SOCIO-ECONOMIC AND MALARIA EPIDEMIOLOGICAL CHANGE IN DAR ES SALAAM

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Abstract

This paper examines the history of malaria and its control in Dar es Salaam, Tanzania during the Germany colonial period. The paper assumes that the spread of malaria results from socio-economic, biological, historical and natural phenomenon. It is historically instigated by the outstanding mode of production, social, cultural and political structure of the society. The paper used an historical approach in examining the change of malaria and successes of the control measures taken by the German officials.

Data were collected through primary and secondary sources. These were obtained by using library and archival sources. The paper has shown that there was an increase of malaria cases between 1890 and 1919 as compared to the previous period due to the expansion of German economic activities that changed the area of Dar es Salaam into town. This situation led to the influx of people that created slums. Medical policies on preventive and curative measures were ineffective because of lack of funds, colonial segregation and ecological changes.

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Introduction

Malaria is a parasitic disease that is spread by mosquitoes. The discovery of the parasites which cause malaria was made in the second half of the nineteenth century. Observation shows that this disease is an ancient one that persisted for many years in Dar es Salaam, Tanzania. However, the patterns of its transmission, the rates of its endemicity and epidemicity, and the various measures used to its liquidation in the town changed in the early twentieth century.

Globally it is estimated that the number of malaria cases is more than 300 million each year. The disease kills over 1 million people per year and it is the source of high mortality rate of 20 percent of children under five years of age. Global cases of malaria are five times when compared to the combined cases of tuberculosis, HIV/AIDS, measles and leprosy. (UNESCO, 2012).

Almost 90 percent of world's malaria cases are found in Sub-Saharan Africa, where up to 40 percent of hospital admissions and deaths in childhood are currently attributed to this disease. The economy and social burden due to malaria in Africa is estimated at 12 billion US dollars. This is a lot of money lost to a single disease in a continent surrounded with other diseases and high child deaths. (WHO, 2012).

An approximation of 18 million new malaria cases is reported in Tanzania every year, flanked by the occurrence of between 100,000 and 125,000 deaths. Of those deaths, 70,000 to 80,000 occur in children less than five years of age. The annual incidence rate is between 400 and 500 per 1,000 people, and this number doubles for children less than five years of age. These high rates signify multiple events of the disease in each year for many people. The annual mortality rate is 141 to 650 per 100,000 people, and is 300 to 1,600 per 100,000 for children less than four years of age. Malaria is the major source of outpatients, deaths of hospitalized people, and admissions of children less than five years of age at medical services. This is considered to be the main reason for the loss of economic productivity of those between 15 and 55 years old, and a barrier to the learning ability of people between 5 and 25 years old. The disease is one of the most important obstacles to economic development and foreign investment in Tanzania. (WHO, 2012).

Dar es Salaam which is located at the coast, in the south-eastern portion of Tanzania is picked as a case study because of the highest malaria incidences compared to other places in the country. Its prevalence in the city approaches not less than 60 percent. Malaria is among the

leading top killer diseases in the area, which affects most of children under five years of age and pregnant mothers. Thus, this situation requires historical explanations for its increased occurrences in the area. (UNESCO, 2012).

Socio-economic changes during the German colonial rule had repercussions on the way in which malaria was spread and controlled in Dar es Salaam. In pre-colonial Dar es Salaam, the disease maintained a low level of endemicity with periodic epidemics, but German economic activities caused ecological change that increased malaria problems.

This paper is a modest attempt to examine the spread of malaria during the German colonial period between 1890 and 1919 in Dar es Salaam. The paper tries to concentrate on the link between political and socio-economic activities with the spread of the disease and examine various campaigns used by German officials to wipe it out.

Theoretical Overview

Scholars have different views concerning the approaches used by historians to study disease in Africa and Tanzania. One scholar namely O. Masebo argues that there are two approaches, namely biomedical and socio-economic perspective that have been used to explain causes of diseases in pre-colonial and colonial period in Tanzania. He links scholars such as J. Illife, D. Clyde, W.O. Henderson, J.T. Hamilton and G.M. Mwaluko with biomedical approach. He claims that this theory shows that disease is naturally a product of tropical and unhealthy environment in which Tanzanians have always lived. Biomedical perspective believes that diseases are contagious, and based on germ theory. They approach disease as natural phenomenon, attributing diseases to an unsanitary environment and lack of host resistance to infection agents. The approach emphasizes the germ as a cause of disease after it has entered a person. (Masebo, 2002).

Biomedical perspective scholars assume that only modern medicine could alleviate diseases by building infrastructures like dispensaries, hospitals and strengthening medical administration. This indicates that the cause of diseases and responsibility for health is seen to reside with the individual. The emphasis is placed on studying specific diseases to understand the germs that cause them so that they can be prevented from entering an individual. (Masebo, 2002).

The limitation of biomedical perspective lies on the truth that it tries to get away from the historical circumstances and socio-economic systems that took place during the late pre-colonial period. The spread of diseases during that period increased because of the global capitalist economic system which existed in the form of long distance trade. The routes of long distance trade between the coast and the mainland led to some changes in disease incidences during the second half of the nineteenth century. African societies living in complete isolation met unfamiliar experiences and began to conduct slave trade activities. This provided favourable environment for movements of people and the spread of diseases which was intensified during the colonial period. (Masebo, 2002).

In the second approach, O. Masebo links scholars such as S. Feierman, J. Janzen, R. Packard, G. Ndege, J. Musere, I. Pennell and L. Doyal with the socio-economic framework, which explains the etiology of diseases in terms of social and economic production relations. The perspective claims that mortality is non-specific, that overall community health is not affected by the elimination of any one cause of death. The specific diseases mentioned as causes of death are expressions of particular conditions which are important to understand ill health as the clinical or biological information did in relation to specific diseases. (Masebo, 2002).

E. P. Mihanjo took another line on the study of diseases in Africa. He argues that the approaches taken by O. Masebo can be used to explain history of diseases in Africa. Nevertheless, he advocates that the use of political economy approach is the best alternative that offers a better explanation on the relationship between disease and society in pre-colonial and colonial Africa. This is because the approach concentrates upon the relations of production or reproduction and consumption, differentiation and class structures, and the disease situations in society. (Mihanjo, 2004). Therefore, this study follows the political economy perspective because of the assumption that studies on diseases are shaped by the political, social, cultural and economic position of the society.

Socio-economic Change and Malaria, 1890-1919

Dar es Salaam owes its foundation from the Persian-Arabic words, *Bandar-ul-Salaam*, which was referred to as the Harbour of Peace. This fact shows that the town originated specifically in the harbour. This merely means that as the *Bandar-ul-Salaam* extended, it swallowed up nearby places. The extension resulted into the integration of Mzizima, Msasani

and Zaramo settlements, which formed a complete scope of the newly emerging town. (Sutton, 1970).

The big number of the Zaramo tribe moved in Dar es Salaam during the seventeenth up to nineteenth centuries. The conflict with the Kamba tribe was the main reason of the general migration of the Zaramo towards the coast from the interior part of Tanzania. (Sutton, 1970). In Dar es Salaam the Zaramo were organized in clans up to the nineteenth century. They lived in small independent villages each having its own headman. Later on the Zaramo started to organize themselves under their leaders whose title was known as *Pazi*. These leaders controlled people in various community activities. (TNA, Dar es Salaam District Book).

The Zaramo for many years lived on shifting cultivation and keeping of livestock. Before the 1850s Dar es Salaam was merely bush land where the Zaramo grew their crops such as millet, rice and coconuts. They also kept different domestic animals like cows, goats, sheep and dogs. (TNA, Dar es Salaam District Book).

Before the second half of the seventeenth century the links between Oman and Dar es Salaam had been mainly commercial. Some traders from Oman who came to East Africa to trade decided to stay permanently. This was one of the conditions that led to the appearance of the other earlier settlers of the town who were the Shomvi/Shiraz. The Shomvi organized themselves in separate administration system. Their ruling system was still dispersed into small village administrative system, each under a *Jumbe*. (TNA, Guide Book to Dar es Salaam).

The Zaramo were sold as slaves by their leaders to the coastal Shiraz and Arabs during the nineteenth century. Because of slave trade contacts some population from other ethnic groups in East and Central Africa also succeeded in penetrating into Dar es Salaam. Though there no population figures, the presence of different ethnic group indicates that there were many people from the interior who entered in the area as traders or porters and decided to fetch permanent settlement in Dar es Salaam. (TNA, Dar es Salaam District Book).

Dar es Salaam continued to grow out of administrative changes. It was the British who indirectly caused the development of the area during the reign of Sultan Seyyid Majid of Zanzibar. In 1862 the Sultan initiated an Arab settlement in the town. He selected the site as a continental capital for his extensive dominions in order to increase the effectiveness of his government. This was because he had experienced increased British interference in the affairs of his empire. (Ingram, 1962).

After the death of Majid in 1870, his heir, Sultan Seyyid Barghash had little love for his works. Barghash concentrated his administration on the Island of Zanzibar and also maintained a strong bond with Bagamoyo. Dar es Salaam was neglected and remained second to Bagamoyo in importance. Buildings in Dar es Salaam and its town planning projects were abandoned, land and property values slumped, and the street became overgrown with grass and bush. However, in 1891 the German colonial administration established its capital in Dar es Salaam because they discovered that the area had a more attractive harbour and weaker ties to the Sultan of Zanzibar. Therefore, from this period the town restarted and improved its growth. (Ingram, 1962).

Dar es Salaam was under the domination of the Germans between 1890 and 1919. During this period German colonial official conveyed policies that transformed political, economic and social organization of the town. Colonial officials used local rulers in their administration. They appointed subordinates known as *Liwali* and *Jumbe* from among the indigenous people of Dar es Salaam to help them in the lower levels of the administration. The main duties of the *Liwali* and *Jumbe* were in the collection of taxes and recruitment of labour. These local rulers helped the Germans to push town residents to the colonial economic sectors as labourers. (GEAT, 1916).

After the German political control in Dar es Salaam the main responsibility of the officials was that of building of transport infrastructure. Officials administered the construction of the central railway line from Dar es Salaam to Ujiji during early years of their colonial rule. Either in the town, they constructed Bagamoyo Road, Morogoro Road, Lindi Road and the harbour of Dar es Salaam. The policy of setting up infrastructure from the town to the interior parts of Tanganyika necessitated the movement of goods in both ways. This made the port to link the territory of Tanganyika with the capitalists in Europe. (Smith, 1955).

During the early years after the construction of the harbour of Dar es Salaam the area was useful mainly for imports of railway materials. But later the German officials made some crucial efforts to increase their investments that necessitated development of the harbour. These slowly changed manual handling of the cargo to give way to electric and steam cranes. These changes made imports, which in 1900 had amounted to 601,527 pounds to jump to 2,515,000 pounds by 1912. (GEA, 1912). By 1913 the harbour of Dar es Salaam had the capacity to handle 40 percent of the Tanganyika's exports valued at 265,000 pounds. The major item from various interior

places of the colony was groundnuts that reached up to 3,340 tons, cotton and cottonseed that approached 1,013 tons and skins that weighed up to 838 tons. (GEA, 1913).

This is to say that the construction of the harbour increased economic activities in Dar es Salaam during the German colonial period. These activities attracted many Africans from the interior parts of Tanganyika and different places of East and Central Africa to settle in the town to work in the harbour, small industries, and European sisal and rubber plantations. Others settled to work in the construction of roads, commercial buildings, and colonial administrative and residential houses. (Ingram, 1962).

Apart from Africans there were thousands of Asians who came to settle in Dar es Salaam as commercial and industrial entrepreneurs. A good number of Europeans also came as administrators, settlers, technicians and industrialists. Although there are no sufficing population figures during German colonial period, some few recorded from 1894 to 1913 show increase every year as the table below indicates.

The Estimated Population of Dar es Salaam, 1894-1913

Year	Africans	Asians	Europeans	Total	Annual Growth Rate
1894	9,000	620	400	10,020	8.3%
1900	18,000	1,480	360	20,000	16.6%
1913	19,000	2,500	1,000	22,500	0.9%

Source: *Tanzania Notes and Records (TNR)* 71(1970), P.19.

The linkage of Dar es Salaam into the European capitalist arrangements changed the town a transmission belt for malaria. Dr. H. Ollwig, who was the German medical staff during the German colonial time, noted that cases of malaria in the town were very high from 1902 onwards as compared to the previous period. (GEA, 1903). The German naval surgeons Z. Verth and R. Ruge remarked on the high cases of malaria in Dar es Salaam between 1905 and 1907. They showed that the town experienced higher percentage of malaria cases as compared to the previous period. (GEA, 1907). In the year 1913 it was observed that half the non-immune population of Dar es Salaam had contracted malaria at least once during the year. (Ebrahim, 1970).

It is important to note that chances for the spread of malaria in Dar es Salaam during the pre-colonial period were very few because of the minimum interactions of the people that were caused by limited amount of commerce. Cases of malaria increased between 1850s and 1890s

compared to the previous period due to the slave and ivory caravan routes which influenced movements and settlements of the people in the town. However, people's attempts to check the problem during this period could not hold water because of little knowledge they had on the disease. (Machangu, 2007).

German colonial officials' supervision on economic activities led to some conditions that increased the spread of malaria in Dar es Salaam between 1890 and 1919. One of these was the increase of population that led to an extension of African settlements and slums. Kariakoo, Ilala, Manzese, Keko and Buguruni became slums because many African extended families settled at these places. Insanitary conditions prevailed in these places because of inadequate drainage system. There were scattered pools of water, streams from bath shades and pit latrines which were breeding grounds for mosquitoes. (GEA, 1891-1919).

The construction of the port, railway line and houses in Dar es Salaam depended on reliable sources of timber. The developments of various industries, such as Schultz beer brewery were also consumers of fuel wood. It should also be known that as many Africans decided to settle in the town, charcoal was highly required for their daily needs. Forests in the town were cut down for wood, leading to empty places and ponds that were favourable conditions for mosquito breeding. (Sunseri, 2002).

Labourers in Dar es Salaam received very low payments from different sectors of German colonial economy. Many opted for other means of supplementing their meager earnings. The most important alternative was gardening and growing crops around their compounds. Many areas surounding the Msimbazi valley, Kariakoo and the Gold Course were masses of rice, sweet potatoes, onions, cabbage and tomato cultivation. These swampy areas preserved water for a long duration in a year that became mosquito breeding sites in the town. (Ebrahim, 1970).

Malaria and German Medical Policy, 1890-1919

The treatment and prevention of the Africans against malaria in Dar es Salaam was taken by the German officials in order to ensure the availability of manpower in their economic sectors. Medical measures were geared towards the creation of a healthy environment mainly for European administrators and workers who facilitated capitalism through the town of Dar es Salaam. (Nsekela, 1976).

The history of planned medical services in Dar es Salaam started during the German colonial period. Medical officials laid the ground for the hospital system for curative and prevention of malaria in the area. In 1891 the Germans set up a medical department to supervise the building of hospitals. Ocean Road Hospital was the oldest in the town. It was built in 1898 in an Arabic-European mixed style. The splendid, main, two-storey building, had wards with 21 beds for Europeans only and one room for Goans. Beside staff houses, there were quarters for malaria patients. (GEA, 1899).

The biggest hospital in Dar es Salaam was the Sewa Haji Hospital, founded by the Indian trader know as Sewa Haji. This was inaugurated in 1897, and mainly attended by the coloured employees of the government, Indians and Arabs. The Sewa Haji Hospital was built on the site of palace gardens, a two storied, twin towered and central building overlooking the creek. (GEA, 1898). In 1956 the hospital was replaced by today Muhimbili Medical Centre, but one ward block of the new hospital continues to be called the Sewa Haji block in order to perpetuate his memory. (Tanganyika Territory, 1956).

German medical policy from 1891 concentrated on training of the lower cadre experts to deal with malaria problems in the town. Recruitment of African experts such as nurses, midwives and inspectors that had to deal with malaria problems was introduced in the established hospitals to tackle the shortage of staff. These experts acquired knowledge on malaria in order to control its spread in Dar es Salaam. (GEA, 1891).

During 1901 malaria campaign started in the town following the recommendation of Medical Counselor Dr. R. Koch. The campaign was financed first from Berlin and then taken over by the German East African budget in 1904. (GEA, 1904). Following this financial support an attempt was made in Dar es Salaam to control malaria by mass prophylactic treatment of the population with quinine. The officials distributed quinine free of charge to the town inhabitants. There were weekly queues on malaria curative and preventive measures in specified places. (GEA, 1901).

The plan for malaria operation in Dar es Salaam started with the strategy of using mosquito net in individual and public houses. The use of wire gauze to protect whole rooms came in gradually. A special malaria ward completely proofed with aluminium gauze was built on the south end of the Ocean Road Hospital as the means of protection from malaria and for the demonstration purposes to the town dwellers. (Clyde, 1962).

In 1902 the German officials initiated larviciding and spraying houses with a pyrethrum mixture to complement few drainage works that started to operate. These measures were taken through the agency of the Health Commissioner for Dar es Salaam. The commission contained representatives of the District Office, the Township, the Works Department and the Medical Officer in Charge of the Sewa Haji Hospital, who throughout the period of the German rule was also the Medical Officer of Health. These members toured the town in rickshaws once a week recommending minor drainage, refuse removal, larviciding, spraying of houses and clearing of grasses. (GEA, 1902).

Sanitary campaigns of Dar es Salaam as an anti-malaria strategy were addressed to improving the domestic water system that provided favourable conditions for mosquito breeding. Most of the non-European residents in the town kept water in earthen vessels, cement tanks and wooden barrels in the outer part of their buildings. In 1912 German officials introduced an ordinance for encountering problems emanating from the mosquitoes in the town. The ordinance was an anti-malaria plan that was directed to clear out mosquito breeding grounds. It emphasized the pouring of kerosene on stagnant water, draining of ponds and empting of containers by property holders. (GEA, 1912). Failure to abide by the regulation led to punishment. The accused were to pay a fine not exceeding 100 rupees or were put in default imprisonment for a period not exceeding ten days. (Titmus, 1964).

German medical policy reflected racial zoning. The first zone was where Europeans lived; this was the area between Versailles Street, the Msimbazi creek and the Indian Ocean. The second zone was around the town centre, this was from the Versailles Street to Mnazi Mmoja. Priorities were given to these places in order to protect the Europeans and Asians. Funds for health facilities on a better system of housing, reclamation of swamp portions and larvicidal of pools were provided. Public health education on malaria was confined to these residential areas. Africans lived in the third zone, the area that surrounded the first and the second zone. These areas were neglected because of segregation and the belief that Africans had immunity against the disease. (GEA, 1900-1919).

However, malaria operations in the town failed despite various German attempts. The work of the malaria campaign continued uninterrupted until 1904. Then limited funds impeded the operations in the town. From 1905 till 1907 very few malaria control measures were taken because funds went to wage the Maji Maji War. (GEA, 1907). The war pulled a lot of resources

because of being the most violent and widespread mass resistance to the imposition of German colonial economy in the southern part of Tanganyika. (Koponen, 1994). In 1913 the proposal for the drainage of the Gerezani creek, the swamp in Golf Course and in Msimbazi, and of ponds in the centre of the town could not be executed because funds were not available. The intervention of the First World War in 1914 almost halted malaria campaigns until 1920 when the British colonial officials started to take some eradication steps in Dar es Salaam. (Ebrahim, 1970).

During the First World War doctors in Dar es Salaam hospitals were given military responsibilities with the German army officials to care for the fighting troops in the medical corps. Doctors initiated mobile hospitals carried by porters. This left all the hospitals without any organized medical service. The operations against malaria in the town were all terminated. This made the disease to kill many people in Dar es Salaam during this time than those who were killed by the capitalist war. (GEA, 1915).

The Maji Maji and First World War affected the health of the people in the town, which led to the unsuccessful malaria control programmes. Capitalist wars caused destruction of life, livestock and crops. The survivors were faced with famine resulting from the wars. Therefore, during and immediately after the war, the health of Africans deteriorated due to poor feeding, in turn lowering immunity against malaria vectors in their bodies. (Machangu, 2007).

The Germans paid low wages to the African labourers in the town in order to maximize their profits. This had some impact in people's health. People did not have enough funds for purchasing balanced diet and observe regular taking of their meals. They experienced insufficient nourishment that lessened their immunity against malaria vectors. This situation limited malaria eradication campaigns in Dar es Salaam throughout the German colonial administration. (Machangu, 2007).

Another problem that faced German officials was the transient nature of the population of Dar es Salaam. People were continually coming and going, by land and sea. The population in the town was constantly changing. New names kept cropping up on the treatment lists, old names were changed, false names were given and many people hide on in anticipation of his visits left town. Therefore, in such a situation administering the use of quinine for preventive purposes could not work. (Clyde, 1967).

Also quinine medical policy could not work properly because many people tended to escape the regular usage of drug. The bitter taste of the drug and unpleasant symptoms

following treatment made it difficult for people to adhere to the normal weekly use of the drug. In the Indian community it proved difficult to gain access to treat the women and children, who lived in seclusion and would only admit his nursing sister into their presence. (GEA, 1914).

Racial segregation in prevention of malaria had some repercussion in the spread of the disease in the town. Mosquito eradications campaigns in the third zone where Africans lived were almost neglected. This made African settlements to remain in unplanned situation which created difficulties in having good drainage system. Stagnant water from both sheds and pit latrines became favourable conditions for the multiplication of mosquitoes. These slums were transmitters of malaria even to the European and Asian places because of people's movement. (Rooth, 1992). Nevertheless, few control measures were taken to deal with the disease in the interior districts of Tanganyika mainly because of segregation policy. Some new comers from different interior places carried mosquito parasites to the town. This trend added difficulties in the malaria eradication campaigns in Dar es Salaam.

Conclusion

The spread of malaria was fundamentally linked to the history of German colonial administration in Dar es Salaam. Colonial organization and their expanded socio-economic activities attracted many people into the town. The increase of population in the town increased malaria cases because of poor management systems despite various colonial campaigns for its prevention and curative.

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