have to employ saggais [water carriers] to bring water; (2) the Govt supply was insufficient for all of them.”⁸ The prospect of a much greater distance between their households and their sources of water alarmed these women, as did the possibility of a water shortage. They saw that this structural change to the water supply could disrupt the domestic sphere by forcing the addition of a male employee to carry water, and they boldly expressed their concerns to the British Agency.

As the women’s visit to the Political Agency makes clear, the significance of the British Government’s transference of anti-malaria strategies from India to Bahrain goes beyond demonstrating another political and economic connection between the Persian Gulf and the British Raj. By transforming local water use, anti-malaria measures inserted empire into the texture of daily life. Moreover, it is not sufficient to observe that assumptions of racial difference and scientific superiority were defining signifiers of modern European empire.⁹ David Scott argues that we should endeavor “to discern colonial power’s point of application, its target, and the discursive and nondiscursive fields it sought to encompass.”¹⁰ In other words, historians must explore how and when imperial actors exerted power over colonized spaces and populations in order to articulate and to institutionalize differences of race, culture, class, and gender. That is, in the case of anti-malaria measures in Bahrain, how did the British administration’s implementations of scientific knowledge, urban planning, and racialized and gendered thinking interact with local conceptions of disease? And how did state-driven public health discourses and environmental interventions transform the ways in which Bahrain’s population experienced imperial power in the 1930s and 1940s?

Until the mid-twentieth century, Manama and its environs suffered extensively from malaria. The area held innumerable sources of standing water, including not

7- IOR: R/15/2/1062: Note from Agency Administrator to Political Agent.

8- IOR: R/15/2/1062: Note from Agency Administrator to Political Agent.

9- David Scott, “Colonial Governmentality,” *Social Text*, no. 43 (1995): 191-220.

10- Scott, “Colonial Governmentality,” 204.

only private and public wells for drinking, washing, and watering gardens and date farms, but also cooking pots, clay water jars, mosque fountains, streams, irrigation tunnels, ponds, and cesspools. In nineteenth- and twentieth-century British India, the category of malaria “was reconsolidated and sustained as an object of natural knowledge and social control.”¹¹ Bureaucratic practices and imperial science forged connections between disease, “native” populations, and the intersections between cultural norms and sanitary habits. Omar H. AlShehabi has recently argued that “political practice that is primarily based on ethno-sectarian readings in Bahrain is a product of the contestations and mobilizations that occurred in the period of increasing British colonial involvement in the early twentieth century.”¹² In the public health programs of this period, the British administration presented a depoliticized, expert-driven conception of malaria that facilitated the delegitimization of local notions of health and indigenous resistance to the ground-level intrusions of empire.¹³ The British administration’s shifting attention to racial and ethnic categories coincided with the Government’s economic and social need to address the threat of an endemic disease that hindered human productivity. Anti-malaria measures manifested a sense of entitlement that went hand in hand with the imperative to apply European scientific expertise to daily life for the sake of public health.

In their considerations of malaria, state officials and scientific experts provided details for the social historian that are often lacking in archival material from this region. They touched on issues ranging from indigenous knowledge of disease, distribution of labor within the family, and sanitation and access to water. This article reconstructs British anti-malaria measures and local responses by examining the India Office Records. It also integrates a recent Arabic-language study of the history of health in Bahrain, Khalil Ibrahim Rajab’s *Tarikh al-khidmat al-sihhiyah fi al-bahrayn min al-qarn al-tasi ‘ashr hatta ‘am 1995* [*The History of Health*

11- Rohan Deb Roy, *Malarial Subjects: Empire, Medicine and Nonhumans in British India, 1820-1909* (Cambridge: Cambridge University Press, 2017), 2.

12- Omar H. AlShehabi, *Contested Modernity: Sectarianism, Nationalism, and Colonialism in Bahrain* (London: Oneworld Publications, 2019), 7.

13- For a fascinating account that examines the impact of malaria on the history of slavery in the Arabian Peninsula, see Benjamin Reilly, *Slavery, Agriculture, and Malaria in the Arabian Peninsula* (Athens: Ohio University Press, 2015). The most common malaria plasmodium in the Arabian Peninsula were *falciparum* and *vivax*; see Reilly, *Slavery, Agriculture, and Malaria in the Arabian Peninsula*, chapter 4 and Richard H. Daggy, “Malaria in Oases of Eastern Saudi Arabia,” *American Journal of Tropical Medicine and Hygiene* 8 (1959): 235.

Services in Bahrain from the 19th century until 1995].¹⁴ Interestingly, while his study incorporates local recollections of health history, Rajab's discussion of malaria draws mostly on English-language sources. The colonial records predominantly focus on the interests of the British and the region's elites, but British officials also understood that disease threatened everyone. Their conceptualization of malaria as an infectious, mosquito-borne disease forced cash-strapped officials to consider the living conditions and practices of the entire population.¹⁵

Anti-malaria measures in Bahrain were part of a larger—if uneven—process of employing modern institutions and scientific methods of medicine, education, urban planning, and law to partition local populations into shifting categories according to race, religion, gender, social class, and occupation. British projects to transform water use for the sake of malaria prevention during the 1930s and 1940s represented an unprecedented manifestation of imperial power in the Persian Gulf.¹⁶ The British Agency transported racially biased employment practices to the Gulf when they recruited Indian malaria experts to work in Bahrain. Scientific studies suggesting universal efficacy in terms of removing standing water, communicating with “natives,” or killing insects appear in the colonial archives of the Political Agency as transferrable methods for malaria control from India to Bahrain. British conceptions of the relationship between urban planning and medical science in the sphere of anti-malaria measures created a new venue for state intervention at a micropolitical level in Bahrain. Such top-down anti-malaria measures prompted local elites and British officials to elide and delegitimize indigenous or subaltern disease imaginaries.

14- Khalil Ibrahim Rajab, *Tarikh al-khidmat al-sihhiyah fi al-bahrayn min al-qarn al-tasi 'ashr hatta 'am 1995* (Manama: Al-Waad Media Production, 2011).

15- As Roy MacLeod has written, “In the history of tropical colonies we find systems of medical ideas and practice often stimulated by the necessities of military conquest and administration.” See Roy MacLeod, “Introduction,” in *Disease, Medicine, and Empire: Perspectives on Western Medicine and the Experience of European Expansion*, eds. Roy MacLeod and Milton Lewis (London: Routledge, 1988), 2.

16- The period under study ends with 1947 because in this year health officials began DDT spraying to address malaria in Bahrain. See Omar M. Amin, “The Status of Malaria in Bahrain, Arabian Gulf,” *J. Univ. Kuwait (Sci.)* 16, (1989): 135. Two useful articles that address malaria in colonial settings during the same time period and address the mixed legacies of colonial medicine are: Margaret Jones, “The Ceylon Malaria Epidemic of 1934–35: A Case Study in Colonial Medicine,” *Social History of Medicine* 13, no. 1 (April 1, 2000): 87–110; Vartan M. Amadouny, “The Campaign against Malaria in Transjordan, 1926–1946: Epidemiology, Geography, and Politics,” *Journal of the History of Medicine and Allied Sciences* 52, no. 4 (October 1, 1997): 453–84.

Global Malaria and Colonial Bahrain

As greater numbers of European settlers accompanied the expansion of global empires in the nineteenth and twentieth centuries, malaria emerged as a principle target of imperial interventions. Transmitted by an infected female *Anopheles* mosquito, malaria is “the oldest and cumulatively the deadliest of the human infectious diseases.”¹⁷ Its symptoms include fever, shaking chills, headache, and vomiting, and, in the most severe cases, kidney failure, coma, and death. In other imperial settings, such as British India and the Ottoman Empire, large-scale infrastructural transformations increased the malaria burden on local populations. The Arabian Peninsula and Persian Gulf regions, in contrast, were not the objects of such imperial projects in the late nineteenth and early twentieth centuries, and malaria remained concentrated in oases and agricultural areas.¹⁸ Nevertheless, correspondence and health surveys taken by the British administration in the 1930s and 1940s attest that malaria was a major public health menace commanding both British and indigenous attention. For example, according to the 1940 annual report from the Bahrain Political Agency, malaria was responsible for 35.1% of outpatients and 52% of inpatients at the police clinic, while 60% of local schoolchildren were also infected.¹⁹ Indigenous malaria represented a major public health concern in Bahrain until as recently as 1980.²⁰ In the interwar period and during World War Two the long-standing struggle against malaria in India and the increasing British interest in the Gulf prompted the British administration to address this public health crisis to an unprecedented degree.

17- James L. A. Webb, *Humanity's Burden: A Global History of Malaria*, Studies in Environment and History (Cambridge ; New York: Cambridge University Press, 2009), 1. In 1938, the following mosquito vectors were reported in Bahrain: *Anopheles stephensi*, *Anopheles pulcherrimus*, *Anopheles sergenti*, and *Anopheles culicifacies*, with only *A. stephensi* found infected with sporozoites. See Amin, “Malaria in Bahrain,” 138.

18- For comparison, see, for example, David Arnold, *Science, Technology and Medicine in Colonial India* (Cambridge: Cambridge University Press, 2000), 120; Chris Gratien, “The Ottoman Quagmire: Malaria, Swamps, and Settlement in the Late Ottoman Mediterranean,” *International Journal of Middle East Studies* 49 (2017): 583-604; Sheldon Watts, “British Development Policies and Malaria in India 1897-c. 1929,” *Past & Present* 165, no. 1 (1999): 141-181; Elizabeth Whitcombe, “The Environmental Costs of Irrigation in British India: Waterlogging, Salinity, Malaria,” in *Nature, Culture, Imperialism: Essays on the Environmental History of South Asia*, eds. David Arnold and Ramachandra Guha (Delhi: Oxford University Press, 1995), 237-259.

19- IOR: R/15/2/298: Annual Administration Report of the Bahrain Agency, 1940.

20- According to Omar M. Amin, endemic indigenous malaria has been eliminated in Bahrain since 1980, although imported cases associated with imported labor have been reported since 1948. Amin, “Malaria in Bahrain,” 135. Malaria was eradicated “for all intents and purposes” in the Eastern Province of Saudi Arabia in 1979. Chad H. Parker, *Making the Desert Modern: Americans, Arabs, and Oil on the Saudi Frontier, 1933-1973* (Amherst: University of Massachusetts Press, 2015), 85.

Until the mid-nineteenth century, the prevalent understanding of how infectious diseases like malaria spread was miasmatic theory, or the notion that “air became contaminated with miasmas, poisonous vapours given off by putrifying organic matter, and a person fell victim to disease when miasmas attacked the body and disturbed its vital functions.”²¹ In the midst of a flurry of research on germs and the role of insects in transmitting diseases at the end of the nineteenth century, Ronald Ross connected mosquitoes to malaria in 1897, and Giovanni Battista Grassi demonstrated that it was the *Anopheles* mosquito, in particular, that spread this disease.²² The emergence of germ theory did not undo the social inequities of medicine and public health. The global pattern of public health was one of rural or native populations having limited access to the medical care, clean housing, and adequate nutrition that was more readily available to elite or white colonial populations. This disparity in care and access to resources also contributed to assumptions of racial difference and the inherent inferiority of non-European sanitation habits.²³

In the Persian Gulf from the nineteenth century until Indian independence in 1947, regimes such as the one in Bahrain operated under the British Government in India, where malaria had long been a major public health concern.²⁴ In this administrative hierarchy, political agents in Muscat, Qatar, Bahrain, Kuwait, Abu-Dhabi, Dubai, and Sharjah were subordinate to the Political Resident at Bushire, who reported to the Government of India.²⁵ In his work on the Arabian Peninsula’s political

21- Helen R. Woolcock, “‘Our Salubrious Climate’: Attitudes to Health in Colonial Queensland,” in *Disease, Medicine, and Empire: Perspectives on Western Medicine and the Experience of European Expansion*, eds. Roy MacLeod and Milton Lewis (London: Routledge, 1988), 182.

22- Anne Marcovich, “French Colonial Medicine and Colonial Rule: Algerian and Indochina, in *Disease, Medicine, and Empire: Perspectives on Western Medicine and the Experience of European Expansion*, eds. Roy MacLeod and Milton Lewis (London: Routledge, 1988), 111. There is lingering controversy surrounding who, exactly, deserves primary credit for these discoveries; see Michael Worboys, “Manson, Ross and Colonial Medical Policy: Tropical Medicine in London and Liverpool, 1899-1914,” *Disease*, eds. MacLeod and Lewis, *Medicine, and Empire*, 21-37.

23- The association of poor sanitation with non-whites in colonial settings reflected critiques of inner-city slums in European and American cities. See Jyoti Hosagrahar, “Fractured Plans: Real Estate, Moral Reform, and the Politics of Housing in New Delhi, 1936-1941,” *Traditional Dwellings and Settlements Review* 11, no. 1 (1999): 41.

24- See, for example: Nandini Bhattacharya, “The Logic of Location: Malaria Research in Colonial India, Darjeeling and Duars, 1900-30,” *Medical History* 55, no. 2 (2011): 183-202; Roy, *Malarial Subjects*; Rohan Deb Roy, “Quinine, Mosquitoes and Empire: Reassembling Malaria in British India, 1890-1910,” *South Asian History and Culture* 4, no. 1 (January 2013): 65-86.

25- Uzi Rabi, *The Emergence of States in a Tribal Society: Oman under Sa’id Bin Taymur, 1932-1970* (Brighton [England]; Portland, Or: Sussex Academic Press, 2006), 4.

integration into British India, James Onley argues that the British Government in India created a system of “informal empire” in the Persian Gulf by engaging with—and ultimately transforming—existing indigenous political patterns of protectionist relationships. Disease and environment played important roles in the development of this political structure, as Onley’s narrative makes clear.²⁶ In part due to the high mortality rate, the British tried to limit the number of Europeans stationed in the Gulf.

By the beginning of the twentieth century, increased discrimination against natives and the heightened centrality of the Gulf region for trade and communications resulted in a greater number of European agents. Bahrain was central to these efforts. The island of Bahrain covers an area of about 600 square kilometers, and cultivatable land is confined to a strip along the north coast where natural springs and artesian wells irrigate gardens and provide a suitable environment for malaria.²⁷ The historic port of Manama lies on this northern tip of the island. According to Lorimer’s *Gazetteer*, Bahrain’s population in 1908 was around 100,000, and he calculated that Manama’s residents numbered around 25,000. In Manama and its suburbs, Lorimer estimated about 15,000 Shi’ites and 9,800 Sunnis.²⁸ As Nelida Fuccaro has noted, Lorimer classified Shi’i villagers as a “race” rather than as a “tribe” because he saw their poverty and disenfranchisement as stemming from their lack of tribal cohesion.²⁹ This vulnerability of Shi’i villagers was in contrast to the Sunni tribal communities, many of whom had migrated from mainland Arabia over the course of the nineteenth century, and who controlled the pearling economy and oversaw feudal land relations. Ahmad ibn Muhammad Al Khalifah captured Bahrain in 1783 after migrating from Qatar, and an 1861 convention regulated the terms of the British Government of India’s presence in the region, establishing autonomous status for Shaykh `Isa ibn `Ali Al Khalifa (r. 1869-1932).³⁰

26- James Onley, *The Arabian Frontier of the British Raj: Merchants, Rulers, and the British in the Nineteenth-Century Gulf* (New York: Oxford University Press, 2007), 66-68.

27- Amin, “Malaria in Bahrain,” 136.

28- See John George Lorimer, *The Gazetteer of the Persian Gulf, Oman and Central Arabia* vol. 2 B (Calcutta: Office of the Superintendent Government Printing, 1908; repub. By Gregg International, Farnborough, 1907), 1160. For a discussion of how Lorimer’s *Gazetteer* should be considered as a historical production of the interests and politics of British empire, see Nelida Fuccaro, “Knowledge at the Service of the British Empire: The Gazetteer of the Persian Gulf, Oman and Central Arabia,” in *Borders and the Changing Boundaries of Knowledge* ed. by Inga Brandell, Maria Carlson and Öner Cetrez (Istanbul: Swedish Research Institute, 2015).

29- Nelida Fuccaro, *Histories of City and State in the Persian Gulf: Manama since 1800* (Cambridge: Cambridge University Press, 2009), 30.

30- Fuccaro, *Histories of City and State*, 24-25.

World War One further accelerated British interest and military presence in the Gulf. In 1914, popular anti-British sentiment in Manama was such that Indian Expeditionary Force D decided at the last minute not to disembark at Bahrain on their way up the Persian Gulf to Basra.³¹ As non-immune troops moved through regions with high malaria rates, the demand for quinine increased, and malaria even reappeared in areas where it had been eradicated. World War One also revealed quinine's limitations as a prophylaxis against malaria, as the disease took a huge toll in Macedonia, Palestine, Iraq, and Italy despite the widespread use of this medicine.³² The devastating impact of malaria during World War One shaped imperial public health policy in the Persian Gulf throughout the following decades. In the 1920s, malaria cases reached as many as 80-100 million per year in India, but the British administration considered the cost of providing quinine for the general population prohibitive. Moreover, in the interwar period, the focus of imperial budgets was on defense rather than public health measures.³³ The combination of growing doubts about quinine's preventative capabilities following World War One and the expense of treating the high numbers of malaria victims resulted in a conceptual shift towards landscape sanitation and mosquito control in imperial governance.³⁴

Following the establishment of a municipality in 1919, Manama's merchant elites controlled local government in cooperation with the British administration. The collapse of the pearl industry in the late 1920s following the introduction of Japanese cultured pearls and the global economic downturn led this class of entrepreneurs to lose two-thirds of their capital between 1929 and 1931.³⁵ This economic catastrophe reverberated through the island's social and political life, exacerbating local tensions and weakening the municipality's political legitimacy. By 1936-1937, however, profits from oil had begun to ease the economic situation, and in the late 1930s the island enjoyed relative prosperity. The early years of World War Two brought oil development to a standstill and returned Bahrain to conditions of scarcity.³⁶ The brief economic recovery of the late 1930s and the subsequent

31- John Slight, "Global War and its Impact on the Gulf States of Kuwait and Bahrain, 1914-1918," *War & Society* 37, no. 1 (February 2018): 32.

32- At least 1.5 million soldiers were infected with a 0.2%-0.5% fatality rate. See Bernard J. Brabin, "Malaria's Contribution to World War One – the Unexpected Adversary," *Malaria Journal* 13 (2014): 497.

33- Webb, *Humanity's Burden*, 150.

34- Webb, *Humanity's Burden*, 143-145.

35- Fuccaro, *Histories of City and State*, 127.

36- Fuccaro, *Histories of City and State*, 81, 112, 126-132.

hardships of World War Two are the context of the anti-malaria programs that I investigate in this article.

The 1930s witnessed an upsurge in health internationalism despite the Great Depression, which increased global exchanges of information on disease prevention. Public health projects around the world sought to address malaria by eliminating standing water from urban landscapes, thereby halting mosquito breeding. While the prevention of standing water may have seemed like a straightforward public works project that would benefit the health of all, in practice it entailed invasive changes to the most intimate spaces of homes and communities. Proposals in Bahrain to remove standing water from houses, agricultural spaces, and gardens effectively called for a dramatic transformation of local urban space and drew on an understanding of public health that had been crafted in a global context. Finally, even in the impoverished Gulf of the 1930s, the onset of World War Two motivated the British to take steps to prepare the region to host more European troops.

Hierarchies of Experts and the Sanitization of Space

As scientific knowledge flowed from India to the Gulf, Indian public health experts were put to work towards transforming local environments. Rohan Deb Roy observed that “Empire and malaria were both co-consolidated by an assemblage of interconnected places, processes, objects and careers.”³⁷ Academic studies on anti-malaria measures appear in the Manama Political Agency’s files, illustrating the mobility between research projects operating under the Indian Malaria Institute and Political Agencies in the Gulf. The origins of the Malaria Institute dated back to the Imperial Malaria Conference at Simla in 1909, where the Government of India formed several provincial malaria organizations.³⁸ As a 1943 article in *The British Medical Journal* explained, “The function of the central organization, now the Malaria Institute of India, was to collect all relevant information concerning malaria in India, train personnel, and provide assistance and advice wherever required.”³⁹ For the Government in India, the Malaria Institute served as the central agency that collected knowledge about this disease and suggested preventative measures in territories across British India—including the Political Agencies of the Persian Gulf.

37- Roy, *Malarial Subjects*, 73.

38- See “Proceedings of the Imperial Malaria Conference held at Simla in October 1909” (Simla: Government Central Branch Press, 1910), <https://archive.org/details/b21352409/page/n5>, accessed 10 October 2019.

39- Malaria Control in India,” *The British Medical Journal* 1 no. 4288 (March 13 1943): 327.

Imperial malaria science also produced Indian experts. But in India, “Bengali writers in English found themselves at the bottom of the hierarchy of authors on malaria, pleading often with superior officials in the colonial bureaucracy or with European writers for their share of recognition.”⁴⁰ Indian doctors working in the colonial medical service experienced “racial prejudice” that “had material consequences” such as lower salaries and a lack of opportunities for promotion.⁴¹ Scientific authority, like other hierarchical power structures, is relational. In Manama, British-trained Indian experts carried out anti-malaria projects and scientific studies, operating as colonial agents in relation to the indigenous population even as they remained decidedly below their European colleagues in the racialized imperial hierarchy. On the one hand they proved their modernity and utility to Empire by conducting research and producing scientific studies, while on the other hand they struggled to receive recompense for their efforts from the colonial bureaucracy.

The Malaria Institute in Delhi emerged as the intellectual center of anti-malaria work as the Bahrain Political Agency wrote to the Malaria Institute several times for advice and assistance. The Political Agency in Bahrain also recruited and transported Indian experts trained by the Malaria Research Institute to Manama to combat malaria. A 1939 exchange between the Indian anti-malaria operations staff in Bahrain and the British-led Anti-Malaria Committee reveals how, alongside its scientific paradigms, the colonial regime’s racial and social tensions circulated among imperial spaces. The anti-malaria staff initially wrote to the local Political Agent complaining of meager pay and the high cost of living. These three men—Laurasub Khan, Akhtar Ali Qureshi, and Abdul Aziz Khan—were Indian British subjects, and the Malaria Research Institute in Delhi had deputized them to Bahrain. The presence of these employees was the result of long correspondence between the Institute and the Political Agency regarding how to treat malaria in Bahrain. Even though the local British administration bristled at the suggestion of increasing their pay, they had keenly recruited these experts for their knowledge of how to identify and prevent the breeding of malaria-carrying mosquitoes. These men represented the official Government body of anti-malaria activity in British India, and their knowledge, it was hoped, would help to rid Manama of mosquitoes and malaria.⁴²

40- Roy, *Malarial Subjects*, 116.

41- Projit Bihari Mukharji, *Nationalizing the Body: The Medical Market, Print and Daktari Medicine* (London and New York: Anthem Press, 2009), 23.

42- IOR: R/15/2/1062: Letter from Antimalaria Operations Staff Bahrain to The Political Agent, Bahrain.

The Bahrain Political Agency engaged the three men to travel from Delhi to Bahrain in November of 1939. Laurasub Khan, the supervisor, was to be paid 50 Rupees per month. Akhtar Ali Qureshi and Abdul Aziz Khan were both insect collectors, paid 40 Rupees per month. They left Delhi for Karachi on November 8, 1939, and from there they sailed to Bahrain.⁴³ Once on location in Bahrain, the anti-malaria staff demanded better pay and treatment from the Political Residency, insisting that they were valuable experts who had been misled by the conditions under which they were hired. In a hand-written letter from January 16, 1940, to the Political Agent and signed collectively from “Antimalaria Operations Staff, Bahrain,” they explained their concerns and offered arguments as to why they should receive a raise in pay.⁴⁴ They established their position, “We have been sent here on deputation by the Malaria Research Institute, Government of India.” This statement reminded the Political Agent that these men had come on his request from a Government agency that represented British imperial scientific knowledge.

The next point reveals some of the limits in communication between the Malaria Institute in Delhi and the Bahrain Political Agency. The staff’s letter states, “We were told to reach Bahrain and compare the market rates of other circumstances. But now we have come to know that living at Bahrain is far more costly than it was at Delhi (nearly more than double) and the present meager pay... is entirely insufficient to meet with the cost of living here.” The letter adds that the Secretary of the External Affairs Department in New Delhi “assured us that in case Bahrain proves to be a costly place, The Govt. of Bahrain will grant us immediate increment.” It seems unlikely that the Government of India did not have knowledge about the cost of living in a region under its purview. The Delhi officials had avoided deciding on pay for these employees, leaving them to seek pay adjustments for themselves after they had already relocated from Delhi. This displacement of responsibility put the staff at a considerable disadvantage for pay negotiation and counted on the fact that they did not have prior knowledge of the cost of living in Bahrain in relation to Delhi.

To strengthen their case with their British employers, the staff also took pains to distinguish themselves from the local labor force in Bahrain. They wrote, “Besides, even the local men (Jamadars and Coolies) working under us are getting [30 Rupees

43- IOR: R/15/2/1062: Letter from the Undersecretary to the Government of India in the External Affairs Department, to Political Agent Bahrain, 7 November 1939.

44- IOR: R/15/2/1062: Letter from Antimalaria Operations Staff to Political Agent Bahrain.

or 19 Rupees per month] respectively.” Here they moved themselves into the same category as the British officials—in contrast to the native workers—by implying that, as Delhi-trained experts, they were superior to indigenous labor and thus deserved a pay scale that reflected this status.⁴⁵ This correspondence reveals how complex racial hierarchies shaped the movement of scientific expertise between India and the Gulf. The Bahrain Political Agency hired these men to investigate water and the breeding of malaria-carrying mosquitoes. In the Gulf, such British-trained Indian experts were deputized as colonizers (as well as malaria experts) even as they remained below European officers in the racial and cultural imperial hierarchy.

As these experts carried their knowledge from India to the Gulf, their efforts to reduce malaria formed part of a larger colonial project to reorganize the human relationship to land and water. The British administration contrasted modern architecture and urban planning with existing settlement patterns in Bahrain. New buildings in early-1930s Manama illustrate how the wider context of changing typologies for the built environment assumed a binary between sanitary, modern spaces and more traditional building patterns that colonial bureaucrats presented as primitive and less hygienic.⁴⁶ While these projects did not target malaria exclusively, they shared an overarching public health agenda that sought to organize and sanitize how local residents used water, disposed of waste, and came into contact with one another. For example, a new quarantine station was erected in 1931 that featured the partition of quarantined passengers by ticket class and gender in modern white-washed stone buildings. The description of the new station in the 1930-1931 Bahrain Government Annual Report describes how the quarantine station included:

...one large stone bungalow for the second class passengers, containing four rooms each with bath room attached opening into a wide veranda, and a long stone building divided into three compartments for deck passengers. Adjacent to the buildings there are mens and womens [*sic*] latrines, cook

45- IOR: R/15/2/1062: Minutes of Meeting of Finance Committee of Anti Malaria Campaign 7 March 1940.

46- For an inciteful discussion of the traditional/modern architectural binary in the UAE, see El-Sayed El-Aswad, “Social and Spatial Organization Patterns in the Traditional House: A Case Study of Al Ain, a City in the UAE,” in *Transformations: The Emirati National House*, ed. Yasser Elsheshtawy (UAE: National Pavilion, 2016), 190-203.

houses, and bathrooms. Water is obtained from the artesian well which was built near the fort some years ago.⁴⁷

In the accompanying photograph (Figure 1), the quarantine station sits on slightly elevated ground and is cordoned off from the surrounding community by a barbed wire fence. This arrangement partitioned individuals with the potential to carry disease in buildings that differed from indigenous architecture by appearance, material, and organization. It also managed water use and the separation of waste in the form of designated wells and latrines.



Figure 1. 1931 Photograph of the new quarantine site in Bahrain.
IOR/R/15/2/306, f 115 1, “Photograph of the new quarantine site, Bahrain”

In the Jaffariah school (Figure 2), completed the same year with funds from the Indian Government, there were “9 class rooms which can accommodate about 250 boys, and a large central hall which was built between two wings, which if

47- ‘File 8/9 Bahrain Government Annual Report’ [114r] (232/298), British Library: India Office Records and Private Papers, IOR/R/15/2/306, “Quarantine,” in *Qatar Digital Library* <https://www.qdl.qa/archive/81055/vdc_100025547959.0x000021> [accessed 28 August 2017].

necessary would be used to hold another hundred boys.”⁴⁸ The building also held accommodations for the schoolmasters, and was “built of local Murraba stone, plastered with Juss⁴⁹ and whitewashed.”⁵⁰ Except for iron girders, cement, and imported wood, the school used local materials. The school, envisioned to condition local students into a modern and disciplined lifestyle, was open to its surroundings, while the quarantine station was fenced off. The pillars and sprawling, airy design of both structures emphasize permanence and a visual and functional rupture from indigenous architecture.



Figure 2. 1931 Photograph of Jaffariah School, Bahrain.
IOR/R/15/2/306, f 45, “Photograph of Jaffariah School, Bahrain”

Both photographs show the structures alone in the landscape. These modern buildings replaced previous institutions and necessitated the erasure of existing built environments. Some hint of this process of removal and replacement appears in the account of the quarantine station site. It had been the home of a group of “Baluchi hangers on of the Khalifah family.”⁵¹ The British report claimed that

48- IOR: R/15/2/306: “Public Works. Jaffariah School.”

49- Juss was beach plaster made from mixing coral stones and shells. See Ronald Hawker, *Building on Desert Tides: Traditional Architecture of the Arabian Gulf* (Southampton: WIT Press, 2008), 90.

50- IOR: R/15/2/306: “Public Works. Jaffariah School.”

51- IOR/R/15/2/306, “Quarantine.”

“each man was handsomely compensated with cash for the expenses of moving their huts.”⁵² The temporary nature of the indigenous housing that previously occupied the site of the new quarantine station emphasized the architectural binary between the permanence of modern structures and the inevitable replacement and relocation of indigenous housing. The archives are comparatively silent in terms of providing photographs of indigenous housing from this period.

The recruitment of malaria experts to study mosquito breeding and the construction of modern institutions of health and education shared a common agenda of sanitizing the built environment. The British administration viewed unregulated agricultural practices, waste disposal, and housing arrangements as potentially dangerous sources of standing water. In interwar Bahrain, water itself emerged as a public health risk that required imperial scrutiny, categorization, and intervention.

“Racial Susceptibility,” Punishment, and Water

In tandem with contemporary public health projects around the world, addressing a landscape marred by deadly sources of standing water involved reaching into intimate spaces of people’s lives and convincing them to change how they accessed this fundamental substance. Anti-malaria measures in Bahrain, such as those carried out by the Indian experts discussed above, included filling in wells, installing pipes and new washing and drinking sources, cleaning and inspecting ditches and drains with “anti-larval squads,” and populating mosquito-prone water sources with *Gambusia* fish, a species that fed on mosquito larvae.⁵³ In India, the British regime and scientific community had forged a discursive connection between malaria levels, poor sanitation practices, and unclean lifestyles. Such characterizations were typical of the colonial imaginary of the Indian native subject. By transferring knowledge of malaria to Manama, imperial authorities also translated expectations about the relationship between natives and disease into Gulf landscapes. Underlying this exchange was the assumption that British scientific and administrative expertise represented a superior means of approaching disease prevention, and any resistance to their anti-malaria plans could only be the result of native ignorance. The British sought to find intermediary venues in Bahrain, such as school workshops, posters and slide shows, and public meetings and announcements, to relay their understanding of malaria and its prevention.

52- IOR/R/15/2/306, “Quarantine.”

53- DDT spraying came into use in Bahrain in 1947, and residual spraying in 1954. See Amin, “Malaria in Bahrain,” 135.

Traces of local reactions to these plans and indigenous conceptions of malaria emerge in the archives in the form of collective protests to new water regimens and moments of disconnect between local understandings of malaria and imposed state programs.

Omar AlShehabi has demonstrated that “political mobilization based on ethno-sectarian identities in Bahrain is very much a modernist product, specifically of the contestations and mobilizations that emerged in the period of increasing British colonial involvement in the early twentieth century.”⁵⁴ But such colonial conceptualizations of the population extended beyond political and religious categories into human-environment interactions and disease burdens. Imperial understandings of malarial endemicity wove ethno-sectarian categories into official scientific studies and stamped these classifications onto urban and rural spaces. Such discourses are apparent even in Lorimer’s hallmark 1908 study. According to his survey, the Baharna⁵⁵ represented the largest population group in Bahrain and performed most of the date cultivation and other agricultural activities; Sunni residents of Bahrain tended to be more involved in pearl diving. As the imperial focus shifted towards exposure to standing water, mosquitoes, and malaria, Lorimer’s ethno-sectarian framework of economic activities took on new significance.

Imperial science as it was practiced in Bahrain blurred the boundaries between racial characteristics, religious affiliation, and relative exposure to malaria. A 1938 study exemplifies how such racialized thinking influenced processes of categorizing and studying malaria. Coauthored by Major M.K. Afridi and Jemadar Syed Abdul Majid, “Malaria in Bahrein Islands (Persian Gulf)” was published for the colonial scientific community in the *Journal of the Malaria Institute of India*. In this article, the authors compared the prevalence of enlarged spleens (a sign of malaria infection) among Arab, Baharna, and Iranian children. The Arab children “included the negroes and the half-castes,” and “showed the least number of

54- Omar Hesham AlShehabi, “Contested Modernity: Divided Rule and the Birth of Sectarianism, Nationalism, and Absolutism in Bahrain,” *British Journal of Middle Eastern Studies* 44:3 (2017): 334.

55- According to AlShehabi, “the collective social consciousness uniting those who today would self-identify as Baharna could roughly be summarized as Shi’a Arabs whose roots lie in the agricultural and fishing villages of Bahrain.” AlShehabi, “Divided Rule and the Birth of Sectarianism, Nationalism, and Absolutism in Bahrain,” 335.

enlarged spleens,” that is, the lowest malaria levels.⁵⁶ They continued, “As regards Bahrinas [*sic*] and Iranians, a higher [enlarged] spleen rate among the former is probably due to the location of their settlements in or near the gardens, while the high figures among the latter may indicate a higher racial susceptibility.”⁵⁷ This notion of “racial susceptibility” was connected to a global discourse in which the prevalence of malaria in warmer climates and the genetic shields that some local communities possessed ironically contributed to a belief that the heightened physical vulnerability of white populations was a marker of racial superiority.⁵⁸ Falling back on “racial susceptibility” also cut short their analysis of environment-human interactions. For example, while the authors noted the significance of living near agricultural areas, they did not acknowledge the fact that mosquitoes rarely would have accompanied ships to sea. It follows that pearl divers would have lower rates of malaria infections, regardless of their religious or ethnic affiliations.⁵⁹

Even though the focus of the study (and, indeed, of most anti-malaria projects during this period), was on sources of standing water and mosquito breeding, the authors still connected malaria infection to “racial susceptibility.” It is clear from their own data, such as when they mention settlements near gardens, that differing malaria rates between these categories of people primarily depended on proximity to standing water. Access to adequate nutrition would have also impacted malaria prevalence. These researchers’ claims to scientific expertise were grounded in their purported understanding of the relationship between malaria, mosquitoes, and water. Nevertheless, the authors resorted to racial categories to organize their study of malaria in Bahrain by emphasizing an individual child’s racial categorization as the principle measure of malaria susceptibility.⁶⁰

56- IOR: R/15/6/465: “Malaria in Bahrein Islands,” 2-3. People of Baluchi and African descent were concentrated in the pearling centers, dominated by Sunni tribes, probably reflecting this group’s historic dominance of the slave trade. See Fuccaro, *Histories of City and State*, 26.

57- IOR: R/15/6/465: “Malaria in Bahrein Islands,” 3.

58- The racial logic of the Atlantic slave trade, for example, cast African resistance to disease as “a sign of their descent from ‘lower animals,’” which became one justification for enslavement. See Reilly, *Slavery, Agriculture, and Malaria in the Arabian Peninsula*.

59- Lorimer, *Gazetteer*, vol. II, 240-241. An interesting question that requires further research is how the collapse of the pearling economy might have impacted the distribution of malaria between these different groups of Bahrainis in the 1940s.

60- Analyzing spleen by race and ethnicity was common practice during this period. For example, for a discussion of spleen studies in British Mandate Palestine, see Sandra M. Sufian, *Healing the Land and the Nation: Malaria and the Zionist Project in Palestine, 1920-1947* (University of Chicago Press, 2008), 87-92.

The authors of the 1938 study parsed out what they considered to be the differences between ethnic groups' malaria burdens. For other British administrators, however, it was more convenient to imagine the local population under a single category of "native." In other words, the demarcation between plural ethnic particularities and the singular category of "native" was fluid and shifting. The Political Agency borrowed propaganda materials from India to address malaria prevention through education and public information campaigns. In much of this material, the Indian villager served as the normative "native" who needed to be taught a new, more malaria-resistant lifestyle. In Manama, for example, the Anti-Malaria Committee secured the loan of a film called *Mosquito Menace* to show in 1941, accompanied by an Arabic speaker to "explain the film."⁶¹ While such flexible targeting of public health propaganda material suggests that the British administration viewed "native" attitudes, understandings, and practices in the same loose category in the Gulf as in India, there were also concessions to the specificities of this locale. To increase "strenuous efforts by the Arabic speaking members of the committee to impress upon their fellow-citizens the dangers of the situation and the need for action and co-operation by all classes," the Anti-Malaria Committee sought to add "20 gentlemen of goodwill and good standing in Manama" to their ranks.⁶² The flow of logic that emerges from the correspondence assumes that the only way to combat malaria effectively and economically was to convince the local urban population to change how they viewed water, mosquitoes, and modern medicine.

In this emerging anti-malaria regime, knowledge about the relationship between water and disease produced by these medical officers also created new justifications for state punishment. For example, a 1939 Government Proclamation that was issued by Shaikh Hamad bin Isa Al Khalifa (r. 1932-1942) in both English and Arabic declared, "The public are hereby informed that all persons who are found to have mosquitoes, which are the cause of malaria, breeding in the water in their gardens, inside the municipal area of Manamah and Moharraq or a mile outside this area, will be liable to punishment."⁶³ The Government announced that its medical officers would "inspect all stagnant water whether public or privately owned and will report on the existence of breeding mosquitoes."⁶⁴ The purpose of this particular application of power was to transform the population's interactions with their environment through the threat of state disciplining.

61- IOR: R/15/2/1062: Note to the Secretary of the Anti Malarial Propaganda Committee from Secretary Anti-Malaria Committee, 25 June 1941.

62- IOR: R/15/2/1062: Anti-Malaria Committee Meeting, 11 July 1939.

63- IOR: R/15/2/1062: Notice by order of Hamad bin Isa al-Khalifa, 11 November 1939.

64- IOR: R/15/2/1062: Notice by order of Hamad bin Isa al-Khalifa, 11 November 1939.

Alongside these new promises of punishment, the Government also attempted to persuade local residents to alter their water usage practices by narrating the relationship between environment and disease. Traces of such efforts in the imperial archives offer important indications as to how the indigenous population conceptualized malaria. A March 1940 speech addressed to landowners of gardens in a mile radius of Municipal boundaries attempted to translate indigenous experiences of malaria into a more “scientific” understanding of the mosquito danger. It addressed the landowners:

As you are aware malaria is more common than any other disease in Bahrain and almost every person who lives in Bahrain has been ill with malaria either occasionally or frequently. Many people do not know that the illness is malaria, they call it ‘homa’-sukhona or waham and they do not consider what is the cause of the illness. Some people say it is an illness which comes in certain seasons or in certain places in Bahrain during certain seasons, but the cause of malaria and the spreading of malaria is mosquitoes.⁶⁵

This passage offers clues as to how locals conceptualized malaria prior to British intervention. First, it highlights the frequency of malaria; apparently, the speaker can assume that anyone living in Bahrain would have experienced malaria, often multiple times. Second, we learn from this passage at least some of the indigenous terminology people used to describe malaria. “Homa-sukhona” and “waham” come from Arabic roots that describe an increase in heat, which makes sense given that a sudden and severe fever is one of the initial symptoms of malaria. Third, the statement reads that people “do not consider what is the cause of the illness,” an assumption that fails to engage with local understandings of medicine and disease. Moreover, the next section seems to contradict this assertion, since “Some people say it is an illness which comes in certain seasons or in certain places in Bahrain during certain seasons.” Indeed, from this statement, it seems that indigenous medical thought had established a connection between seasonality and environment and the prevalence of malaria. This conceptualization accurately reflected the seasonal peaks of indigenous malaria in spring and fall corresponding to the increased breeding activity of *Anopheles stephensi*.⁶⁶

65- IOR: R/15/2/1062: Statement read at meeting of landowners of gardens in mile radius of Municipal boundary, 9 March 1940. Archival file states that it is a translated version, presumably from Arabic.

66- *A. stephensi* is able to breed in freshwater domestic wells and storage containers. See Amin, “Malaria in Bahrain,” 136.

Finally, the concluding section declares, “the cause of malaria and the spreading of malaria is mosquitoes.” The possession of knowledge of the link between malaria and mosquitoes is the key factor that justifies, from the British perspective, a one-way flow of medical expertise from imperial scientific institutes to the indigenous population of Bahrain. In the process of connecting mosquitoes to malaria, the imperial archive silences other medical imaginaries and writes off the indigenous medical tradition as superstitious, as in the case of the delegation of women, or irrelevant, as with the apparent link that had been made between fever, season, and environment.⁶⁷

A set of posters produced by the State Medical Officer in April of 1942 in Arabic and English (Figures 3-5) further illustrate the type of propaganda material distributed in Bahrain to increase awareness of the causes of malaria. The posters begin with basic information about malaria, explaining, “Malaria is a deadly enemy to health in Bahrain,” the high malaria months are May, June, and December, and that the disease is spread by mosquitoes.⁶⁸ The text points to some of the water sources where mosquitoes breed in Bahrain: wells, tanks, streams, water jars, and bathrooms. Significantly, most of these sources of water were human-controlled supplies of domestic water use. The posters provide illustrations of mosquito larvae and pupa, presumably to emphasize the fact that these disease-carrying agents are invading the water supply. Finally, they offer concrete steps people could take to rid their environment of mosquitoes and to prevent malaria. If an individual contracted malaria, the sick person was instructed to take quinine, and assured that “All malaria treatment is free at Hospitals, for poor people.”⁶⁹ As described above, visits from anti-malaria inspectors enforced such propaganda. They would report owners of gardens found to be breeding mosquitoes to the Anti-Malaria Committee, and could be subject to a court appearance and fine.⁷⁰ Such use of illustrated evidence reveals the British assumption that once they offered a “scientific” explanation that malaria was caused by standing water in which mosquitoes could breed freely, then local patterns of water use would inevitably transform. In this framework, any resistance to these British anti-malaria measures, as in the cases discussed above, appeared as contradictory to the progress of science.

67- The role of water as a supernatural force in Shi'i oral culture in Bahrain offer clues of a connection between rural folklore and disease imaginaries. See Fuccaro, *Histories of City and State*, 22.

68- IOR: R/15/2/1062: “Malaria and How to Get Rid of It.”

69- IOR: R/15/2/1062: “Malaria and How to Get Rid of It.”

70- IOR: R/15/2/1062: “Prevention of Malaria.”

Despite the incorporation of local notables into public health decisions, tensions also arose between the deputized Indian anti-malaria officers and Bahrain's elites. Khalil Ibrahim Rajab's book on the history of health services in Bahrain reproduces a letter in which Shaikh Salman bin Hamad Al Khalifa (r. 1942-1961) endorsed the activities of the Anti-Malaria Committee. But when a malaria officer defied him and damaged his palm trees in 1947, the Shaikh reacted with fury. In his May 27 letter to the head doctor of the Bahrain Government, Salman wrote, "I am informing you that the officer in charge of malaria assaulted the water containers in the vicinity of my palm trees and tore them down yesterday, without giving me any warning."⁷¹ He had constructed this particular container a year and a half earlier at a cost of 300 Rupees. The Shaikh demanded to know "how could this officer destroy it without any warning and cause the water that gives life to the palm trees ...to drain into the sea?"⁷² He suggested that the malaria officer had deliberately harmed the trees and defied the Shaikh's authority. The Shaikh declared, "I have established the malaria committee to safeguard the community, not to cause damage—but does he understand this, the officer whose employees are causing more harm than benefit?"⁷³

Brought from British India for the sole purpose of combatting malaria, it would appear that the anti-malaria officers went about their business of draining water and destroying water storage containers with little sensitivity to local irrigation and water use. These activities were acceptable to the ruling elites when they facilitated the extension of their authority over the population. Indeed, the mosquito inspections justified new forms of state power in the form of surveillance of private property and punishments against wayward locals. But apparently, this connection between scientific authority, mosquitoes, and state power broke down when the British Indian malaria experts sought to insert their scientific authority into the Shaikh's gardens. He angrily protested their insubordination and disrespect for his property.

71- Rajab, *Tarikh al-khidmat al-sihhiyah fi al-bahrayn*, 25.

72- Rajab, *Tarikh al-khidmat al-sihhiyah fi al-bahrayn*, 25.

73- Rajab, *Tarikh al-khidmat al-sihhiyah fi al-bahrayn*, 25.

الملايا القتاله الملايا القتاله

مكافحة الملايا

١- اختار الا شهر بالنسبة الى الملايا هما شهر مايو ويونيو
 ٢- البعوض الذي يسببها يجب القضاء عليه
 ٣- من البيض يتحول

تستغرق
 ١٠ أيام
 فقط

٤- استنق في الاسبوع مرة

(١) مالديك من الآبار - ضم فيها صغار السمك
 (٢) مالديك من أوعية الماء - أغلها ونشها
 (٣) مالديك من غرف - استعمل القليت
 (٤) - مالديك من جداول يشانك - نفاها وضع فيها السمك
 ٥ - بهذا أنت تساعد عملية مكافحة الملايا لانه
 ١ - السمك (التقاطي) تهاك الاروي
 ٢ - القليت يقتل البعوض
 ٣ - تنظيف الجداول في البساتين يحدث عدم نواله بعوض الملايا
 ٤ - اذا احصاك الملايا حتى (حاره او بارده) خذ الكينا احلا واذهب فوراً لتقاها الغاييب

Figure 3. Bahrain anti-malaria poster.

IOR: R/15/2/1062: "Government of Bahrain, Medical Department"

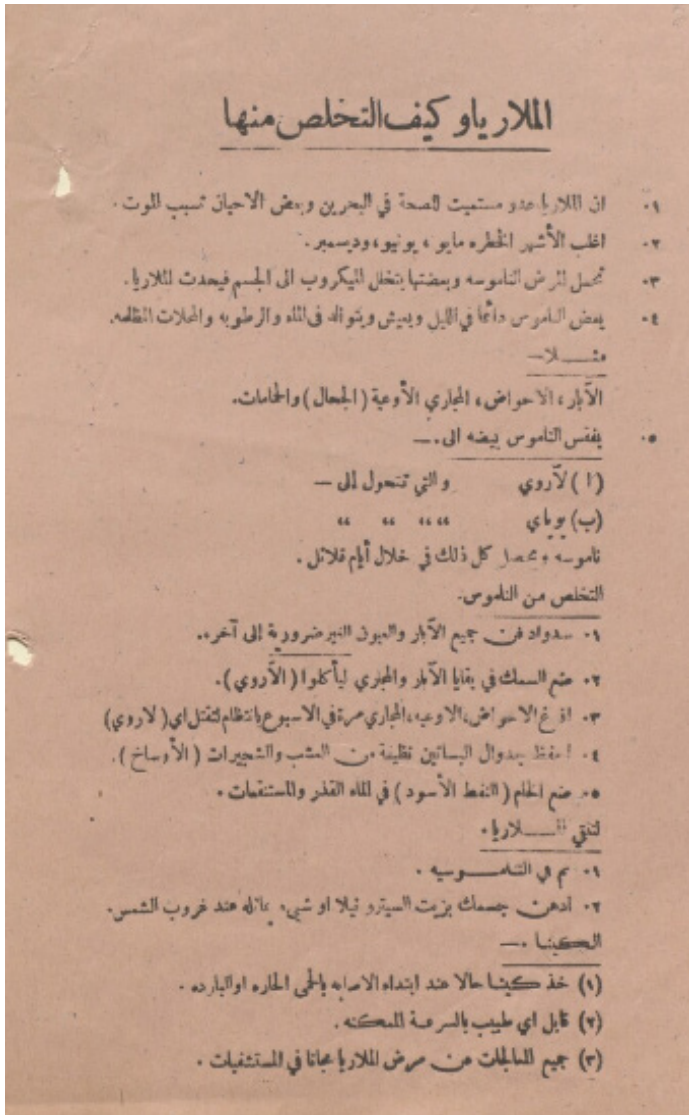


Figure 4. Bahrain anti-malaria poster.

IOR: R/15/2/1062: "Government of Bahrain, Medical Department"

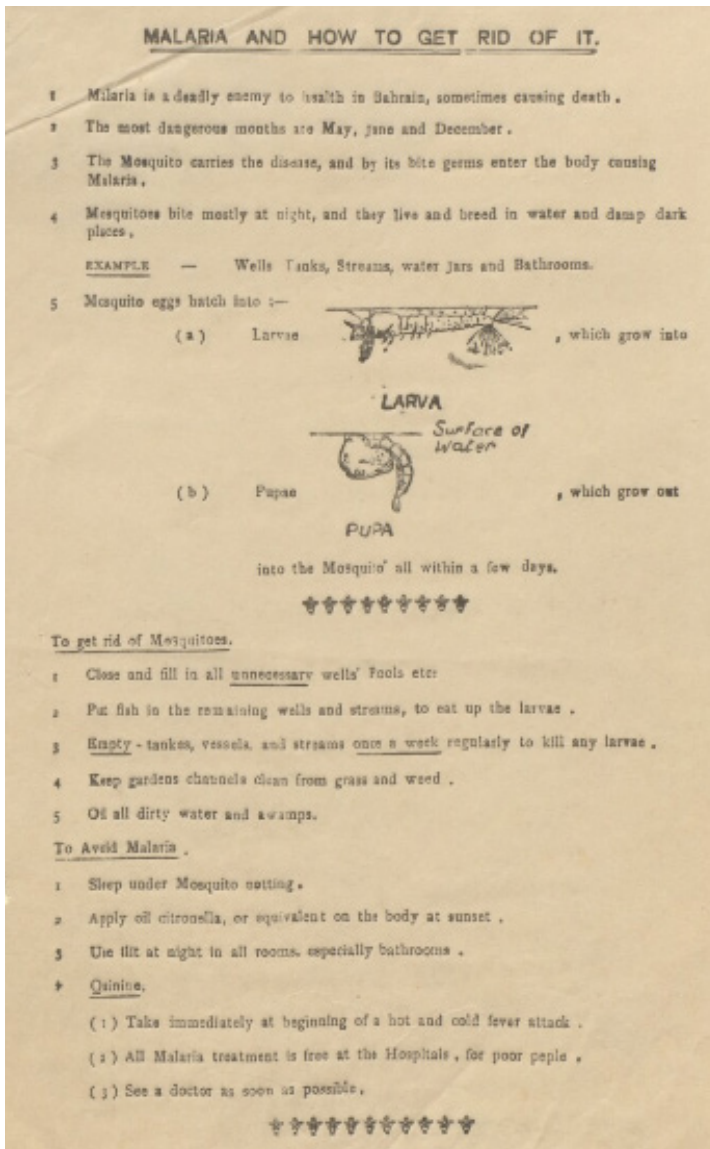


Figure 5. Bahrain anti-malaria poster.

IOR: R/15/2/1062: "Government of Bahrain, Medical Department"

Conclusion

The single hand-written note that documents the women's visit to the Political Agency in 1940 is buried in the India Office Records amidst the Anti-Malaria Committee's official typed memos, announcements, and agendas. Except for the quickly penned note, the Committee records never directly referenced the women's delegation. But remarkably, the women's collective protest did seem to have an effect: the agenda for the May 8 meeting of the Anti-Malaria Committee included a discussion "To reconsider the decision to close house wells within 600 feet from 6 artesian wells in Manama, in view of a future water supply scheme reducing the radius of 600 feet to 200 feet."⁷⁴ In other words, the women's visit influenced state anti-malaria planning, but their contribution remained unacknowledged—and all but invisible—in the official records.

Even Khalil Ibrahim Rajab's Arabic-language synopsis of malaria reproduces a narrative of the history of modern medicine in Bahrain as a teleological process in which the indigenous population gradually acquired scientific enlightenment. With the letter from Shaikh Salman discussed above as a notable exception, his discussion of malaria draws mostly on writings from the British director of medical services in Bahrain and American mission doctors. Rajab describes the British-led efforts of the 1930s and 1940s towards "drying and filling most of the swamps and ponds and sewers... and focusing on the agricultural regions."⁷⁵ He writes, "In the beginning they were faced with strong resistance from the farmers and [land] owners who didn't realize the health benefits of the project, but with ongoing persuading they came to a common understanding after people became aware of the importance of the health project."⁷⁶ Such a narrative elides the class, race, and gender biases embedded in this process of "persuading" the local population of the benign intentions of state anti-malaria measures.

As a nodal point of British Empire in the Persian Gulf, the historical patterns of anti-malaria measures in Bahrain also have implications for the rest of the region. Early twentieth-century observers noted the endemicity of malaria around the region, including in Basra, Oman, Baluchistan, and the Iranian coast, as well as in the agricultural oases of the Arabian Peninsula. The relatively higher level of intervention of imperial public health measures in Bahrain reflected this island's

74- IOR: R/15/2/1062: Agenda for Anti-Malaria Committee Meeting, 8 May 1940.

75- Rajab, *Tarikh al-khidmat al-sihhiyah fi al-bahrayn*, 24.

76- Rajab, *Tarikh al-khidmat al-sihhiyah fi al-bahrayn*, 24.

political and economic importance. Scientific experts carried their medical knowledge, racial prejudices, and bureaucratic hierarchies with them from British India to Manama. The connection between mosquitoes, water, and malaria justified unprecedented interventions into homes and agricultural areas, which the Government promoted through tactics of both persuasion and punishment.

By integrating Bahrain into the global history of malaria, this article has traced how Bahrainis experienced empire on the frontiers of British India. The heightened mobility of people, science, medicine, and disease in the Gulf produced a context in which concerns of sanitation and public health created new points of contact between imperial projects and social life. The narrative of top-down public health as a universally beneficial side effect of empire and state-building has been reproduced in a multitude of settings. In Bahrain, anti-malaria measures were one of the few venues of imperial intervention into the microlevel practices of local populations. Unlike in other imperial spaces, the state was not as concerned with producing an intermediary cadre of local bureaucrats and experts through colonial education. Instead, they imported this colonial class from British India, thus creating a uniquely racialized imperial scaffolding for public health in the Gulf. As a result of this displacement of expertise, local voices are also harder to locate in the imperial archives. The accounts of women intervening in plans to alter the water supply infrastructure, Indian experts pushing back against racially biased employment structures, and landowners resisting disruptive mosquito control measures appear only fleetingly. But these fragments offer an invaluable perspective on the variety of voices and experiences that have contributed to the social history of public health in the Persian Gulf.

