

Disease and cure in Mozambican health service reports from the end of the nineteenth century*

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Abstract

In the late nineteenth century, health service reports constituted a repository of information on the main diseases in Mozambique and the impacts of their frequency, as well as on the procedures and methods used to fight disease within a regional framework whose description indicates a broad knowledge of the characteristics and potentials of the various districts and of the living conditions of the people. The objective of this article is to highlight that these reports constitute a privileged source not only for the study of the process of cementing Portuguese colonial rule in Mozambique, but also for the study of tropical medicine from a perspective that takes into account the specific conditions of the region, and which provides historical information on the analysis of the problems related to disease and cure.

Keywords: Mozambique; health services; biomedicine; traditional medicine.

Since the sixteenth century, the history of the Portuguese control over Mozambique was continuously marked by the fight against many diseases and ailments that afflicted those who settled there, and that were sometimes with no cure. The delay in the arrival of Portuguese pharmacies and the ineffectiveness of many of their compounds and drugs led the Portuguese to seek alternatives, namely the use of local medicinal plants and herbs, though not officially encouraged and despite the recognized need to resort to these measures.

This story, however, is still to be told. Not only do documents on this subject not abound, but those that do exist do not always facilitate the identification or elimination of preconceived ideas related to the use of scientifically condemned methods and practices (the use of local medicines and remedies) or the difficulties the Portuguese had in taking control of Mozambique and the need for recognition of their authority and sovereignty over the region.

Naturally, both situations represent a lack of homogeneity in spacial-temporal terms and in behavioral terms, especially on the part of those individuals who, locally, were torn between their obligations as Portuguese, with old world principles and practices that were considered unquestionable, and at the same time, without ceasing to be Portuguese, show how important it was to adapt and seek out local solutions upon which their survival almost always depended, at least from the sixteenth to the eighteenth century.

Settlement of Portuguese in Mozambique versus knowledge of the territory: disease, cure and medicinal resources

Since the establishment of the Portuguese at Sofala in 1505, repeated exploratory trips were made up the rivers and along the coast in an attempt to provide always-lacking supplies to the trading posts. And it was not only food that was supplied, as purchases frequently included the much sought after fruits and roots for the sick, traded by the best farms articles in the trading post warehouses. The individuals at the trading post suffered from poor health due to the difficulties in regularly stocking the kingdom's dispensaries. They attempted to compensate for this either by eating foods that would prevent or decrease the frequency of some of the most common maladies, or making use of ancestral practices related to the use of plants known for their medicinal properties, resulting from man's knowledge and its relationship with nature.

The idea of a balanced, healthy diet is common to the many currents of philosophical and scientific thought devoted to the study of man, health, and medicine arguing that disease resulted from the lack of balance of several factors, such as climate, food and way of life. From Hippocrates (fourth and fifth centuries BC) and Galen (second and third centuries) to William Buchan (1729-1805) and John Brown (1735-1788), the weight of each factor varied, but their contribution was undeniable.

Knowledgeable or not of the newer doctrines in the fields of medicine and therapeutics and of the positive or negative influences to which they might be subject in Mozambique, the Portuguese who settled there in the sixteenth century began to frequently eat some fresh local fruits, herbs and plants whose regular consumption led to good results.

Citrus fruits, for cases of scurvy or mild fever associated with colds, and coconuts for multiple uses – coconut water as a diuretic and in case of diarrhea, as it protects the intestinal

flora, and coconut milk for asthma attacks – were immediately seen as essential to the health of the people at the trading post, and coconut oil was found to be crucial as a disinfectant and for healing small wounds. Incidentally, an infusion of ivy was also used for washing and as a disinfectant, a custom shared by the Portuguese and the Africans, which facilitated acceptance of the habits and customs of a land thus made to seem less distant to them.

This initial approach to local resources and their use for therapeutic purposes was also a significant aspect of the relationship between science and empirical knowledge, which was particularly relevant in colonial overseas territories and translated into a permanent antagonism between the application of European medical practices and the use of local medicines, traditional healing practices and the everyday experiences that often showed them to be effective.

One of the most significant examples of this is precisely the treatment of scurvy – or “Luanda disease” – which affected sailors and travelers after long periods spent at sea so much that when they reached land they rushed to eat fresh fruit, especially citrus fruit, to recover from the disease that tormented them. Experience showed how effective this practice was. However, even witnessing its success, physicians and surgeons criticized the practice, considering it unhealthy, and in the eighteenth century even went so far as to prohibit the consumption of fresh fruits, especially the most acidic, to those suffering from the disease.

This prohibition was even applied to many other diagnosed pathologies, not just scurvy, and was to be observed even by healthy people who wanted to avoid these diseases. The reasoning was that fresh fruit could only be harmful, having grown in a land whose hot, unhealthy climate was one of the principal causes, together with a deficient diet, of the innumerable diseases in Africa.

In turn, the growing knowledge of the territory and interaction with the local communities resulted, as early as the sixteenth century, in the collection of information on other plants, considered medicinal, and whose effectiveness in the treatment of other diseases, like the multiple “fevers” that widely affected the Europeans, was proven. Among them were gastrointestinal problems, diarrhea and dysentery, respiratory infections and genitourinary disorders that threatened the health and well-being of these people, endangering the Portuguese crown’s plans for the region.

Thus, the calumba (*Jateorhiza calumba* or *Jateorhiza palmata*) and the mixonga potato were “discovered” in the hinterland of Sofala coast to cure fevers, difficult digestion, diarrhea and dysentery, while the abutua root (*Cissampelos pareira*), also called the fever root or the nausea root (Miranda, 1955, p.235), was applied to swelling, almost always incurable dislocated or broken bones, to lower fevers and treat nausea, together with many other herbs with various curative characteristics, and power preparations that repelled and protected against animals, allowing healing deep wounds, and a range of ointments “all of oil, of mamona as it is called here in Africa, or Mono or figueira-do-inferno in other regions, its fruits ... round with external thorns ... are used to make oil, just like in America, and they add roots for protection against poison [and] others for pain (Miranda, 1955, p.236).”¹

And since local remedies were not exclusively of vegetable origin, the region’s fauna became also the object of some attention. Thus, in addition to potential commercial interests, rhinoceroses, wildebeests and hippopotamuses were some of the animals that, in the context

of the disease/cure problematic, aroused particular attention because they provided key ingredients used by local healers in the preparation of traditional remedies. The rhinoceros (*Diceros bicornis*), locally known as abada, was sought after for its horn. The shavings of the rhinoceros horn were used to prepare powerful poison antidotes, while the nails of the left rear hoof of the wildebeest (*Connochaetes taurinus*), known as *gran besta*, were thought to be effective protection against many accidents.

The hippopotamus (*Hipopotamus amphibius*), however, then called *cavalo-marinho*, was the most used and in the greatest diversity of ways. The teeth were considered excellent to stop bleeding; the two stones in the head and the nails of the feet were used in compounds against diarrhea; the penis was used for gonorrhea; and its skin, after dried and in strips, when applied to the stomach of a pregnant woman, was reputed to facilitate giving birth.

Thus, therapeutic practices and indigenous knowledge associated magical powers to certain wild animal and plant products, reflecting the cosmogony of the local societies and attesting to the persistence and importance of the human/nature connection and interactions in the daily lives of the African communities that the Portuguese contacted, on the Eastern African coast, from the late fifteenth century on (Roque, 2012a).

From this contact and the resulting interaction, it was possible to obtain some progressive knowledge of the local fauna and flora, their medicinal properties and the phytotherapeutic practices associated with them, especially in areas in which the Portuguese presence was more significant. Since the mid-eighteenth century, some of these “remedies” were not only proven to be used by the Europeans living there, but had begun to be traded along the Portuguese trading routes in the Indian Ocean, becoming common in pharmacies and hospitals in Portuguese India (Roque, 2001).

In the first case, the references favored the use of the calumba root in cooking (Livro..., 1820), and of the abutua root in various forms. To these two products, the Portuguese added elephant oil, maná, the mixonga potato, the thorny fruits, the nails of the wildebeest, and the stones of the hippopotamus – all traded between continents and common on the list of medicines ordered from Mozambique to supply the dispensaries of the Royal Hospital in Goa (Relação..., 1790) and the pharmacies of the principal hospitals, in which they could be sold to the public (Preçário..., 8 jan. 1846).

In this context, despite the abutua root emerging as one of the most recognized medicinal roots of African origin, as witnessed by Friar Rolim de Santa Rita in the second half of the eighteenth century – “In this Island Empire of Xangamire is a mountain called Butua, due to the many butua roots that the locals obtain in the area to sell to the Portuguese in Sena, and they to the apothecaries around the world: this truth is known to all whites and blacks who have been there, or spoken to those who have been there, and even in the pharmacopoeias of the apothecaries” (Relatório..., post 1750, p.2v-3) – it was the calumba that between the end of the eighteenth century and the beginning of the nineteenth, appears to have become one of the most sought-after items on the Indian-Mozambican trade routes, from Mozambique, based on the frequency of requests for licenses to travel inland specifically to acquire it (Moçambique, 1783-1802).

Effectively, even if it could not be considered an official position, the use of local “remedies,” both due to the lack of alternatives and the recognition of their efficacy, were

pondered by some of the governors of Mozambique, such as Francisco de Mello e Castro – “For lack of medicines and not surgeons which could be sent on the Galera from Portugal, but would have precarious employment here without medications, it seems to me uncivil to send one because he would not be able to cure patients with roots, of which he would have no knowledge or practice, and the providence that I have given of these means to other forts to save lives and improve the health of those who live there” (Carta..., 20 abr. 1757) – and taken into consideration by the Overseas Council that, in the early eighteenth century, due to the impossibility of sending surgeons and physicians to the backlands of Massangano, advised the refitting of that hospital so that it could “cure ... using local remedies, as experience often shows that [patients] improve better thus” (Documentação..., 1939).

In the beginning of the eighteenth century, following the scientific expeditions advocated by the European Enlightenment, scientific reasons were sought for this “knowledge from experience.” In some cases, information was collected in a more systematic manner considering the study of the therapeutic properties of the plants identified with the objective of potentially validating their properties, while in other cases developing the first herborization tests and thorough recording of their characteristics (Liesegang, 1966), registering the identification of the locations where they occurred and their specific habitats (Roque, 2001, 2012b), or the precise indication of how the samples collected were prepared (Silva, 1883; Figure 1). Nevertheless, these practices were undertaken with some difficulty due to the lack of trained professionals, the high costs of these missions, and the incipient presence and authority of Portugal in the region. And perhaps for the same reasons, this reconnaissance work and research was often left to others, particularly the British who, in the early nineteenth century, coming up from the Cape, walked through the backlands of Madanda, south of Sofala, “in order to herborize and improve their knowledge of Natural History” (Carta..., 25 jan. 1810).

In this context, the possible investment did not produce results and, despite insistence by those who were knowledgeable about natural remedies and considered the importance of their validation especially given the possibility of using them to replace the medicines that the hospitals always lacked, there was no incentive to do so by the Portuguese government.

Nota da dispensa feita ao aporrita munto dos remédios capricios com

total das despesas

Ordem nu- mérica de		Surg. naco das plantas pela deste minacai ca- final	Grat. peccar. ao que travaram as doer- tras			Grat. peccar. ao que travaram as doer- tras		Grat. peccar. ao que travaram as doer- tras		Grat. peccar. ao que travaram as doer- tras		Grat. peccar. ao que travaram as doer- tras		
Grupos	Plantas		Agenda			Agenda		Agenda		Agenda		Agenda		
			Grat.	Grat.	Grat.	Grat.	Grat.	Grat.	Grat.	Grat.	Grat.	Grat.	Grat.	
1º	1	Mambaraja	1	300	1125	1	425	1	300	500	800			
	2	Mambaraja	"	"	1095	1	095	2	600	"	600			
	3	Jochi	1/2	150	910	1	080	1	300	500	800			
	4	Mussani	1	300	1950	2	250	2	600	200	800			
2º	5	Jurujia	1	300	1950	2	250	2	600	"	600			
	6	Mussani	1/2	150	1380	1	530	1	300	300	600			

total das despesas

total das despesas

Figure 1: Excerpt from the sheet itemizing the products and respective quantities used in preparing the samples of the collected plants (Silva, 1883)

Despite this, quite a few individuals, such as Salis de Celerina or Felipe de Barros, persisted in sending samples of local medicinal plants with proven effectiveness in treating some specific diseases: “I am sending a sample of ‘Xibaca,’ used for matuniça, and a sample of our sarsaparilla from Inhambane, in addition to the root against Ithaca named Mazangalala” (Celerina, 6 set. 1847) They felt these plants would be capable of remedying the permanent lack of medications of a more general, common use: “in this village [Sena] there are some mallows that resemble those in Portugal, and there are bushes called Pau-pereira that are a very bitter, which I believe could replace cassia” (Barros, 25 dez. 1845).

However, and as a consequence of lack of response or receptivity to these possible alternatives, there was a continued lack of medicines in pharmacies, and the pharmacists, coming from Portugal or other parts of the Empire, did not know how to make up for the lack, even when local inhabitants, whether Portuguese or African, knew which remedies worked, as validated by long practice.

The implementation of health services

In the last quarter of the nineteenth century, the implementation and operation of health services accentuated, to some extent, the gap between this accumulated knowledge, on the one hand, and operation policies relying on the imposition of Western values and models that appeared to ignore that knowledge, on the other hand. Illness and healing, diagnosis and treatment remained unsolved problems, with disparate approaches and methodologies that revealed different types of knowledge, understanding, and “science,” suggesting an immense distance from all that experience had taught over three centuries of practice.

The history of the implementation of health services in the colonies, and specifically in Mozambique, is troubled, marked by successive reforms that, beginning in the first quarter of the nineteenth century, accompanied not only the vicissitudes of deployment and regulation of these services in Portugal (Viegas, Frada, Miguel, 2006, ch. 1 and 2), but also those related to implementing the colonial system (Figure 2).

It is important to note that the establishment of these services, as well as their conceptualization, both in organizational terms and in terms of the concept of disease and of medical practices, was part of a framework that involved adapting Western precepts and concepts to the tropics, although their implementation was not always easy or feasible, underlining the need to consider them when analyzing the establishment and operation of these services. Moreover, it is not always taken into account that the organizational and operational model Portugal proposed to export was the one known and supposedly working in Portugal; and in the nineteenth century, it would have been very difficult to export any other system. Even any possible testing of innovative models was based on principles and assumptions taken from the Portuguese reality, with the addition of some historical experience acquired in the tropics.

In Portugal, in the mid-nineteenth century, public health services were incipient (Viegas, Frada, Miguel, 2006, ch. 1). It was only in the last quarter of the seventeenth century that medical and phytotherapeutic practices were restricted to legally-certified individuals, and this certification was only regulated in 1782, with the establishment of the Junta

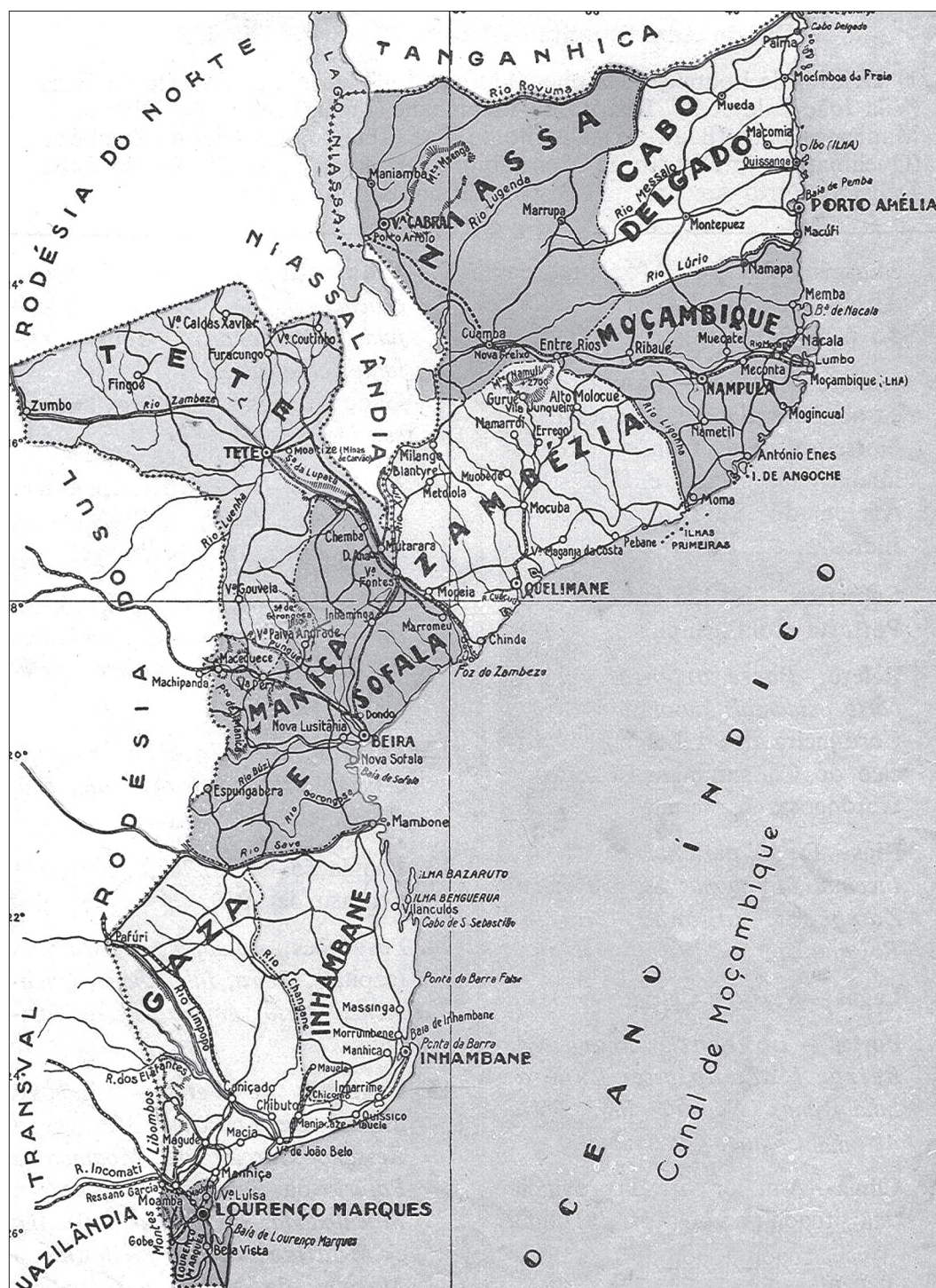


Figure 2: Map of colonial Mozambique (<http://img140.imageshack.us/img140/4558/01mocambiqueaz4.jpg>)

do Protomedicato (Law dated June 17, 1782), and 1809. Additionally, despite the many advances and attempts to follow the scientific developments of the era, as attested to by the establishment of the Royal Schools of Surgery in Lisbon and Oporto in 1825, and later the Medical-Surgical Schools in Lisbon and Oporto in 1836, medicine continued to be regarded by many as “a shapeless mixture of inaccurate ideals, puerile observations, illusory means, and bizarrely conceived and fastidiously collected formulas, having no fixed principles, and with therapeutic practices just a collection of hypotheses imagined by physicians in different periods” (Saldanha, 1858, p.144).

However, with respect to the tropics, despite the triumph of rationalism and experimentation, and the many innovations in the field of medical theory and practice, the idea put forth by Ribeiro Sanches in 1756, that high temperatures caused diseases, prevailed.

The effects of the high air temperatures, or of hot places like our bodies, cause illness or diseases: the more subtle humors dissipate; they leave through abundant perspiration, sweat and urine: what remains is dry, thick, earthy blood, which generates melancholic illnesses, leprosy, black vomiting, blood chambers; and burning fevers if this excessive heat is combined with the suffocation of the air, rotting all humors, and can even cause the plague (Sanches, 2003, p.5).

We cannot explore here this or any of the many other theories that sought to explain, scientifically, the origin of diseases and the medical practices associated with them. However, it should be noted that this idea assumed a very close connection between tropical diseases and the specific weather in these regions and, despite the development of scientific research and advances in medicine and treatments, the medical practices used in the tropics took this connection for granted, as clearly shown in all reports and health bulletins published in Mozambique from 1835 on. It can even be said that, beginning in 1890, in most of these documents, the first point to be addressed was precisely the weather, which was not stated only as a condition for the monthly health situation:

The weather began to change, ushering in the period of heavy rains and intense heat ... harmful causes increased and individual energies fell. (Moçambique, out. 1898)

With the decrease in temperature, which is significant in the morning and at night, diseases of the respiratory organs were frequent, principally with the indigenous peoples attacked by pneumonia, which takes all forms and characteristics and that, sometimes, becomes so serious that it causes death (Lourenço Marques, jun. 1899).

but also, in more general terms, when quarterly or annual syntheses were prepared.

1. Climate

The climate of the fourth quarter of 1896 has been markedly unfavorable to health. This is the hot, rainy season. While the rain was not abundant, the heat increased considerably. The atmospheric pressure decreased and all other weather characteristics changed so as to worsen the health conditions in this region. Needless to say, the Europeans are paying the greatest price in terms of the increase in the number of all types of diseases, especially those particular to the colony. Without even mentioning other factors, one may just analyze the changes in temperature and atmospheric humidity, whose effects on the body are well known.

...

More than in temperate countries, the special effect the seasons in these unhealthy regions have on the human body result in such an evident, significant shock that every change in illnesses ... is exacerbated or decreases as the hot, rainy season or the dry season approaches (Relatórios..., 1896-1897).

The diseases that are constantly observed and have great persistence are malarial fevers expressed as different types, and sometimes severe. Special emphasis is given to the hematuric bilious fever, resulting from the combination of two elements – the climate, which affects liver function, and malaria (Relatório..., 1891).

But these same reports also make clear that experience in the tropics revealed a whole host of other factors – more or less related to the weather – that had an extraordinarily relevant impact on the classes of diseases in Mozambique and could easily be controlled by man. This is why they should have been the specific object of attention and analysis, as they could considerably improve the state of health in the province and, thus, not only increase its development potential, but justify the creation of a school of tropical medicine to study it. The school was, in fact, established in Lisbon in 1902, but there is no space here to analyze its role and performance in the construction and development of tropical medicine.

Reflection on the contribution and interaction of these various factors is one of the special aspects of these reports, if not their very essence, and is rooted in the law that frames them, since the successive directives and decrees enacted between 1835 and 1869 not only define (and redefine) the various aspects relating to healthcare personnel in the overseas provinces, but also impose a common template on all mandatory reports.

Prepared by the physicians working in the province and, after 1868 (decree dated December 3), by the heads of the health services, these reports (annual, quarterly and monthly) were to report not only on the progress of the services and their conditions (medical personnel, pharmacy, patients treated, diseases and treatments, hospital conditions), but also on possible improvements to be implemented in the services and facilities, and also provide detailed information on the region, its characteristics and its resources, the local communities and their habits and customs, namely on phytotherapeutic practices and traditional medicine,² in order to provide the “necessary knowledge of the state of the people’s Health in the Overseas Provinces ... both with respect to Medical Personnel, the state of the Dispensaries, the Hospitals, and their movements, and improvements, or reforms ..., their healing success, mortality, and other circumstances that could be regulated and taken care of by the Government of Her Majesty the Queen for the benefit of those People” (Lúcio, 1890, p.41).

Admittedly there were many who did not follow these directives and provided only succinct information about the status of their services, citing reasons of various natures, the most important of which were lack of skills, the impossibility of travel, the large amount of work they had to complete, and the need to set priorities, or simply the total lack of knowledge of a region in which they had just arrived (e.g. Relatório..., 1878). Some, however, took this mandate seriously and reported, in an almost encyclopedic manner, everything that concerned the region in which they were working (Roque 2001, 2012b), which resulted, incidentally, in a very rich corpus of documents which goes far beyond addressing the issues of health/disease and the deployment of health services in Mozambique, providing us not only with

the history of the cementing of the colonial system, but also with information related to current issues such as biodiversity, climate change and environmental history itself.

As there is no space here for an exhaustive analysis of the information contained in this type of documentation, we will concentrate only on some of the aspects more specifically linked to the disease/cure problematic in Mozambique.

Diseases, hospitals and pharmacies

If we exclude introduced diseases that quickly became epidemic, such as smallpox, measles and chickenpox, those which proliferated with urban development and the increase in emigration, such as syphilis and other venereal diseases, or those that, despite being recognized, did not initially merit much attention, such as leprosy and scabies, the most important diseases in the nineteenth century are, basically, the same diseases identified previously and for which three centuries of tests and experiments related to their treatment did not appear to have significant results.

All forms of malarial fevers and their consequences, gastrointestinal problems, diarrhea, dysentery, infectious diseases of the genitourinary tract and the respiratory system were present, to a greater or lesser degree, in all health service reports, with their explanation invariably depending on six fundamental causes: the climate and the unhealthy atmosphere of the region, poor diet, the lack of hygiene, promiscuity and bad habits, and the lack of planning and sanitation in urban areas.

Occasionally other diseases appeared in addition to the recurring illnesses, such as cholera, the bubonic plague, jiggers, dengue and tuberculosis, which, given the conditions specific to the region, disseminated with great speed, resulting in epidemic outbreaks that were difficult to control and had an impact as significant as malaria, or more so, and that, for this reason, must be considered very important, even when they did not appear explicitly on the nosological maps regularly prepared by the hospitals.

It was principally these diseases that “disturbed” the health situation in the districts “During 1905 the health situation on the Island of Mozambique and the nearby coast was only altered by the appearance of an epidemic of dengue fever that, although light, expanded a long distance” (Delegação..., 1905).

In a normal situation, even when “disturbed” by a greater flow of patients, the diseases treated changed with the specific seasonal conditions or the greater need for services by the military involved in campaigns to occupy the territory and contributed greatly to increasing the number of patients in the hospitals.

As a general rule, the hot, rainy season increased malaria of all types, while the cold, dry season was propitious for the development of respiratory illnesses. The former affected principally the Europeans, and the latter the original local inhabitants. Gastrointestinal problems, diarrhea and venereal diseases were a constant less dependent on the season, with the latter a true “pest” virtually impossible to control due to the widespread practice of prostitution, especially in urban areas with a greater population concentration.

However, mortality was mainly related to infectious diseases, including tuberculosis, which in 1905 was still one of the “major diseases with significant mortality rates” in the Mozambique district (Delegação..., 1905).

The climate, indicated as the primary cause of all diseases, was combined in almost all districts with a lack of sanitation and public hygiene, the proximity of swamps, the absence of sewers and the accumulation of garbage on the streets, the poor quality of water and food, and the promiscuity in which the majority of the population lived... All of these facts compete to endanger the health of the inhabitants and hinder the actions of health services and the implementation of measures to improve public health. All interventions proposed to this end would have had to be coupled with other specific services of the colonial administration and the central government and necessarily involve large sums of money in order to drain the wetlands, treat, store and channel water, and other necessary public works, as well as social policies that would allow the local population to feel and internalize the benefits resulting from changes in some of their daily practices.

In this frame of reference, hospitals faced many difficulties. Almost everything was lacking, if not everything, such as in the Hospital of Chinde that, according to the health bulletin of November 1900, had no beds or clothes or medicines and therefore could not help the many “1st class [patients], foreigners coming from the countryside that could not be treated” (Hospital..., nov. 1900); or the infirmary in Cabo Delgado, consisting of a single room without light or ventilation, nor hygienic conditions, and thus not inspiring “confidence in the sick who sought treatment [operated] in some homes outside the walls [while waiting] for new, adequate facilities to be built” (Ibo, 31 dez. 1877).

And when equipment was not at issue, it was the state of disrepair of the facilities, such as in the Hospital of Mozambique that, in the last years of the nineteenth century,

caused horror to those crossing its threshold! When entering those ruined houses, with wet, slimy walls, with windows and doors providing no protection against the weather, with warped, broken terraces letting in the rain as if in the street, and in the places in which sick patients were treated. Two floors had already collapsed and would have caused many victims if providence had not intervened and allowed time to remove everyone posthaste (Relatório..., 26 abr. 1878).

The improvements at the end of the nineteenth century were an attempt to respond to these wretched facilities and equipment, including the construction of new wards and pharmacies, special infirmaries for the quarantines required for some diseases and lazarettos and leprosy colonies for the apparently increasing number of leprosy cases at the end of the nineteenth century.

In 1899, for example, Lourenço Marques already had special facilities for the isolation and treatment of leprosy cases, far from the central hospital, even though in the opinion of Gallardo Barreiros, health official and first class physician, it was still necessary to “ask the government for special measures ... facilities and treatment” for the patients (Lourenço Marques, ago. 1899). Time revealed the lack of the expected response, and the largest problem was not the absence of facilities so much as the fact that the same facilities were recurrently shared with patients with different infectious diseases due to the lack of where to isolate them. Note that the problem with isolation in the case of infectious diseases had been recurrent since the middle of the nineteenth century (Mapa..., 1859) and difficult to resolve, persisting in almost all districts at the beginning of the twentieth century (Delegação..., 1905).

In 1901 a new hospital was already being proposed for Angoche (Figure 3), while the one in Chinde was rebuilt and re-equipped based on modern standards of hygiene and safety, with the annual report containing the plan for the new facilities and a detailed description of the construction work (Sanitário..., 1901).

However, two years later, the Hospital of Chinde proved to be small and unable to respond to a widespread plague that began in housing for the European employees of the African Lakes Co., where several dead rats were found. The epidemic had become so rampant and uncontrollable that the local administration, calling for the involvement of the population,

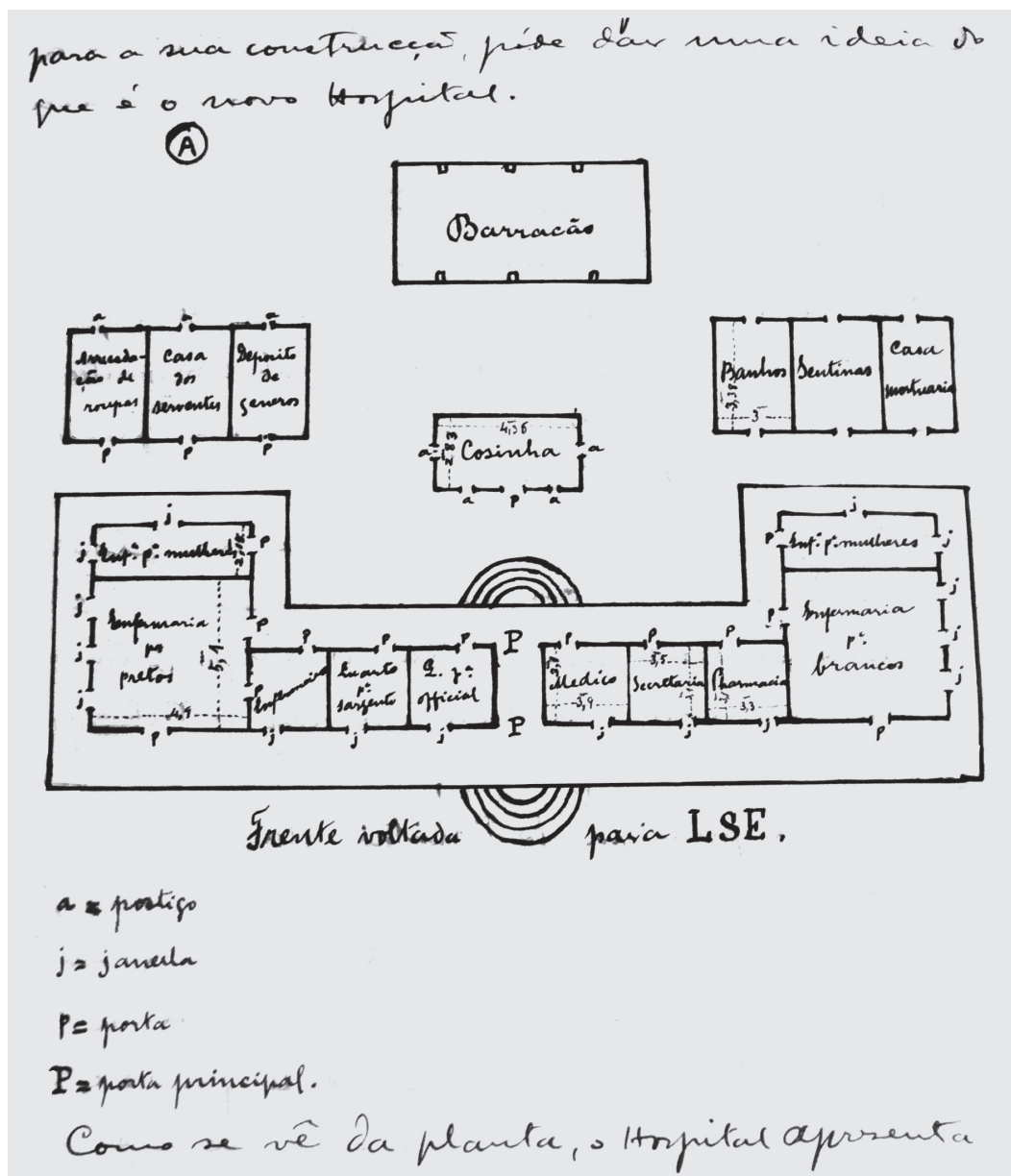


Figure 3: Proposal for the design of the new Hospital in Angoche, 1901 (Relatório..., 1901)

paid 20 réis for each dead rat turned into the quartermaster (Delegação..., 1905), because the measures usually taken in these situations – “destroying the villages where illness had occurred with fire and using various disinfectants” (Lourenço Marques, ago. 1899), in general “water sublimated at 1,100 and sulfuric acid vapor” (Lourenço Marques, dez. 1897) – were inadequate to control the epidemic.

Situations like this also indicated the urgent need for disinfection and quarantine services that, at the end of the nineteenth century, still lacked appropriate facilities in Mozambique “where the bubonic plague does not tend to disappear, and when this port, due to its geographical position and trade almost exclusively with India, has the right to have a disinfection and quarantine center built as required by modern science and economics” (Serviço..., 6 out. 1897).

The colony's ports annually received hundreds of ships for which the colonial administration had to provide a “clean bill of health,” namely for the absence of any infectious disease, as well as the necessary isolation of people and goods, and the disinfection of vessels. Tasks which became the responsibility of health services beginning in 1869 (Decree dated December 2). Additionally, increased emigration, especially in the South due to the discovery of gold mines in the Transvaal and the opening of the rail link between Pretoria and Lourenço Marques, facilitated the movement of diseases and the spread of epidemics, especially smallpox, requiring urgent prevention measures whose application was also under the authority of the health services.

If these factors constituted reasons in themselves more than sufficient to perceive the difficulties in implementing and performing these services, many others, outside their direct responsibility, also limited their actions, requiring cooperation with other sectors of the administration, as already mentioned, namely the Department of Public Works. And this did not concern only what was related specifically to sanitation, planning and construction of basic facilities, but everything that concerned the rebuilding of establishments that were periodically destroyed by environmental changes whose immediate consequences were impossible to predict, as shown by the example of what occurred in December, 1899 in Angoche

a violent storm that began on the 17th at 11 a.m. and ended by ... 5 a.m. the next day ... an awe-inspiring storm ... [in which] most inhabitants ... became homeless and destitute ... [and] the hospital was not spared ...: part of the roof disappeared, the walls stripped of plaster consisted only of the wooden frame (piles), the rain drenched everything mercilessly, the medicine contained in bottles ... the materials for dressings ... some extracts, clothes, books and more items were covered with dirt At midnight the hospital was deserted, with no patients, no nurses, and no servants because they had gone to seek shelter elsewhere (Angoche, dez. 1899).

Scarce, poorly equipped and small for the number of patients and variety of diseases to be treated, existing hospitals in the colony were unable to fulfill their functions. Even though most of the indigenous residents (Inhambane, set. 1899) and the population of Asian origin did not use their services except when forced (such as prostitutes or terminally ill individuals)³ and even the Portuguese and foreigners only resorted to these services when the disease appeared to be more complicated than the simple “intermittent fevers that everyone here

knows how to treat, ingesting quinine salts, for which they went ... to the local pharmacy whenever they needed quinine and purgatives" (António Enes, abr. 1899). In fact, hospitals were far from being able to respond to the needs arising from the growth of the colony and the establishment of the colonial system.

In this context, the medicines from the metropolis had not evolved and served little, while local alternatives, even if proven effective, were very rarely considered. Even those which had been employed in previous centuries disappeared from the lists of the pharmacies and health service reports by the last decade of the nineteenth century, despite having been referred to repeatedly up until then (Delegação..., 1890; Relatório..., 1889).

It is striking that the reports of the last quarter of the nineteenth century show the progressive disappearance of the comprehensive recognition of the region's potential, which since the eighteenth century had encouraged the knowledge of the local medicinal plants, giving way to an absence that seems to underline the official disinterest in this subject and an intentional distancing from the indigenous knowledge implicit in traditional phytotherapeutic practices.

However, while some declared that there was no hospital anywhere in the province capable of treating patients (Mozambique, 1896-1897), others invested in understanding the potential of the territory, proposing

to study the virtues of the many plants that the people inland use to cure their diseases ... and collect samples of them under conditions appropriate for testing and scientific analysis. [Because] In performing my duties in this district I have struggled with serious embarrassments as a consequence of the delay in receiving supplies of medicines ... and in this struggle ... I was forced to study some indigenous remedies in order to substitute those of the pharmacy and with them provide the aid that some requested; fortunately, through this work, I recognized the existence of certain plants that, for certain diseases, can be used instead of mustard and vesicant, and with this evidence that science and practical study has already revealed to me, allowed me the possibility of taking advantage of many plants useful for medicine (Delegação..., 1890).

The boundary between knowledge and science marked the reality of health services in Mozambique at the turn of the nineteenth century. It manifested itself, on the one hand, in the delay in the supply of medicines to pharmacies and in the ignorance of which local alternative remedies could be used successfully to cure the most common and least complicated diseases, but which in the absence of proper treatment could be fatal; and, on the other hand, at least for some, in the conviction that the province offered resources that could be reliable substitutes for the drugs lacking in the pharmacies, and insisting that these resources should be analyzed using the most modern methods in order to permit their scientific validation.

This does not mean that other solutions were not sought, but – despite advances in science and medical practices resulting from the epistemic interaction due to European expansion and colonization of non-European territories, and therefore knowledge of new diseases and new products – that the impact of this development does not seem to have been significant.

And not so much regarding the investment in research to scientifically explain the origin of many diseases, such as the bubonic plague (Lourenço Marques, ago. 1899),⁴ or in order to adapt or develop new medicines and therapies to cure or minimize old and new diseases,

as in the case of many forms of malaria: “Some of these fevers are extremely resistant to treatment and sometimes fail to respond to quinine of all qualities and in all forms. I must say that I have sometimes used phenacetin hydrochloride in cases resistant to quinine salts, arsenic, etc. ... and I did not obtain, in any case in which I used them, the results for which it is recommended by some authors” (Mozambique, 1896-1897).

The problem resided, above all, in the many difficulties of employing them since neither pharmacies nor hospitals has sufficient stocks of medications, nor did the inhabitants accept them willingly when they were available.

The case of the smallpox vaccine is a good example of both situations. On the one hand, a large portion of the population was to be inoculated, especially those considered at risk; on the other hand, stocks were almost always insufficient for the number of individuals to be vaccinated and those available were not always in good condition or, at worst, were delayed in arriving at the destination so that they could be applied in a timely manner.

In Inhambane, Patrício Dias de Oliveira, a second class physician, complained of not having performed

vaccinations because no vaccines had been provided. [and] Vaccination of all indigenous contractors to serve outside this district should be mandatory. [because] The emigration of blacks from the Inhambane district is heavy, such that its effects are felt in agricultural work, but the emigrants return after one or two years and, since they generally prefer to come by land to avoid the numerous different taxes that they would be required to pay if arriving by water, the import of smallpox, if all due care is not taken, will develop into an epidemic of clearly disastrous effects because vaccinations have not been done here for a long time (Inhambane, fev. 1898).

In Mozambique, Salis de Celerina reported having sent for “vaccines from Rio de Janeiro and the Cape of Good Hope and [vaccinated], but without success, and the same happened to Dr. Peters, a Prussian naturalist, in Inhambane and Quelimane. I think the humidity altered the material” (Celerina, 6 set. 1847). In Lourenço Marques, “the health official said he had vaccinated a large number of individuals and proposed some health measures which he expected to weaken the epidemic within a short time” (Mozambique, out. 1898).

This situation appeared to be satisfactory, except for the fact that vaccination occurred six months after the epidemic was declared (Mozambique, out. 1898).

On the other hand, the population refused to be vaccinated. This refusal represented the deep distrust of the colony in biomedicine, which imposed a set of preventive measures that they found strange and contrary to their cultural practices.

In some cases this situation was only overcome by counterparts. In Chiloane, for example, the local physician, Hipólito Xavier Rego, reports that he had to resort to paying a “salary to the native subject to vaccination; and while in the beginning there was not much interest ... the subsequent result of that vaccination has been ... flattering, since the natives began to voluntarily submit to vaccination and verification of the result in order to receive that pay” (Delegação..., 1890).

However, in most cases, refusal had in response the compulsory vaccination, imposed by health authorities, as occurred in Lourenço Marques when, in late 1898, thousands of workers from the Transvaal, where an epidemic of smallpox had been declared, were seen as

potential disease transmission vehicles. According to available documentation, more than two thousand emigrants were vaccinated forcibly at the border (Hospital..., dez. 1898) and, during the following year, all “blacks were inspected by a doctor upon arrival in the city” (Lourenço Marques, set. 1899), undergoing triage, with immediate isolation of infected individuals.

Despite this action demonstrating some rigor in the application of measures to prevent the spread of epidemics, avoid contagion and control the more complicated diseases, we cannot forget that the principal objective was to preserve the health of the white community, neutralizing potential sources of contagion either by means of inoculation using sometimes unproven vaccines, or via long quarantines that many did not survive. Intrusive and unexplained practices from the indigenous people’s point of view (Dube, 2009), these measures contributed to increased feelings of mistrust regarding the procedures used by the “whites’ medicine.”

On the other hand, analyzing these campaigns from the perspective of protecting the health of the white European population relative to the black indigenous population, the “source of infection” of all diseases, we can see here one of the health policy key points whose purpose, according to some authors (e.g. Shapiro, 1983, ch.2), would be to create conditions for white settlers and their defense, and not to improve the hygiene and health of the indigenous population.

In this context, it is clear how health services were subject to the goals of colonialism and became, at times, one of its main vehicles for action. However, in this same context and not forgetting the assumptions that oriented the colonial occupation of the territory, there are other factors that, willingly or not, also interfered with the operation of these services, often hindering their performance and thereby jeopardizing their role as “agents” in service to the colonial process.

As an evaluation of these factors is beyond the scope of this paper, we indicate only a few examples, some of which would have had immediate effects on the functioning of the health services. These include changes in the environment and climate that were impossible to predict and control, difficulties in creating a network of transport and communication routes, the definition of priorities in the public works sector, the lack of financial means to properly supply hospitals and pharmacies, or even the permanent diversion of funds from health to other activities (Roque, 2013).

It should also be noted that the documents we are dealing with are official health service documents and that most of the information contained in them is with respect to the activities of these services in the specific locations in which they were carried out. And these, with rare exceptions, are military and civilian hospitals, “civil clinics,” and the locations where physicians occasionally were asked to work, for example border areas, and their patients were predominantly white Europeans, excluding a “high number of patients who do not receive medical care. [since] In general, they self-medicate to the extent possible and only residents ... have the luxury of rational medicine in severe cases or those they deem to be severe” (Angoche, dez. 1905).

Also for this reason, some authors warn that the nosological maps based only on the patients and diseases treated in the hospitals/infirmaries cannot be assumed to reflect

the health status of the different regions, since they only refer to a small number of individuals who use these facilities, almost all European and mostly military (Ibo, 31 dez. 1877).

Physicians and pharmacists

If hospitals and medicines proved to be essential, the operation of the former and the proper use of the latter depended on individuals who knew how to manage and employ them.

The many personnel changes in the colonial health services rarely took into account their possible viability as a function of the large series of difficulties that they would face, even when the changes involved input from those working on site, as in the case of Salis de Celerina and the first Health Service Regulation of the Province of Mozambique in 1844.

Although the specific duties and obligations of the different individuals employed in these services were defined and there was an attempt to standardize functions and salaries, the true ignorance of the situation in the province led to an excess of tasks being assigned to them and the different roles played by these employees, especially if considered in parallel with the number of employees that would, in fact, be working on site.

According to the decree of December 2, 1869, the health services personnel for Lourenço Marques were to consist of four physicians, with one being first class, as he would also act as head of health services. In addition to the functions under their responsibility at the Military Hospital, namely consultation and assistance to military and civilian patients, they also had to provide medical care to all economically disadvantaged people (free hospital consultations and free treatment at home and in the district), perform health visits in the district and aboard ships, visit the infirmaries of the quarantined and supervise the work done there, provide vaccination in the district and implement emergency measures during epidemics, assess the state of facilities and sanitation conditions, evaluate the hygiene of popular housing and propose changes for its improvement. Additionally, the head of the health services was responsible for preparing monthly health bulletins, summaries of which began to be published in the Official Gazette of the Province beginning in 1865, and for compiling information on the status and performance of the services to be included in the annual reports.

This excess of responsibilities was hard to share with other employees, pharmacists or nurses, who were also required to perform their specific roles and responsibilities.

Still, Aurélio Galhardo Barreiros, Health Officer in Lourenço Marques in 1897, argued that, in general, the staff establishment of the health services would have been sufficient if the numbers defined corresponded to the actual number of employees providing services. The problem was that salaries were very low, especially for those living in Lourenço Marques, where everything was very expensive and where the salary of a third class physician (64,000 reis/month) was lower than that of a bricklayer (70,000–90,000), and more than half (about 40,000) would be spent for housing. For this reason, many did not appear to fulfill their duties, and sought licenses or transfers, thus creating additional difficulties in service provision and overburdening the health officer.

It is due to this circumstance that the Hospital in Lourenço Marques, where four provincial health service physicians should be working, never has more than two, and sometimes only the health officer, and the government has to resort to civilian doctors

to assist at the hospital, to the detriment of patients, because the civilian doctors have other, better paid services, and live in homes far from the hospital, so they cannot always attend to the sick when needed, and the health officer is overloaded with Hospital duties and any services outside it (Relatório..., 1897).

Thus, regardless of the reforms that were made in health services from the perspective of improving their operation, they stumbled in practice over numerous difficulties not dependent on the service proposed but rather due to the operating conditions in the territory and inherently related to the difficulties of implementing the colonial system itself. As stated by Faustino José Cabral, chief physician and director of the Royal Military Hospital in Mozambique, "The causes having the greatest influence on public health are meteorological. Others competing for second place persist and are common knowledge. By this I mean that lack of resources is also one of the most prevalent causes of an unhealthy public" (Mozambique, mar. 1868).

Final considerations

Studying the implementation and performance of the health services in Mozambique in the late nineteenth century proved to be a complex and multifaceted process, addressed through the documentation produced by these services.

The reports and health bulletins from this period bear witness to the gap between a body of knowledge and experience accumulated over nearly three centuries and a *modus operandi* that relied on the imposition of Western values and models, which appeared to ignore this body of knowledge, and represents part of the colonization program defined by the Portuguese government.

In this program health apparently plays a key role – ensuring health stimulates and promotes white settlement, even in the more inhospitable and unhealthy areas – but, in practice, insufficient financial, technical and human resources, as well as the indefiniteness of priorities makes it difficult to ensure.

At the turn of the nineteenth century, this documentation evidences mainly the fragility of the operation and effectiveness of the system, not only due to its objectives regarding the implementation of a health policy mainly benefiting the white minority in the colony, but also because its operation was hampered by permanent external difficulties and its marginal position on the list of defined (and constantly redefined) priorities for colonial occupation of the territory.

Nevertheless and regardless of this framework, this documentation also constitutes an immense repository of information on the principal diseases and the impact of their frequency on the procedures and methods used to fight disease, in a regional context whose detailed description indicates a very broad knowledge of the characteristics and potential of the various districts and the living conditions of the people.

As not all of the various aspects that one could explore based on these documents can be developed here, this article was intended to draw attention to their importance as indispensable materials either for the analysis of this subject, or when the object of study is not directly related to the implementation of health services.

In this sense, these reports constitute a privileged source both for the study of the process of cementing Portuguese colonial rule in Mozambique, and for the study of tropical medicine from a perspective that takes into account the specific conditions of the region, and which provides historical information on the analysis of the problems related to diseases and cure.

NOTES

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¹ In Mozambique the name figueira-do-inferno is used for Jimson weed (*Datura stramonium*) and not for the castor-oil plant (*Ricinus communis*), which is called mamona.

² The various items that were required in these reports were specified and re-specified successively between 1838 and 1860, namely by directives enacted August 14 and September 12, 1838, and by the General Regulation of the Overseas Provinces Health Services, enacted October 20, 1860.

³ With respect to this refusal, note that some malarial fevers only became serious among the indigenous population because they refused to be treated in hospitals.

⁴ In 1899, an epidemic of the bubonic plague in the Magude district resulted in the formation of a team to study the situation consisting of two Portuguese physicians, two nurses and an English physician, Dr. Turver, who traveled from the Cape.

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