

Development Interventions and Environmental Change in Maswa District, 1920 to 1960

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Abstract

Negative environmental changes have been a major problem in Maswa District and their causes have been perceived differently in the existing literature. Some scholars have viewed environmental changes as human-induced phenomenon others have perceived it as a product of natural processes. Yet great emphasis has been placed on the failure of local people to adhere to the principles for modern environmental conservation. This view portrays local people as harbingers of environmental destruction. It fails to give due attention to political power as a contributing factor. In that light, this paper offers an alternative perspective which explains the causes of environmental changes beyond the existing explanations by considering the historical interaction between state developmentalism and environmental changes. The paper focuses on two major state interventions during the British colonial rule in Tanganyika, namely tsetse fly control projects and settlement schemes. Drawing from oral and archival information and working within the framework of political economy theory, this paper shows that development interventions introduced by the British colonial state in Maswa led to irreversible environmental changes, such as shrinking of natural forests, disappearance of fauna and flora species, destruction of water sources, increase in land degradation and heightening of arid conditions.

Key words: Environmental change, political economy, colonial state, development intervention, Maswa.

1.0 Introduction

The period between 1920 and 1960 was dominated by the introduction and implementation of various Development interventions in Maswa District and elsewhere in Tanganyika. These interventions were part of the British colonial state's impositions. Some scholars have termed these interventions as the "Modernization Campaigns" or "Colonial Development Policies."¹ Development interventions here included a variety of approaches such as settlement schemes, tsetse fly eradication programmes and agricultural schemes.² The British colonial authority considered these interventions as inevitable and necessary means of achieving rapid economic progress and maintaining environmental sustainability in the territory, thus fulfilling the motives of colonial economy. Although these interventions were aimed at achieving economic progress in the colonies, yet their implications on the environment were not considered. That being the case, it is imperative to examine how development interventions introduced by the British colonial state between 1920 and 1960 influenced environment change. Maswa District

¹ James Scott, *Seeing Like State How Certain Schemes to Develop Human Conditions Fail* (New Haven: Yale University Press, 1998), 2-4

² *Ibid.*

provide better context to which such schemes were implemented and their environmental impacts felt. Maswa was selected as the case study due to the fact that the area was highly affected by environmental degradation. On the other hand, the district was highly involved in colonial projects compared to other parts of Sukumaland. In this district the British colonial administration launched cotton production in order to get raw materials. Cotton production went hand in hand with the introduction of various development interventions such as tsetse fly clearance campaigns and settlement schemes. Therefore, it is better to examine the implications of these projects on the environment in Maswa.

In examining the implications of development interventions on the environment in Maswa, this study used information from archival records and oral testimonies collected from different archives and through oral interviews. Archival information was collected from the University of Dar es Salaam Main Library, Tanzania National Archive in Dar es Salaam and Dodoma Record Centre. The archival materials surveyed include government reports, policies, circulars, official correspondence, regulations and ordinances which were adopted by the British colonial administration in addressing economic and environmental problems in Tanganyika. These sources provided key information pertaining to economic and environmental change, tsetse fly clearing campaigns and settlement schemes. Archival information was supplemented by oral testimonies collected

from various villages in Maswa District. Oral testimonies provided qualitative information pertaining to memories of colonial economic policies, tsetse fly eradication campaigns, settlement schemes and environmental change.

2.0 Implications Tsetse fly campaigns on the Environment

The presence of tsetse fly (*genus glossina*) in Tanganyika was a serious threat to the lives of people and domestic animals. Tsetse flies were responsible for the transmission of trypanosomes that causes sleeping sickness in human beings and trypanosomiasis to the animals from the infected hosts to other hosts such as people, cattle and wild animals. The British colonial administrators viewed tsetse flies as a threat to the functioning of the colonial economy. Thus, from the mid-1920s to the late 1950s, the British colonial government instituted a widespread tsetse fly control campaigns in various parts of Tanganyika including Maswa District to limit further spread of tsetse flies in order to establish a fly free colony. The British colonial administration viewed the presence of tsetse flies in the territory as a threat to the existence of the British colonial economy which depended on the exploitation of African natural resources and human labour.³

The incidences of tsetse flies increased markedly from the mid-1920s in South and South East of Sukumaland including

³ Juhani Koponen, "Tsetse and Historians: Ecological Collapse in Tanzania Reconsider", *Tanzania Zamani* VI, No.1 (2009), 42.

Shinyanga, Maswa, Bariadi and Meatu.⁴ Helge Kjekshus, James Giblin and Gregory Maddox attributed such increase to the destruction of pre-colonial socio-economic system brought by the colonial economy.⁵ According to them, the introduction of capitalist colonial economic system in Tanganyika by the German and later by the British colonial states caused African to lose control over their ecology and as the result tsetse flies encroached on areas which were previously under their control.⁶ Schuknecht also added that by the mid-1920s, approximately two thirds of Sukumaland was infested with tsetse fly and the fly belts were advancing to other areas by mid 1930s.⁷ In the related incidence, in 1926, the Provincial Commissioner of the Shinyanga Province reported that the advance of tsetse flies threatened the existence of people and livestock in Sukumaland.⁸ In Maswa District, the first incidence of trypanosomiasis was recorded in 1922, and within five years 500 cases of human infections were diagnosed.⁹ Trypanosomiasis and sleeping sickness

⁴ TNA, Provincial Commissioner Annual Report of Lake Province, 1928; Dodoma Record Centre: Sleeping Sickness Service Annual Reports, File No. T5/9

⁵ Helge Kjekshus, *Ecological Control and Economic Development in East African History: The Case of Tanganyika, 1850-1950* (London: James Carrey, 1995); James Giblin, "Pre-colonial Politics of Disease Control in the Lowlands of Northeastern Tanzania" in *Custodian of the Land: Ecology and Culture in the History of Tanzania* edited by G. Maddox, J. Giblin and I. N. Kimambo (London: James Currey 1996), 127-148.

⁶ *Ibid.*

⁷ R. Schuknecht, Op.cit

⁸ Annual Reports of the PC of Shinyanga Province, 1926, 21

⁹ Dodoma Record Centre: File No. T5/9, Sleeping Sickness Services: Annual Reports.

spread and killed many people and livestock. For instance, by the early 1930s, about 2000 people in the Lake Province, including Maswa had died due to sleeping sickness.¹⁰ Also large areas of Sukumaland were unoccupied as many people left their areas in response to the threats posed by tsetse flies. For instance, the Sukuma people concentrated their settlements in few areas specifically in the northern and central parts of Sukumaland, leaving the rest of their former territory unoccupied.¹¹

Tsetse flies were generally considered to be the greatest menace to the development of colonial economy in the territory. They threatened the lives of people who were considered to be the source of human labour in various colonial production units. They also weakened cash crop production and other colonial developmental activities.¹² Therefore, colonial administrators considered sleeping sickness as a brake on development that had to be addressed. It was in this context that, tsetse fly control measures became inevitable under the British colonial rule.

From the late 1920s the British colonial administration launched ambitious tsetse fly eradication campaigns in

¹⁰ *Ibid.*; Provincial Commissioner's Annual Report of Shinyanga Province, Op.cit.

¹¹ Hans Cory Paper No. 331, "Report on Land Utilization in Usukuma, 1938" See also TNA, Acc. No. 215 File No. 13/1 Tsetse fly Maswa District 1923-1931.

¹² Michael Worboy, "The Comparative History of Sleeping Sickness in East and Central Africa", *History of Science* 32 (1994), 89-103

Tanganyika to limit the spread of the flies in the territory. This campaign continued throughout the British colonial period. During this period, tsetse fly eradication campaigns became a vital activity in all British colonial development plans. Evidently, the launched campaigns were not directed towards the pathogens but rather to the vectors responsible for the transmission of the disease. To control the spread of the flies, untested methods such as destruction of tsetse fly habitats, killing of the host animals, evacuation of people from tsetse infested woodlands and extermination of the flies were implemented by the British colonial government.¹³ These methods were preferred by the colonial government because they were cheap in terms of administrative cost.

The tsetse fly control campaigns were mostly driven by economic imperatives. The need to eradicate sleeping sickness in Tanganyika and Maswa in particular was rooted in the labour question.¹⁴ The British colonial authorities considered loss of human labour and animals through trypanosomiasis and sleeping sickness in Maswa and other areas of the territory as an obstacle to the development of colonial economy.¹⁵ The need for the British colonial

¹³ John M. Mackenzie "Experts and Amateurs: Tsetse, Nagana, and Sleeping Sickness in East and Central Africa, in *Imperialism and the Natural World* edited John Mackenzie (Manchester: Manchester University Press, 1990), 197.

¹⁴ Thaddeus Sunseri, *Wilding the Axis: State Forestry and Social Conflicts in Tanzania 1820-2000* (Athens: Ohio University Press 2009), 104.

¹⁵ TNA Acc. No. 302, File No. 34282, International Tsetse and Trypanosomiasis: Report on Inter-colonial conference held at Lourenco Marquez, 26 to 31 August 1946.

government to protect people against the flies emanated from the fact that Africans were the source of money, markets and labour. The continued existence of people guaranteed commodity production in both households and production centres. On the other hand, domestic animals were protected as a source of government revenue, trade and meat in urban and production centres. Generally, tsetse fly eradication campaigns were aimed at protecting Africans against sleeping sickness so as to maintain their contribution to colonial production, either as labourers or independent cash crop producers.

Apart from protecting people and animals against trypanosomiasis, the tsetse fly campaigns were also aimed at opening up more areas for human settlements, cash crop production and grazing.¹⁶ This idea was put forward in the Tsetse Fly and Reclamation Memorandum No, 162 of 1946, which stated that, in many areas where land became increasingly scarce, tsetse fly eradications would be a requirement for settlement and initiation of new and extensive development schemes.¹⁷ Unpredictably, most of the areas which were earmarked for clearing were those which offered ideal conditions for agricultural expansion.¹⁸

¹⁶ J.F. Hill, *Tanganyika: A Review of its Resources and their Development*, edited by J.P. Moffet, (Dar es Salaam: Government Printers, 1955), 533.

¹⁷ TNA, Acc. No. 302 File No. 68/A, Memorandum No. 162 for Territorial Committee: Tsetse Survey and Reclamation: Reclamation of Land for Tsetse Control 1946.

¹⁸ TNA, File No. 3/6/13/391 Tsetse fly Clearance General

Therefore it is not surprising that, in many areas of Maswa and elsewhere in Tanganyika, tsetse fly clearance was followed by cultivation of cash crops to produce raw materials for the colonial enterprises.

In Maswa, the commonly used method to eradicate the flies was one based on destroying the habitat and breeding ground of the flies. In these campaigns, villagers were required to clear large areas of woodlands and bushes that served as reservoirs for the trypanosomiasis vectors.¹⁹ Not surprisingly, the campaign was warmly welcomed by the Sukuma of Maswa who regarded the project as a golden chance for opening up new areas of land for farming and grazing.²⁰ In 1931, vegetation clearing activities were carried out at Mwagala, Meatu and along the Masindi River in Sengelema (Malampaka). In these areas, 4 square miles were cleared in that year.²¹ Vegetation clearing activities were supervised by the staffs from the Tsetse Research Department. The Maswa Native Authority recruited large numbers of Sukuma men aged 18 years and above to attend vegetation clearing activities for ten days.²² For instance, in

¹⁹ TNA, Acc. 215 File No 68/3, Tsetse Fly Clearing Annual Report Maswa District, 31st December, 1948; TNA, Acc.No.215, File No. 568 Tsetse Fly Ordinance, 1938-1958.

²⁰ Interview with Sospeter Kulengwa, Bupandagila, 17.5.2018; Majebele Simba, Nyalikungu, 12.6.2018; Shoshi Magege, Luguru, 7.6.2018.

²¹ TNA, 'Report by his Majesty's Government in the United Kingdom of Great Britain and Northern Ireland to the Council of the League of Nation on the Administration of Tanganyika for the Year 1932'.

²² Interview with Senga Samaki, Luguru 7.6.2018; Charles Kapama, Sola 18.6.2018.

the Masindi clearings, 7,200 labourers armed with axes, bush knives and hoes offered their labour power to clear bushes and woodlands.²³ In 1934, about 3,500 men offered their labour to clear the Migumo-Simiyu River corridor. Within the same year, more clearing was carried out at Mwamwita in Itilima chiefdom where 7,500 men were involved to clear bushes to open up the Wida Mbuga for cattle grazing.²⁴

From 1940 to 1945 vegetation clearing works slowed down due to the impact of WWII. Many Africans were taken to serve as carrier corps and cooks while others directly participated in the war. The involvement of Africans in the war created shortage of labourers for the tsetse fly clearing work.”²⁵ After the Second World War, the British colonial government once again embarked on intensified tsetse fly campaigns. The campaigns in this period were facilitated by the Sukumaland Development Scheme which was launched in 1947. Through the scheme, the government carried out tsetse fly clearings campaigns with the aim of opening up and establishing new settlements for people and expanding land under cultivation.²⁶

From the early 1950s onwards, the tsetse fly eradication campaign speeded up and spread to various places within Maswa District. A series of clearing expeditions were

²³ TNA, ‘Report by his Majesty’s Government, Op. cit., 22.

²⁴ *Ibid*, 35, Tanganyika Tsetse fly Annual Report, 1928 to 1958.

²⁵ Iliffe, *Modern History*, 270.

²⁶ TNA, Acc. No. 215, Sukumaland Federal Council Minutes, Vol. II.

organized to clear tsetse fly infested bushes and woodlands for the purpose of opening and expanding the areas for settlement and cotton cultivation. In 1954, about 13,658 men turned out and cleared 2,830 acres of bush at Kahila East of the Simiyu River.²⁷ In 1956 the clearings were extended to the north of Mwaswale whereby 11,903 men participated in clearing 2,380 acres of bushes and woodlands for ten days.²⁸ Other areas cleared at this time included Ngesha in Itilima chiefdom and Luguru in the Ntuzu Chiefdom together totaling 5,981 acres cleared by 17,504 labourers.²⁹ From 1957 onwards, more clearings took place in the north and west of the Duma and Simiyu Rivers, Shishiyu and Sapiwi. In this clearing 42,000 men attended the work and cleared 8,490 acres.³⁰ Further clearing was conducted south of Shishiyu where 37,253 men were involved in clearing 4,790 acres.³¹ Generally, tsetse fly clearing campaigns in Maswa continued regularly up to the end of the colonial period to control the spread of tsetse flies while expanding the arable land for grazing and agricultural production.

The removal of bushes and woodland to control tsetse fly had far reaching positive impacts to the people of Maswa. The removal of bushes and woodland had opened up new areas for human settlement as well as expanded land for

²⁷ Tanganyika Tsetse Fly Annual Repots, 1954.

²⁸ Tanganyika Tsetse Fly Annual Repots, 1956, 5.

²⁹ *Ibid*, 6; TNA, Acc. No. 215 File 530, Tsetse Reclamation in Maswa District, 1947- 1959.

³⁰ *Ibid*, 1957.

³¹ *Ibid*.

cultivation and grazing.³² Consequently, the opening up of tsetse infested areas enabled the indigenous people to concentrate in crop production in areas where they could not produce before tsetse eradication campaigns become successful. In these new areas people began to produce cash crops for sale and food crops for subsistence. The main crops cultivated were cotton, groundnuts, millets, sorghum and maize. This practice has become a major factor for the transformation of the forest land into cropland. Despite of such benefits, the process of transforming the cleared land into cropland and settlements has subjected the environment of Maswa to further deterioration. For instance, incessant cultivation of cotton to produce raw materials and earn cash made the land of Maswa vulnerable to serious degradation, chiefly the decline of soil fertility.³³

Apart from expanding land for human settlement and grazing, tsetse fly clearing campaigns in Maswa caused the number of cattle and people to increase due to the control of the spread of tsetse flies which transmit the above-mentioned diseases. For example, the number of cattle in Maswa increased from 342,545 in 1930 to 687,716 in 1956.³⁴ The increase number of cattle in Maswa increased the

³² Interview with Laurent Msolyamilya, Somanda, 11.5.2018; Shoshi Magege, Luguru, 7.6.2018.

³³ Interview with Mageme Ndongo, Mwamapalala, 4.6.2018; William Majebele, Nyalikungu, 12.6.2018.

³⁴ TNA, Maswa District Book Vol. 1: Cattle Censuses 1931; Dodoma Record Centre, File No V/29 Vol. I Cattle Census Maswa District, 1955

production of manure which was important for the restoration of soil fertility. Similarly, the number of people who lived in Maswa increased from 211,865 in 1928 to 345,382 in 1948.³⁵ This increase was due to the decline of death following ecological control and migration of people from central parts of Sukumaland such as Geita, Sengerema and Kwimba. Such kind of migration reduced population congestion on the central part of Sukumaland and hence reducing environmental degradation in the areas. The increase of population in Maswa stimulated excessive forest clearance due to the need for crop and grazing land, fuel woods and woods for building materials.

Despite its obvious health and economic benefits, tsetse fly clearing campaigns in Maswa and other areas in Tanganyika turned to be a major cause of environmental changes some of which threatened ecological sustainability. In Maswa, one of the evident outcomes of tsetse fly clearing campaigns was the destruction of natural habitats of animals whose immediate and long-term effects included a decline in and sometimes total disappearance of game.³⁶ Oral and archival sources point out that, prior to tsetse fly clearing campaigns, the natural landscape and vegetation cover in Maswa provided a good shelter for a variety of wild animals. Observations by labourers who participated in clearing

³⁵ TNA, Maswa District Book: Population Census on Natives in Maswa District, 1928 and 1948.

³⁶ Interview with Shoshi Magege, Luguru 7.06.2018; Barnabas Nindi, Luguru, 7.6.2018; Nono Saguda, Nyakabindi, 15.05.2018; Lameck Masaga, Bunamhala 14.5.2018.

works around Simiyu and Duma rivers in 1954 present the fact that they regularly met with wild animals such as leopards, impala, lions, waterbuck, zebra, hartebeests and warthogs in the midst of tall bushes and trees.³⁷ The presence of game in Maswa forced the colonial government to employ game scouts to protect labourers against attacks by game. In the course of time, wild animals were either killed or forced to retreat into Serengeti National Park, Ngorongoro Conservation Area and Maswa Game Reserve.³⁸ Eventually, the continued clearing of vegetation and bushes turned most of the cleared land into settlement and farm lands. As a result, wildlife disappeared completely in many areas of Maswa.³⁹ Equally, the disappearance of wildlife in Maswa affected hunting activities which provided game meat for subsistence to the people of Maswa.

Clearing of vegetation for the sake of eradicating the flies in Maswa resulted into the destruction of several tree species.

³⁷ Interview with Laurent Msolyamilya, Somanda, 11.05.2018; Balili Nyehu, Bariadi, 1.6.2018; Sospeter Kulengwa, Bupandagila, 17.05.2018; Helena Ng'wanangwa, Sima, 1.6.2018; Boniface Jilala, Nyalikungu, 12.6.2018; Manyanya Masuka, Mwamapalala, 4.6.2018.

³⁸ Interview with Mageme Bulugu, Old Maswa, 12.6.2018; Majebele Simba, Nyalikungu, 12.6.2018; Elias Masunga, Sola, 18.6.2018; Samuel Nyanza Bunamhala, 14.6.2018; Lameck Lukumbi, Bunamhala, 14.6.2018; Nkuba Mbogoshi, Sima, 1.6.2018; TNA Acc No. 215, File No. 533, Game General, 1943-1953.

³⁹ Interview with Gibuyi Kitalagwa, Bunamhala 14.5.2018; Milya Ntologo, Old Maswa 15.5.2018; Mageme Ndongo, Mwamapalala, 4.6.2018; Lameck Masaga Bunamhala 14.5.2018; Joshua Ntogwadede, Nyakabindi, 4.6.2018.

Tree species locally known as *masindi* (*acacia seyal*), *miale* (*isoberlinea brychstegia*), *mirundarunda* (*acacia abbreviate*) *mtunduru* (*dichrostachys gromevata*) and *mkoma* (*grewia bicola*) which regenerated easily, were cut down and their stumps uprooted, piled together and burned.⁴⁰ The uprooting and burning of vegetation caused disappearance of many tree species in Maswa. For example, in areas along the Simiyu and Duma Rivers, tree species such as *malula* (*brychstegia edulis*), *ilula* (*acacia fomicurum*), *migunga* (*acacia spiracarpa*), *milugala* (*acacia nefasia*) and *mihushi* (*acacia fischeri*) disappeared due to tsetse fly clearings.⁴¹ The disappearance of trees caused shortage of firewood and building materials such as timber and poles to the inhabitants of Maswa. Additionally, burning of vegetation also led to the destruction of micro-organisms which were responsible in facilitating the decomposition of organic matter in the soil and maintaining soil fertility.⁴² Similarly, removal of vegetation covers deprived soils of the humus matter originating from leaves and other remains of vegetation, thus causing drastic decline in soil fertility.

⁴⁰ Tanganyika Tsetse Fly Annual Reports, 1928-1958; Interview with Shoshi Magege, Luguru 7.6.2018; Lameck Masaga, Bunamhala, 14.6.2018; Elias Sibaba, Sola, 18.6.2018; Mageme Bulugu, Old Maswa, 12.6.2018; Charles Kapama, Sola, 18.6.2018.

⁴¹ TNA Maswa District Book Vol. I: Department of Tsetse Research Tanganyika Territory, List of Kisukuma Names of Plants, Interview with Mahega Saneda Mahega, Nyakabindi, 15.5.2018.

⁴² Edward Clive A "The Impact of Pesticides on the Environment" in D Pimentel and H Lehman, eds. *The Pesticides Question Environment Economics and Ethics*, (New York: Chapman and Hall, 1993)

Moreover, the removal of vegetation which according to scientific explanation protects soils against wind and water erosion, exposed many areas of Maswa to various forms of land degradation. Oral informants and archival information from Maswa revealed that soil erosion become a common phenomenon in many parts of Maswa especially in areas where vegetation was cleared.⁴³ In the district, soil erosion continued to get worse year after year resulting into the formation of gullies and decline of soil fertility. Evidence from Oral testimonies and archival sources reveals that gullies developed in areas such as Itilima, Igaganulwa, Bunamhala, Giriku, Mwamapalala and Nyakabindi villages due to the impacts of soil erosion resulted from vegetation clearance and increase in human and animal population densities.⁴⁴ On the other hand, soil erosion caused the decline of soil fertility in Maswa resulting into the decline of crop yields. The decline of crop yields due to soil infertility forced many people in Maswa either to use manure or migrate to areas that were less affected by environmental degradation.⁴⁵ The practices of migration increased the rate of vegetation clearance, overpopulation and overgrazing in

⁴³ Interview with Mageme Ndongo Mwamapalala, 4.6.2018, William Majebele, Nyalikungu, 12.6.2018; TNA, Acc. No. 215 File No. 331 Vol. I, Agricultural Reports Maswa District 1932-1939.

⁴⁴ Interview with Manyanya Masuka, Mwamapalala 4.6.2018; Balili Nyehu, Bariadi 1.6.2018; Sospeter Kulengwa Bupandagila, 17.5.2018, Charles Kapama, Sola, 18.6.2018.

⁴⁵ Interview with Senga Samaki, Luguru 7.6.2018; Charles Zakaria, Bunamhala 15.5.2018; Laurent Msolyamilya Somanda 11.5.2018.

the new settlements and hence increased environment deterioration in areas such as Ngulyati, Luguru, Duma River and Sapiwi.⁴⁶ Therefore, soil erosion and decline of soil fertility were some of the negative impacts observed in the newly settled areas

Tsetse clearing campaigns in Maswa were obviously accompanied by the opening up of more land for grazing and human settlement. The land that was cleared was then occupied by the Sukuma pastoralists and crop cultivators. According to Madulu, large numbers of people from Mwanza and Kwimba Districts moved to Bariadi, Maswa and Meatu where they occupied cleared areas. By the early 1950 about 30,000 new families had moved into Maswa District.⁴⁷ This demographic increase exerted pressure on land. They intensified deforestation by opening up more land for cotton cultivation and grazing. Oral sources avow that by the mid-1950s many parts of Maswa District had become bare and the size of the forested landscape had been reduced and in some places forests had disappeared completely.⁴⁸ In an extreme case an entire forest called Mwaswale forest in Bariadi virtually disappeared.⁴⁹ This was due to the fact that the land

⁴⁶ Interview with Barnabas Nindi, Luguru 7.6.2018; Helena Ng'wanangwa, Sima 1.6.2018; Majebele Simba, Nyalikungu 12/6/2018; TNA acc. No 215 File No 33, Agricultural Reports Maswa District, Vol. II, 1939-1943.

⁴⁷ TNA, Acc. No 215, File No. 136, Migration of Natives in Sukumaland.

⁴⁸ Interview Madete Mabubu, Bariadi, 18.5.2018; Shoshi Magege, Luguru, 7.6.2018; Lameck Bulele, Nyalikungu, 12.6.2018; Manyanya Masuka, Mwamapalala, 4.6.2018.

⁴⁹ Interview with Shoshi Magege, Luguru 7.6.2018; Lameck Masaga, Bunamhala 14.6.2018; Mahega Saneda Mahega, Nyakabindi ,15.5.2015.

under cultivation expanded four times and heads of cattle increased and in turn caused a tremendous rise in the rate of deforestation and soil erosion.

Tsetse clearing campaigns also contributed significantly to the loss of quality and quantity of water in the affected areas. This was partly because the clearing campaigns targeted, among other places, river sources and river banks. Such areas were considered favourites for the growth of thick bushes, trees and undergrowth that provided excellent breeding grounds for tsetse flies. Decision to clear these areas disregarded the need to protect water sources both for the present and future generations of communities surrounding the areas. Ironically, the random cutting of trees and other vegetation during tsetse fly clearing activities contradicted Order number 8(f) of the Native Authority Regulation of 1937, which prohibited destruction of trees near water sources.⁵⁰ The long-term impacts of such clearings were reduction of water flow in the existing rivers which eventually dried up the rivers. For example, from the mid-1950s Rivers such as Simiyu, Bariadi, Duma, Ibulyu, Senani and Ndoba, which according to local memory had never dried before, started to dry out. The rivers are reported never to have returned to their original state from that time.⁵¹ The drying of these rivers has increased water problems for both

⁵⁰ TNA, Acc. No. 215, Sukumaland Development Rules and Order Enacted by the Native Authorities.

⁵¹ Interview with Shirika Malugu, Mwakibuga, 17.5.2018; Edward Magese, Luguru, 3.6.2018.

domestic and livestock keepers. Such problem has forced livestock keepers to dig temporal wells along rivers to get water or walk long distance to find water for their livestock.

The tsetse fly eradication campaign then had a tremendous contribution in influencing environmental change in Maswa District. Available evidence indicates that before the introduction of tsetse fly clearing Campaign between 1920 and 1960, natural environmental conditions in Maswa were not seriously altered hence the pace of environmental change was slow. Thus, the implementation of tsetse fly clearing campaigns in Maswa between 1920 and 1930 increased the pace of environmental change in the areas. Evidence encountered from this discussion indicates that tsetse fly eradication campaign increased vegetation clearing which resulted into the disappearance of fauna and flora species, loss of water sources, increase of land degradation and arid conditions as well as total loss of natural forests in Maswa.

3.0 Impacts of Settlement Schemes on Environment

Tsetse fly eradication campaigns in Maswa were accompanied with the launching of settlement schemes. The British colonial administrators viewed resettlement of people as a means of protecting people and livestock against sleeping sickness.⁵² The administrators held the perception that once peasants were moved from woodlands into concentrated settlements intensive agriculture would beat

⁵² TNA, File No. 31351 Compulsory Resettlement of the Natives 1947-1957; Sunseri, *Wielding the Ax*.

back the tsetse fly-infested woodlands that endangered people and cattle.⁵³ Creation of concentrated settlements was also intended to simplify and facilitate internal development and bring the rural population under easier government control.⁵⁴ They were also intended to modernize agriculture and improve the availability of human labour.⁵⁵ The British colonial officials held the view that dispersed settlements undermined agricultural modernization and deprived the state of labour for deployment in other economic sectors.⁵⁶ In the perspective of the officials, once peasants were placed in concentrated settlements, it would be easier to introduce new methods of farming and animal husbandry.⁵⁷ Hence, people would be able to grow cash crops, provide wage and communal labour, and thus be able to pay taxes. In short, settlement scheme was intended to make African people function properly as colonial subjects. It is in this sense that colonial settlement schemes were ultimately meant to stimulate the development of colonial economy.

⁵³ *Ibid.*

⁵⁴ Hans Cory Paper No.244 Sukumaland Development Scheme, 1947; Philip Raikes, *Op.cit* 128; Idris Kikula, *Policy Implications on Environment: The Case of Villagisation in Tanzania* (Dar es Salaam: Dar es Salaam University Press Limited 1996), 18.

⁵⁵ TNA, Acc No. 215, File No. 337, Minutes of Malya Conference: Sukumaland Development Team, 1948; Sunseri, *Wielding the Ax*.

⁵⁶ TNA, Acc No. 215, File No. 337, Minutes of Malya Conference: Sukumaland Development Team, 1948.

⁵⁷ TNA, Tanganyika Territory: Department of Agriculture Annual Report 1947, 4.

More specifically, settlement scheme in colonial Tanganyika and Maswa in particular were devised in order to reorganize, control and supervise simple commodity production with a view to alleviating the general crisis of capitalism which was then facing the United Kingdom.⁵⁸ It was also one of the strategies used by the colonial state to bring the rural population under control in order to maintain their contribution to colonial production either as labourers or cash crop producers. Writing on rural development in colonial Tanganyika, Nestory N. Luanda emphasizes that, “settlement schemes were intended to increase surface area under cultivation, to settle potential producers together with serving other capital inputs on new husbandry methods as a way of widening and deepening the fundamental exploitation of agricultural raw materials on African land”⁵⁹ In general, settlement schemes in Maswa, like elsewhere in Tanganyika, were devised to make African producers respond to the needs of capitalist accumulation of profits through increased production of industrial raw materials.

In Tanganyika, settlement schemes were accordingly established in various parts of the territory, most elaborately in Ukiriguru, Mbulu, Kingolwira, Uzinza, Usambara and Maswa. The colonial government approved £900,900 from the Colonial and Welfare Fund to be used in the settlement

⁵⁸ *Ibid.*

⁵⁹ N.N. Luanda, “Rural Development in Colonial Tanganyika 1930-1950: the Kingolwira, Ukiriguru, Uzinza, Usambara and Mbulu Settlement Schemes,” *Tanzania Zamani* (199)12.

schemes.⁶⁰ In Maswa, settlement of people was taken as a part of the programme of the Sukumaland Development Scheme of 1947. This scheme was a comprehensive plan whose major objective was to maximize productive use of land by redistributing what was considered to be surplus population of human and livestock.⁶¹ To achieve this objective, the British colonial government made efforts to convince the people living in the overcrowded areas of Northern and Central Sukumaland to move into the new opened areas. In the beginning the programme was conducted on a voluntary basis. The colonial government used the Native Authorities in Maswa to persuade people to join new settlements such as Mbiti, Zagayu, Giriku, Bunamhala, Mwamwita, Ngulyati, Gingilanyi, Nyakabindi, Masela, Sayusayu, Bukundi, Chinamali, Ng'wasule and Luguru.⁶²

However, people in Maswa were at first hesitant to move into new areas due to various reasons. First, many of them were not aware about the importance of moving to the new

⁶⁰ TNA, Tanganyika Territory: Provincial Commissioner's Annual Reports on Native Administration Lake Province, 1947.

⁶¹ TNA, Acc. No 215. File No. 115, Development Agenda and Minutes of Sukumaland Development Team, 1946-1948 also see Andrew G. Maguire, *Towards 'Uhuru' in Tanzania: The Politics of Participation* (Cambridge: Cambridge University Press, 1969), 27.

⁶² TNA Acc No 215 File No. 149, Minutes of the Meeting of the chiefs of Sukumaland held at Malya from 3.12.1947 to 4.12.1947; Interview with Mageme Ndongo, Mwamapalala, 4.6.2018; Majebele Simba, Nyalikungu 12.6.2018; Lameck Lukumbi, Bunamhala 14.5.2018.

settlement.⁶³ Second, they feared the dangers of living in areas with heavy bushes or places that were close to game habitats.⁶⁴ Third, they disliked the new areas due to the fear of contracting sleeping sickness. Forth, the people of Maswa were hesitant to leave their land based on their traditional land tenure system. According to Sukuma traditions, people acquired land through inheritance from their parents and grandparents.⁶⁵ Therefore, the Sukuma were reluctant to leave their areas due to the fear of losing foothold on their ancestral land.

In addressing peoples' hesitance, the British colonial government, in collaboration with the Maswa Native Authority, took a number of measures that ensured people joined concentrated villages. In the first place, the British colonial government intensified bush clearings in Maswa to open up and expand areas which had hitherto been uninhabited to make more land for settlement, grazing and cultivation.⁶⁶ As discussed above, the removal of these bushes and woodlands in Maswa motivated people to settle and cultivate land to produce various crops in the newly cleared areas. According to oral and written information,

⁶³ Interview with Samuel Nyanza, Bunamhala 14.5.2018; Balili Nyehu, Bariadi 29.6.2018; Minza Mabubu, Bariadi 29.6.2018.

⁶⁴ TNA, Maswa District Book: Settlement after Bush Clearing by B.J Hartley District Agricultural Officer, 1931; Interviews with Manyanya Masuka, Mwamapalala, 4.6.2018; Majebele Simba, Nyalikungu, 12.6.2018.

⁶⁵ Interview with Laurent Msolyamilya, Somanda, 10.5.2018; Sospeter Kulengwa, Bupandagila, 17.5.2018.

⁶⁶ TNA, Acc. 215 File, No. 530, Tsetse fly Reclamation in Maswa District 1947-1952.

between 1948 and 1957 many immigrants from Kwimba and other areas of Sukumaland migrated and settled in Maswa District as a result of this motivation.⁶⁷

Although settlement schemes in Maswa and other areas in Tanganyika expanded areas for human settlements and cultivation, they also increased the rate of environmental deterioration. Similar to tsetse fly interventions, settlement schemes in Maswa and elsewhere in the territory played a substantial role in bringing about major environmental changes, some of which had negative implications. In this regard, McLaughlin comments that, the rapid influx of human and livestock population in the areas where people were resettled led to the increased population pressure which in turn caused both immediate and long-term changes in the environment.⁶⁸ Oral testimonies point to the fact that, settlement schemes in Maswa brought about rapid increase in population in the newly settled areas, causing increased pressure on the environment and its resources.⁶⁹

According to Awiti and Kikula, the increase in pressure on the environment in Tanzania motivated land use practices

⁶⁷ Interview with Shoshi Magege, Luguru, 12.6.2018.

⁶⁸ P.F.M. McLaughlin, "Agricultural Development in Sukumaland" in *Experiences with Agricultural Development in tropical Africa: Case Studies* by J.C. De Wilde et al. (Baltimore: John Hopkins University Press, 1967).

⁶⁹ *Ibid.*; Interview with Majebele Simba, Nyalikungu, 12.6.2018; Elias Masunga, Sola, 18.6.2018.

which eventually increased the rate of deforestation.⁷⁰ In the study area, natural vegetation which covered the area prior to settlement scheme was cleared and some of the vegetation began to disappear from the mid-1950s. The vanishing of vegetation cover followed the opening up and establishment of new farms and settlements.⁷¹ Information on Land Tenure and settlement in Sukumaland reveal that the Sukuma peasants cleared vast tracts of land because their farming system had no restriction on the amount of land to be cultivated.⁷² They cleared vast areas to ensure sufficient supply of food, which dictated the amount of land to be cultivated.⁷³ Therefore, the removal of natural vegetation in the district due to the expansion of human settlements and farms resulted in the denudation of some areas in Maswa, thus accelerated the formation of gullies. According to oral testimonies, these gullies became difficult to control especially in areas such as Kanadi, Luguru, Ngulyati, Bunamhala and Majaida villages.⁷⁴

Moreover, pressure on land negatively affected the Sukuma traditional environmental management practices. A report on land utilization in Sukumaland by Malcolm revealed that,

⁷⁰ A. Awiti, "Ismani and the Rise of Capitalism" in Lionel Cliffe et al. *Rural Cooperation in Tanzania* (Dar es Salaam: TPH, 1975), 53-54; Kikula Op.cit.

⁷¹ Interview with Charles Kapama, Sola, 18.6.2018; Nkuba Mbogoshi, Sima, 1.6.2018.

⁷² TNA Acc. No. 216, File No. 132. Land Tenure and Settlement in Usukuma with Special Reference to the Kwimba and Maswa Districts.

⁷³ *Ibid.*

⁷⁴ Interview with Silya Gilya, Mwakibuga, 5.6.2018; Sospeter Kulengwa, Bupandagila, 17.5.2018.

prior to the launching of settlement scheme the Sukuma of Maswa practiced fallowing and shifting cultivation as a way of maintaining soil fertility.⁷⁵ The report says, “it was not common for the Sukuma to cultivate the same land constantly for more than seven years before abandoning it or leaving it to naturally improve.”⁷⁶ Similarly, Allan, Cory and Kjekshus noted that shifting cultivation and fallowing practices were considered by African peasants to have an “environmental conservation value” as it gives enough time for the soil to regenerate after several years of cultivation.⁷⁷ In Maswa and elsewhere in pre-colonial Africa, shifting cultivation was possible because of very low population density and scattered settlement in most areas.⁷⁸ However, with the concentration of population under the new clustered settlements, the traditional system of managing environments in Maswa became impractical. This was partly because people in clustered settlements exerted pressure on land permanently through farming and other land use activities. They were locked into small areas and in due course began to exert unprecedented pressure on soil and natural vegetation. Thus, such kind of pressure forced them

⁷⁵ TNA, D.W. Malcolm, “Report on Land Utilization in Usukuma, 1938”

⁷⁶ *Ibid*, 10.

⁷⁷ EAF 244/Cory Collection: Development of Sukumaland, 1947; Helge Kjekshus, *Ecological Control and Economic Development in East African History: The Case of Tanganyika, 1850-1950* (London: James Carrey, 1995).

⁷⁸ *Ibid.*; Interview with Elias Masunga, Sola, 18.6.2018.

to abandon shifting cultivation and fallowing.⁷⁹ The abandonment of shifting cultivation in turn resulted in gradual decline of soil fertility in various parts of Maswa. This negative impact was repeatedly reported by the Provincial Commissioner of the Lake Province in the period from the mid-1940s to 1950s. Among other things, these reports noted a decline in crop yields in the province due to poor soil fertility.⁸⁰

Opening up of farms and new settlements together with tsetse clearing campaigns were associated with massive deforestation. Miombo woodlands, which dominated landscapes in Maswa prior to the execution of settlement schemes in areas such as Nyakabindi, Bunamhala, Luguru, Malampaka, Shanwa and Itilima, were cleared due to high demand for building materials, firewood and the opening up of more land for human settlements, agriculture and grazing.⁸¹ As the result of these practices, tree species such as *acacia nefasia*, *isoberlinea brychstegia*, *brychstegia edulis*, *alfezelia quanzesis*, and *acacia pterocarpus* steadily disappeared particularly in the cultivated and settled areas.⁸² Oral testimonies and archival sources reveal that, the

⁷⁹ Interview with Sospeter Kulengwa; N.V. Rounce, *the Agriculture of the Cultivation Steppe of the Lake, Western and Central Province*, (Cape Town: Calvin S. Ltd, 1949).

⁸⁰ TNA, Tanganyika Territory: Annual Reports of the Provincial Commissioners: Lake Province from 1945 to 1957.

⁸¹ Interview with Majebele Simba, Nyalikungu, 12.6.2018 and Shoshi Magege, Luguru, 7.6.2018.

⁸² Interview with Sospeter Kulengwa Bupandagila 17.5.2018; Elias Masunga, Sola, 18.6.2018.

disappearance of these species altered the vegetation composition in the eastern parts of the district from savannah woodlands to semi-arid land cover; and in some areas the land became bare.⁸³ Only scattered thorn trees and woody shrubs remained in the newly settled areas. The emergence of arid conditions also contributed to the deterioration and ultimate disappearance of water sources in various parts of Maswa. Local narratives indicate that water sources such as springs, which were hitherto found in the area throughout the year, disappeared due to increases in arid conditions.⁸⁴ Additionally, some of the areas selected for the establishment of settlements had formally been inhabited by wild animals. Clearance of miombo woodlands to establish settlements and expand farms gave way to the disappearance of wild game within Maswa District, especially big mammals such as lions, Buffaloes and many others.⁸⁵

In brief, the process of opening up the area for settlement of people and livestock by the British colonial government greatly affected the social and economic wellbeing of people. The process also contributed to the environmental changes in various ways. Most importantly the opening up of various

⁸³ TNA, Acc. No.215 File No. 28/1, Forest Annual Reports and General Correspondences Maswa District, 1946-1957; interview with Helena Ng'wanangwa, Sima 1.6.2018; Balili Nyehu, Bariadi 1.6.2018.

⁸⁴ Interview with Buzengwana Budodi, Mwakibuga, 5.6.2018; Senga Samaki, Luguru, 7.6.2018.

⁸⁵ Interview with Manyanya Masuka, Mwamapalala, 4.6.2018; Shirika Malugu, Mwakibuga, 17.5.2018.

parts of Maswa resolved the problem of overpopulation in neighbouring areas and facilitated the cultivation of cash crop and acquisition of new settlement by peasants. This however resulted into the negative environmental changes as discussed above.

4.0 Conclusion

This paper has presented the historical interconnection between development interventions and environmental change in Maswa district during the British colonial rule. The evidence indicates that development interventions driven by imperialist economic interests of the colonizing power as implemented in Maswa District stimulated a series of negative environmental changes in the respective areas. The implementation of development intervention in Maswa district from 1920 to 1960 increased the rate of vegetation clearance due to opening up of new farms, resettling of population into new areas and driving away tsetse flies. These practices of vegetation clearance had tremendous impacts on the environment as explained above. This discussion concluded that environmental changes in Maswa district were not only shaped by local people's activities as perceived by most government official, state Bureaucrats and elites, but also was a result of development interventions introduced by the state.